

ASCENT

DRAFT ENVIRONMENTAL IMPACT REPORT

Sonoma County Comprehensive Cannabis Program Update

SCH No.: 2023020144

MAY 2025

Prepared for:



permit
SONOMA

County of Sonoma

DRAFT ENVIRONMENTAL IMPACT REPORT

Sonoma County Comprehensive Cannabis Program Update

SCH No.: 2023020144

Prepared for:



County of Sonoma
2550 Ventura Avenue
Santa Rosa, CA 95403

Contact:

Crystal Acker
Supervising Planner
707.565.8357

Prepared by:



Ascent
455 Capitol Mall, Suite 300
Sacramento, CA 95814

Contact:

Pat Angell
Principal
916.732.3324

October 2024

TABLE OF CONTENTS

Section	Page
LIST OF ABBREVIATIONS	VII
EXECUTIVE SUMMARY	ES-1
ES.1 Introduction.....	ES-1
ES.2 Summary Description of the Project.....	ES-1
ES.3 Summary of Environmental Impacts and Mitigation Measures	ES-4
ES.4 Significant-and-Unavoidable Impacts and Cumulative Impacts.....	ES-5
ES.5 Environmentally-Superior Alternative	ES-5
ES.6 Areas of Controversy.....	ES-6
ES.7 Issues to be Resolved.....	ES-7
1 INTRODUCTION	1-1
1.1 Purpose of This EIR.....	1-1
1.2 Cannabis Program Update Background.....	1-2
1.3 Lead Agency.....	1-2
1.4 Responsible and Trustee Agencies.....	1-2
1.5 CEQA Process and Scope of Environmental Analysis.....	1-3
1.6 Notice of Preparation and Public Scoping	1-3
1.7 Organization of This Draft EIR	1-3
1.8 Standard Terminology	1-4
2 PROJECT DESCRIPTION.....	2-1
2.1 Regional and Local Setting	2-1
2.2 Cannabis Overview	2-2
2.3 Project Background	2-10
2.4 Project Objectives.....	2-11
2.5 Proposed Sonoma County Cannabis Program Update	2-12
2.6 Projected Future Commercial Cannabis Uses Under the Cannabis Program Update	2-25
2.7 Project Approvals	2-25
3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES	3-1
Approach to the Environmental Analysis.....	3-1
Effects Found Not to Be Significant.....	3-6
Standard Terminology.....	3-6
Approval Process for Subsequent Projects	3-7
3.1 Aesthetics	3.1-1
3.2 Agricultural and Forestry Resources	3.2-1
3.3 Air Quality	3.3-1
3.4 Biological Resources.....	3.4-1
3.5 Cultural Resources	3.5-1
3.6 Energy.....	3.6-1
3.7 Geology, Soils, and Mineral Resources.....	3.7-1
3.8 Greenhouse Gas Emissions and Climate Change.....	3.8-1
3.9 Hazards and Hazardous Materials	3.9-1
3.10 Hydrology and Water Quality	3.10-1
3.11 Land Use and Planning.....	3.11-1
3.12 Noise and Vibration.....	3.12-1
3.13 Public Services and Recreation.....	3.13-1
3.14 Transportation.....	3.14-1
3.15 Tribal Cultural Resources	3.15-1
3.16 Utilities and Service Systems	3.16-1
3.17 Wildfire.....	3.17-1

4	CUMULATIVE IMPACTS.....	4-1
4.1	Cumulative Impacts.....	4-1
4.2	Analysis of Cumulative Impacts.....	4-4
5	ALTERNATIVES.....	5-1
5.1	Introduction.....	5-1
5.2	Considerations for Selection of Alternatives.....	5-2
5.3	Alternatives Selected for Detailed Analysis	5-5
5.4	Environmentally Superior Alternative.....	5-33
6	OTHER CEQA SECTIONS.....	6-1
6.1	Growth Inducement.....	6-1
6.2	Significant and Unavoidable Adverse Impacts.....	6-2
6.3	Significant Irreversible Environmental Changes	6-3
7	REPORT PREPARERS.....	7-1
8	REFERENCES.....	8-1

Appendices

Appendix A	Notice of Preparation and Comments Received
Appendix B	Draft Cannabis Program Ordinance
Appendix C	Air Quality, Energy, Greenhouse Gas Modeling Data and Odor Studies
Appendix D	Noise Data
Appendix E	Economics Study

Figures

Figure 2-1	Cannabis Program Area.....	2-3
Figure 3.1-1a	Existing Visual Character of Sonoma County	3.1-13
Figure 3.1-1b	Existing Visual Character of Sonoma County	3.1-14
Figure 3.1-1c	Existing Visual Character of Sonoma County	3.1-15
Figure 3.1-1d	Existing Visual Character of Sonoma County	3.1-16
Figure 3.1-1e	Existing Visual Character of Sonoma County	3.1-17
Figure 3.1-2	State Scenic Highways within the Program Area	3.1-19
Figure 3.1-3	Sonoma County–Designated Scenic Resources within the Program Area	3.1-20
Figure 3.1-4a	Existing Outdoor Cannabis Cultivation Activities in Sonoma County.....	3.1-24
Figure 3.1-4b.	Representative Photographs of Outdoor Cannabis Cultivation.....	3.1-25
Figure 3.1-4c	Existing Indoor Cannabis Uses in Sonoma County.....	3.1-26
Figure 3.2-1	Important Farmland.....	3.2-15
Figure 3.3-1	BAAQMD PM ₁₀ Emissions Trend by Source Sector	3.3-9
Figure 3.3-2	BAAQMD PM _{2.5} Emissions Trend by Source Sector.....	3.3-10
Figure 3.3-3	Ground-Level Odor Concentration vs. Distance from 0.5 Acre Facility.....	3.3-24
Figure 3.4-1	Grassland, Herbaceous, and Shrub Land Cover	3.4-34
Figure 3.4-2	Hardwood Forest/Woodland Land Cover	3.4-35
Figure 3.4-3	Conifer Forest/Woodland Land Cover	3.4-36
Figure 3.4-4	Agricultural and Developed Land Cover	3.4-37
Figure 3.4-5	Aquatic, Riparian, and Meadow Land Cover.....	3.4-38
Figure 3.4-6	Late-Successional and Old-Growth Forest.....	3.4-45

Figure 3.4-7	Critical Habitat.....	3.4-82
Figure 3.4-8	Sensitive Habitats	3.4-83
Figure 3.4-9	Cannabis Priority Watershed	3.4-89
Figure 3.4-10	Black-Tailed Deer Habitat.....	3.4-93
Figure 3.4-11	Landscape Blocks and Essential Connectivity Areas	3.4-94
Figure 3.4-12	Present and Future Habitat Linkages	3.4-95
Figure 3.4-13	Northern Spotted Owl Activity Areas and Protected Lands	3.4-122
Figure 3.7-1	Slope Conditions within the Program Area.....	3.7-13
Figure 3.7-2	Geologic Formations within the Program Area	3.7-16
Figure 3.10-1	Sonoma County USGS Watersheds	3.10-24
Figure 3.10-2	SGMA 2019 Basin Prioritization	3.10-26
Figure 3.10-3	Groundwater Availability Areas	3.10-31
Figure 3.10-4	FEMA Flood Zones - Program Area.....	3.10-36
Figure 3.11-1	Sonoma County Land Use Designations Healdsburg and Environs.....	3.11-3
Figure 3.11-2	Sonoma County Zoning Districts.....	3.11-13
Figure 3.11-3	Sonoma County's Nine Planning Areas.....	3.11-15
Figure 3.12-1	Significant County Noise Sources and Locations of Noise Monitoring Sites.....	3.12-11
Figure 3.14-1	Sonoma County Transportation Authority VMT Screening Map.....	3.14-15
Figure 3.17-1	Fire Hazard Severity Zones	3.17-12
Figure 3.17-2	CPUC High Fire Threat Districts.....	3.17-14
Figure 3.17-3	Sonoma County Causes of Fire in SRA	3.17-16
Figure 3.17-4	Statewide Causes of Fire in SRA.....	3.17-16
Figure 3.17-5a	FHSZ and Zoning Districts - Map 1 of 2	3.17-21
Figure 3.17-5b	FHSZ and Zoning Districts - Map 2 of 2.....	3.17-23
Figure 3.17-6a	Responsibility Areas and Zoning Districts - Map 1 of 2	3.17-25
Figure 3.17-6b	Responsibility Areas and Zoning Districts - Map 2 of 2.....	3.17-27

Tables

Table ES-1	Summary of Impacts and Mitigation Measures.....	ES-8
Table ES-2	Summary of Environmental Effects of the Alternatives Relative to the Proposed Cannabis Program Update	ES-79
Table 2-1	Unpermitted Cannabis Sites in Sonoma County 2018–2023.....	2-7
Table 2-2	State Cannabis Operation License Types.....	2-8
Table 2-3	Proposed Allowed Cannabis Uses within County Zoning Districts	2-21
Table 3-1	Cannabis Program Update Development Assumptions (Total Existing and New).....	3-4
Table 3-2	Permit Type and Approval Process for Allowable Cannabis Uses.....	3-7
Table 3.1-1	Site Sensitivity	3.1-10
Table 3.1-2	Visual Dominance.....	3.1-11
Table 3.1-3	Thresholds of Significance for Visual Impact Analysis.....	3.1-11
Table 3.1-4	Sonoma County–Designated Scenic Landscapes	3.1-21
Table 3.1-5	Sonoma County–Designated Community Separators.....	3.1-22
Table 3.1-6	Scenic Designations within Proposed Allowed Cannabis Land Uses	3.1-30
Table 3.2-1	Sonoma County Top Crop Values (2023)	3.2-12

Table 3.2-2	Sonoma County Cannabis Production (2023).....	3.2-13
Table 3.2-3	Farmland Mapping and Monitoring Program Mapping Categories	3.2-14
Table 3.2-4	Important Farmland Acreages in Sonoma County (2024)	3.2-14
Table 3.2-5	Important Farmland within Program Area.....	3.2-23
Table 3.2-6	Williamson Act Contract Status by Zoning District Type in Sonoma County.....	3.2-28
Table 3.3-1	California and National Ambient Air Quality Standards	3.3-2
Table 3.3-2	Sonoma County Attainment Status for the SFAAB.....	3.3-8
Table 3.3-3	Summary of Annual Ambient Air Quality Data in Sonoma County (2021–2023).....	3.3-10
Table 3.3-4	NSCAPCD Air Quality Thresholds.....	3.3-15
Table 3.3-5	BAAQMD Air Quality Thresholds.....	3.3-15
Table 3.3-6	Criteria Air Pollutant and Precursor Emissions Associated with Construction of Each New Individual Cannabis Use Type	3.3-19
Table 3.3-7	Criteria Air Pollutant and Precursor Emissions Associated with Operation of Each New Individual Cannabis Use Type	3.3-20
Table 3.4-1	Minimum Riparian Setbacks	3.4-4
Table 3.4-2	Wetland Setback Requirements	3.4-21
Table 3.4-3	Agricultural Grading Designation	3.4-27
Table 3.4-4	Lake, Pond, and Reservoir Setback Requirements.....	3.4-29
Table 3.4-5	Stream Setback Requirements.....	3.4-30
Table 3.4-6	Wetland Setback Requirements	3.4-30
Table 3.4-7	Area of Land Cover Types within the Program Area	3.4-39
Table 3.4-8	Late Successional Forest within the Program Area.....	3.4-44
Table 3.4-9	Length of Riverine Types within the Program Area.....	3.4-46
Table 3.4-10	Are of Aquatic Types within the Program Area	3.4-46
Table 3.4-11	Special-Status Plant Species Known to Occur in the Program Area	3.4-47
Table 3.4-12	Special-Status Wildlife Species Known to Occur in the Program area and Their Potential to Occur	3.4-60
Table 3.4-13	US Fish and Wildlife Service Designated Critical Habitat within the Program Area.....	3.4-79
Table 3.4-14	NOAA Fisheries Designated Critical Habitat within the Program Area	3.4-80
Table 3.4-15	Legacy Sensitive Natural Communities Known to Occur in the Cannabis Program Area	3.4-84
Table 3.4-16	Sensitive Natural Communities Known to Occur and with Potential to Occur in the Cannabis Program Area	3.4-85
Table 3.4-17	Area of Sensitive Natural Communities and Other Sensitive Habitats Known to Occur in the Cannabis Program Area	3.4-87
Table 3.4-18	Cannabis Priority Watersheds within the Program Area	3.4-90
Table 3.4-19	Black-tailed deer Habitat within the Program Area	3.4-91
Table 3.4-20	Landscape Blocks and Essential Connectivity Areas within the Program Area.....	3.4-92
Table 3.4-21	Present and Future Habitat Linkages within the Program Area.....	3.4-92
Table 3.4-22	Typical Noise Source Levels for Special Events.....	3.4-146
Table 3.4-23	Santa Rosa Plain Conservation Strategy within the Program Area.....	3.4-171
Table 3.5-1	Resources Previously Recorded within Sonoma County	3.5-17
Table 3.5-2	Eligible Resources within Sonoma County	3.5-18
Table 3.6-1	Pacific Gas and Electric Power Content Label (2022).....	3.6-6
Table 3.6-2	Sonoma Clean Power Authority Power Content Label (2022).....	3.6-7

Table 3.6-3	Construction Energy Consumption Associated with Construction of Individual Cannabis Cultivation Site Types and Supply Chain Uses	3.6-10
Table 3.6-4	Electricity Consumption Associated with Operation of Individual Cannabis Cultivation Site.....	3.6-10
Table 3.8-1	Statewide GHG Emissions by Economic Sector (2022).....	3.8-7
Table 3.8-2	Sonoma County GHG Emissions by Sector (2022)	3.8-8
Table 3.8-3	Greenhouse Gas Emissions Associated with Operation of Individual Cannabis Use Types	3.8-12
Table 3.10-1	Technical Report Requirements by Tier.....	3.10-8
Table 3.10-2	Facility Status	3.10-9
Table 3.10-3	Site Maintenance Status.....	3.10-9
Table 3.10-4	Stormwater Runoff Monitoring	3.10-10
Table 3.10-5	Groundwater Basins in Sonoma County.....	3.10-25
Table 3.10-6	Sonoma County Impaired Waterbodies.....	3.10-30
Table 3.10-7	Estimated Project Irrigation Water Demand for Future New Cannabis Cultivation and Supply Chain Uses	3.10-37
Table 3.10-8	Water Demand by Cannabis Facility Type.....	3.10-44
Table 3.11-1	Acreage of Land Use Designations by Planning Area	3.11-14
Table 3.12-1	Groundborne Vibration Impact Criteria for General Assessment.....	3.12-2
Table 3.12-2	Construction Vibration Damage Criteria.....	3.12-2
Table 3.12-3	Maximum Allowable Exterior Noise Exposures for Non-Transportation Noise Sources.....	3.12-4
Table 3.12-4	Sonoma County Comprehensive Airport Land Use Plan Noise Compatibility Standards for Commercial and Industrial Uses and Agricultural and Recreational Land Use.....	3.12-4
Table 3.12-5	Typical A-Weighted Noise Levels.....	3.12-7
Table 3.12-6	Human Response to Different Levels of Ground Noise and Vibration.....	3.12-9
Table 3.12-7	Vibration Reference Levels for Construction Equipment.....	3.12-24
Table 3.12-8	Modeled Construction Vibration Levels	3.12-24
Table 3.12-9	Trip Generation Rates by Land Use.....	3.12-26
Table 3.12-10	Typical Noise Source Levels for Special Events.....	3.12-30
Table 3.14-1	Assumed Cannabis Facilities (Existing and New) by 2044	3.14-12
Table 3.14-2	Estimated Cannabis Use Trip Generation	3.14-13
Table 3.14-3	Project VMT Screening Criteria Summary for Single-Use Projects that Do Not Include Events....	3.14-17
Table 3.16-1	Sonoma Water Normal, Single, and Multiple Dry Year Water Supply and Demand (2025–2045) (Acre-Feet Per Year)	3.16-7
Table 3.16-2	Sweetwater Springs Water District Normal, Single, and Multiple Dry Year Water Supply and Demand (2025–2045) (Acre-Feet Per Year)	3.16-8
Table 3.16-3	Valley of the Moon Water District Normal, Single, and Multiple Dry Year Water Supply and Demand (2025–2045) (Acre-Feet Per Year)	3.16-9
Table 3.16-4	City of Santa Rosa Normal, Single, and Multiple Dry Year Water Supply and Demand (2025–2045) (Acre-Feet Per Year)	3.16-9
Table 3.16-5	Town of Windsor Normal, Single, and Multiple Dry Year Water Supply and Demand (2025–2045) (Acre-Feet Per Year).....	3.16-9
Table 3.16-6	Capacities of Wastewater Treatment Facilities in Sonoma County.....	3.16-11
Table 3.16-7	Licensed Cannabis Waste Disposal and Processing Facilities	3.16-12
Table 3.17-1	Large Fires in Sonoma County 2013–2024.....	3.17-15
Table 3.17-2	Causes of Fire in Sonoma County and the State within the SRA.....	3.17-17

Table 3.17-3	Fire Hazard Severity Zone Area within the Program Area	3.17-19
Table 3.17-4	CPUC Fire-Threat Area within the Program Area.....	3.17-20
Table 4-1	Geographic Scope of Cumulative Impacts	4-2
Table 4-2	Cumulative Criteria Air Pollutant and Precursor Emissions Associated with Construction of 12 New Permitted Commercial Cannabis Sites Simultaneously	4-8
Table 4-3	Cumulative Criteria Air Pollutant and Precursor Emissions Associated with Operation of New Commercial Cannabis Sites in 2044.....	4-9
Table 5-1	Alternative 3 – Ministerial Only Permit Alternative Allowable Cannabis Uses within County Zoning Districts	5-17
Table 5-2	Summary of Environmental Effects of the Alternatives Relative to the Proposed Cannabis Program Update	5-34

LIST OF ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
µm	micrometers
2022 Scoping Plan	Final 2022 Scoping Plan for Achieving Carbon Neutrality
AB	Assembly Bill
ABAG	Association of Bay Area Governments
af	acre-feet
AFV	alternative fuel vehicles
AFY	acre-feet per year
AQAP	air quality action plan
AR	Agriculture and Residential
ARM	Aggregate Resources Management
AS	Agricultural Services
AWM	Agriculture/Weights and Measures
BAAQMD	Bay Area Air Quality Management District
Basin Plan	Water Quality Control Plan for the San Francisco Bay Basin
Bikeways Plan	Sonoma County Bicycle and Pedestrian Plan
BMP	best management practice
Board	Sonoma County Board of Supervisors
BPTC	best practical treatment or control
Btu	British thermal unit
C1	Neighborhood Commercial
C2	Retail and Business Service
C3	General Commercial District
CA MUTCD	California Manual on Uniform Traffic Control Devices
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CAAQS	California ambient air quality standards
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Division of Occupational Safety and Health
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation

Cannabis Program Update or project	Comprehensive Cannabis Program Update
Cannabis SIUR	Cannabis Small Irrigation Use Registration
CAP	criteria air pollutant
CARB	California Air Resources Board
CBC	California Building Code
CCA	Community Choice Aggregation
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDPR	California Department of Pesticide Regulation
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFC	California Fire Code
CFR	Code of Federal Regulations
CH ₄	methane
CHP	California Highway Patrol
CNEL	community noise equivalent level
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide-equivalent
County CALUP	Sonoma County Comprehensive Airport Land Use Plan
County	Sonoma County
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CUPA	certified unified program agency
CWA	Clean Water Act
CWPP	Community Wildfire Protection Plan
DA	Diverse Agriculture
dB	decibel
dBA	A-weighted decibels
DC	carbon monoxide I
DCC	California Department of Cannabis Control
Delivery Only	Cannabis Non-storefront Retail
DHS	California Department of Health Services

diesel PM	exhaust from diesel engines
Dispensary	Cannabis Storefront Retail
DOC	California Department of Conservation
DOT	US Department of Transportation
Draft EIR	draft environmental impact report
DRH	design review with hearing
DWR	California Department of Water Resources
EAD	Exposure Assessment Document
EMS	emergency medical service
EO	Executive Order
EOP	Emergency Operations Plan
EPA	US Environmental Protection Agency
EPAct	Energy Policy Act
Estuary	San Francisco Bay Estuary
EV	electric vehicle
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FPA	Z'Berg-Nejedly Forest Practices Act of 1973
FRAP	Fire Resource and Assessment Program
G District	Geologic Hazard Combining District
GDP	gross domestic product
GFA	gross floor area
GHG	greenhouse gas
GSP	groundwater sustainability plan
HAP	hazardous air pollutant
HFTD	High Fire Threat District
HHZ	High-Hazard Zone
HVAC	heating, ventilating, and air conditioning
Hz	hertz
IEPR	Integrated Energy Policy Report
in/sec	inches per second
IPCC	Intergovernmental Panel on Climate Change

ITE	Institute of Transportation Engineers
JPA	joint powers authority
K	Recreation and Visitor Serving Commercial
KGRA	Known Geothermal Resource Area
kWh	kilowatt per hour
LC	Limited Commercial
LC	Limited Commercial Zones
LCFS	Low Carbon Fuel Standard
L _{dn}	day-night level
LEA	Land Extensive Agriculture
L _{eq}	equivalent continuous sound level
LIA	Land Intensive Agriculture
LID Manual	2017 Storm Water Low Impact Development Technical Design Manual
L _{max}	maximum sound level
LRA	Local Responsibility Area
LSA	Lake and Streambed Alteration
M1	Limited Urban Industrial
M2	Heavy Industrial
M3	Limited Rural Industrial
MACT	Maximum Achievable Control Technology
MAUCRSA	Medical and Adult Use Cannabis Regulation and Safety Act
MCL	maximum contaminant level
MLD	most likely descendants
MMRP	mitigation monitoring and reporting program
MMT	million metric tons
MMTCO ₂ e	million metric tons of CO ₂ equivalent
MP	Industrial Park
mPa	micro-Pascals
mph	miles per hour
MPO	metropolitan planning organization
MRZ	Mineral Resource Zones
MS4 Municipal Separate Storm Sewer System	
MTC	Metropolitan Transportation Commission
MUP	limited commercial
N ₂ O	nitrous oxide

NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
NBWD	North Bay Water District
NCAB	North Coast Air Basin
NEHRP	National Earthquake Hazards Reduction Program
NFIP	National Flood Insurance Program
NO	nitric oxide
NO ₂	nitrogen dioxide
NOP	notice of preparation
NO _x	nitrogen oxides
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSCAPCD	Northern Sonoma County Air Pollution Control District
NWIC	Northwest Information Center
OAV	odor activity value
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
OWTS	Onsite wastewater treatment systems
PC	Planned Community
PG&E	Pacific Gas and Electric Company
PM	particulate matter
PM ¹⁰ less	respirable particulate matter with aerodynamic diameter of 10 micrometers or less
PM _{2.5}	fine particulate matter with aerodynamic diameter of 2.5 micrometers or less
Porter-Cologne Act	Porter-Cologne Water Quality Control Act of 1970
PPV	peak particle velocity
PRAC	Project Review Advisory Committee
PRC	Public Resources Code
PRMD	Permit and Resource Management Department
PRMMP	Paleontological Resource Mitigation and Monitoring Program
PV	photovoltaic
R1	Low Density Residential
R2	Medium Density Residential
R3	High Density Residential
RCD	risk characterization document

RCPA	Regional Climate Protection Authority
ROG	reactive organic gas
RR	Rural Residential
RRD	Resources and Rural Development
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	regional water quality control board
SB	Senate Bill
SCFD	Sonoma County Fire District
SCP	Sonoma Clean Power program
SCPA	Sonoma Clean Power Authority
SCTA	Sonoma County Transportation Authority
SCWMA	Sonoma County Waste Management Agency
SEMS	Standard Emergency Management System
sf	square feet
SFBAAB	San Francisco Bay Area Air Basin
SFHA	Special Flood Hazard Areas
SGMA	Sustainable Groundwater Management Act
Sheriff's Office	Sonoma County Sheriff's Office
SIP	state implementation plan
SMARA	Surface Mining and Reclamation Act of 1975
SMART	Sonoma-Marin Area Rail Transit
SO ₂	sulfur dioxide
Sonoma RCD	Sonoma Resource Conservation District
SO _x	oxides of sulfur
SPL	sound pressure level
SR	State Route
SRA	State Responsibility Area
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resource Control Board
TAC	Toxic air contaminant
TDM	Transportation Demand Management
THP	timber harvest plan
TIP	Transportation Improvement Program
TMDL	total maximum daily load
TP	Timberland Production

TPZ	timberland production zone
UPC	use permit for cannabis
US 101	United States Highway 101
US	United States
USACE	US Army Corps of Engineers
USGS	US Geological Survey
UWMP	urban water management plan
UWMPA	Urban Water Management Planning Act
VA Guidelines	Sonoma County Visual Assessment Guidelines
VdB	vibration decibels
VHFHZ	Very-High Fire Hazard Severity Zone
VMT	vehicle miles traveled
VOC	volatile organic compound
VOH	Valley Oak Habitat
WDR	waste discharge requirement
WEAP	Worker Environmental Awareness Training
WFCE	Working Forest Conservation Easements
WQCP	Water Quality Control Plan
WRCC	Western Regional Climate Center
WUI	wildland urban interface
ZEV	zero-emission vehicle
ZPC	zoning permit for cannabis

This page is intentionally left blank.

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

This summary is provided in accordance with California Environmental Quality Act Guidelines (State CEQA Guidelines) Section 15123. As stated in Section 15123(a), "an EIR [environmental impact report] shall contain a brief summary of the proposed action and its consequences. The language of the summary should be as clear and simple as reasonably practical." As required by the guidelines, this chapter includes (1) a summary description of the Sonoma County Comprehensive Cannabis Program Update (Cannabis Program Update), (2) a synopsis of environmental impacts and recommended mitigation measures (Table ES-1), (3) identification of the alternatives evaluated and of the environmentally superior alternative, and (4) a discussion of the areas of controversy associated with the project.

ES.2 SUMMARY DESCRIPTION OF THE PROJECT

ES.2.1 Project Location

Sonoma County is located along the Pacific coastline and is the most northerly of the nine counties in the San Francisco Bay Region, approximately 40 miles north of San Francisco and the Golden Gate Bridge. Sonoma County is bordered by the Pacific Ocean on the west, Marin County and San Pablo Bay to the south, Solano, Napa and Lake Counties to the east, and Mendocino County to the north. The County is just over 1,500 square miles, making it the largest of the nine Bay Area counties.

Sonoma County includes a diverse mosaic of landforms, environments, and human settlements. The broad, flat Santa Rosa Plain, which lies between the Sonoma Mountains on the east and low coastal hills on the west, contains the cities of Santa Rosa, Rohnert Park, and Cotati. The sparsely settled western margin of the county, along the Pacific coastline, includes the redwood and mixed conifer forests of the Mendocino Highlands in the north and rolling oak studded hills, dairy lands, and coastal prairies in the south. The Mayacamas Range forms the eastern boundary of the county. Along with the Sonoma Mountain range, it encloses the Sonoma Valley or "Valley of the Moon," a scenic valley which extends from near Santa Rosa southeastward to the City of Sonoma and the marshlands of San Pablo Bay. In the north, the Mayacamas Range and Mendocino Highlands enclose the farming regions of Alexander and Dry Creek Valleys. In the far northeast, the remote interior of the Mayacamas Range contains the Geysers geothermal steam field.

ES.2.2 Project Objectives

The overall purpose of the Cannabis Program Update is to address requirements set forth under the Resolution of Intention and Cannabis Program Update Framework. The Program Update would provide standards to regulate the size, location, and intensity of cannabis uses in agricultural areas to limit conflicts with traditional agriculture, ensure agriculturally zoned lands remain available for agricultural production by limiting structural development, and to provide separation between cannabis production and existing residential areas. These updates aim to provide opportunities for farmers to diversify and obtain additional income, including allowing marketing and visitor-serving activities that promote agricultural products to include cannabis agricultural products.

The primary objectives of the Program Update are identified as follows:

- ▶ Protect environmental resources and minimize environmental impacts.
- ▶ Ensure cannabis uses are compatible with areas of concentrated residential uses.
- ▶ Ensure compatibility between cannabis and existing non-residential uses.

- ▶ Regulate cannabis located on agricultural lands more similarly to other agricultural uses, while recognizing its Federal classification, legal history, crop value, transaction security, distinct odor, and energy and water requirements.
- ▶ Regulate cannabis supply chain uses and cultivation located in industrial and commercial areas more similarly to other industrial and commercial uses.
- ▶ Reduce barriers to entry by allowing by right uses where appropriate and eliminating duplicative regulations that unnecessarily bog down permitting without adding value in order to streamline permit processes.
- ▶ Increase business opportunities for the cannabis industry and supporting industries by allowing an expansion in cannabis uses including cultivation, supply chain, additional support and accessory uses. Allow for multiple cannabis uses within a single operation i.e., vertical integration.
- ▶ Recognize competing and evolving community values and interests related to the cannabis industry when implementing the above objectives.
- ▶ Consider the protection of public health and safety and racial and socio-economic equity when implementing the above objectives.

ES.2.3 Characteristics of the Project

The Cannabis Program Update includes amendments to the Sonoma County General Plan and changes to the County Code in Chapter 26 (Sonoma County Zoning Regulations) and Chapter 4 (Amusements and Business Regulations) to further address proposed cannabis cultivation and supply chain uses allowed by the state licensing program beyond the current County regulations. The following discussion contains an overview of the Cannabis Program Update background, project objectives, and a summary of proposed changes to the existing Cannabis Program. In March of 2022, the Board of Supervisors adopted the Cannabis Program Update Framework to direct and guide staff in its preparation of a draft ordinance supported by a Programmatic Environmental Impact Report to amend the Cannabis Land Use Ordinance and related regulations. Item 7 of the Cannabis Program Update Framework summarizes the County's intent to increase compatibility between cannabis land uses and the neighborhoods they are located within or adjacent to.

Components proposed Cannabis Program Update are described below that consists of the following:

- ▶ amendments to the General Plan;
- ▶ refinements to the Sonoma County Code that regulation cannabis uses;
- ▶ new cannabis regulations to the Sonoma County Code, including setbacks specific to existing permits and applications; and
- ▶ refinements to the Sonoma County Uniform Rules for Agricultural Preserves and Farmland Security Zones (Uniform Rules).

ES.2.4 Summary of General Plan Amendments

The General Plan amendment includes revisions to the Agricultural Resources Element of the Sonoma County General Plan. Under the current General Plan and County Code provisions, cannabis cultivation is classified as a nonagricultural commercial use. That is, cannabis operations on agricultural land may be allowed as a secondary or incidental use to a "traditional" agricultural use. The proposed General Plan amendments would reclassify cannabis as "controlled agriculture." The majority of policies related to agriculture in the General Plan would apply equally to cannabis uses. However, the "controlled" designation would recognize that cannabis remains classified as a controlled substance under the Controlled Substances Act, and therefore it is appropriate to subject cannabis to certain additional regulations and limitations compared to other agricultural uses. Under the proposed Cannabis Program Update, proposed Policy AR-4g would be added, which limits permanent structures used for cannabis production on

agricultural lands in order to minimize loss of agricultural soils; and proposed Policy AR-4h would separate cannabis production on agricultural lands from existing residential areas to protect public health and safety. The text of the proposed General Plan amendment is provided in Appendix B of this Draft EIR.

ES.2.5 Summary of Refinements to Existing Sonoma County Code

Currently, cannabis regulations are separated from other land uses into Article 88 (Sec. 26-88-250 through Sec. 26-88-258). Approval of the Cannabis Program Update would involve repeal of that code and integration of cannabis regulations into existing code by zoning. For example, allowed cannabis cultivation activities in agricultural and resource zones would be contained in Article 6 (Agricultural and Resource Zones) with other land uses allowed in those zoning districts, while use standards associated with those allowed cultivation land uses would be located in Article 18 (Agriculture and Resources-Based Use Standards) along with other use standards that apply to allowed land uses in agricultural and resource zoning districts. Generally, the proposed Code language and its integration into code by zoning district is intended to: (1) regulate cannabis more similarly to other uses, (2) remove duplicative regulations to streamline permitting, and (3) remove provisions that apply solely to currently allowed ministerial cannabis permits as the proposed Update includes a substantially smaller ministerial component.

As part of the Cannabis Program Update, some existing cannabis-specific regulations would be retained, and some new cannabis-specific regulations would be added and integrated into code as described above. Duplicative cannabis regulations in Article 88 would be removed when existing regulations from other code sections would apply to cannabis under the Update.

ES.2.6 Summary of New Regulations to the Sonoma County Code

The proposed Cannabis Program Update would include a new Cannabis License registration requirement for all cannabis uses, new and existing. The purpose of a Cannabis License allows the County to provide local authorization to the DCC. Due to the proposal to remove term limits and allow cannabis uses by right in the Industrial and Commercial Zone districts, a cannabis license would allow the County to establish a mechanism for registration of cannabis businesses. Commercial cannabis uses would be allowed in zoning districts: Land Intensive Agriculture (LIA), Land Extensive Agriculture (LEA), Diverse Agriculture (DA), Resources and Rural Development (RRD), Industrial Park (MP), Limited Urban Industrial (M1), Heavy Industrial (M2), and Limited Rural Industrial (M3).

Cannabis cultivation may include accessory uses, in zoning districts LIA, LEA, DA, and RRD, which that directly support the on-site cultivation operations, such as: propagation, research and development of new plant cultivars, processing, manufacturing, packaging and labeling, distribution, and other similar support uses as determined by the Director.

All cannabis cultivation would be required to meet performance standards:

- ▶ Odor control. All structures containing cannabis must be equipped with a filtration and ventilation system to control odors, humidity, and mold, except for structures containing only packaged cannabis products.
- ▶ Lighting. All lighting is to be fully shielded and downward casting so that it does not spillover onto neighboring properties. For operations cultivating within structures, all light is to be fully contained so that little to no light escapes at a level that is visible from neighboring parcels.
- ▶ Generators. Generator use is prohibited, except for emergency backup.
- ▶ Plant propagation, research, and development. Propagative and research and development plant material that is not located within the cannabis canopy cannot be distributed, manufactured or sold.

The County regulates land use through the zoning code by zoning district. Each district includes two general use category types: permitted uses ("P" in Zoning Code Land Use Tables) and conditional uses ("C" in Zoning Code Land Use Tables). Permitted uses have been determined to be consistent with the purpose of the zoning district and are generally less intensive in nature. Permitted uses can either be allowed by right or subject to a ministerial zoning permit. Where no permit is required, uses are still required to comply with ministerial code standards.

Where a ministerial zoning permit is required, the permit is approved or denied based on compliance with fixed measurable standards including but not limited to development standards like setbacks, building heights, and lot coverage. Conditionally permitted uses are generally more intensive in nature and may have environmental or neighborhood impacts if not designed and operated appropriately. Conditionally permitted uses may be compatible with the intent of the zoning district but still require a site-specific analysis which allows for conditions of approval to be imposed on the project to further ensure compatibility and protection of environmental resources. A conditional use permit is a discretionary approval, meaning the County decision makers exercise judgment in determining whether a specific proposed use is appropriate in that location. Use permits are subject to public notice and environmental review as required under CEQA.

The following proposed code amendments would be codified into the Sonoma County Code (see Appendix B for the full code language).

- ▶ Chapter 4, Article IX, Cannabis Licenses;
- ▶ Chapter 26, Article 4., Section 26-04-020, Definitions;
- ▶ Cannabis Land Use Table (to be incorporated into Chapter 26, Articles 6 - 14, as appropriate);
- ▶ Chapter 26, Article 18. Section 26-18-020 – Ag Crop Production & Cultivation;
- ▶ Chapter 26, Article 18. Section 26-18-115 – Cannabis Cultivation;
- ▶ Chapter 26, Article 18. Section 26-18-270 – Cannabis Events;
- ▶ Chapter 26, Article 20. Industrial Manufacturing and Processing Use Standards;
- ▶ Chapter 26, Article 22. Section 26-22-120 – Periodic Special Events;
- ▶ Chapter 26, Article 26. Retail Use Standards; and
- ▶ Chapter 26, Article 86. Section 26-86-010 – Cannabis Storefront Retailer Parking Standards.

ES.2.7 Refinements to the Sonoma County Uniform Rules for Agricultural Preserves and Farmland Security Zones

As part of the Cannabis Program Update, cannabis would be considered an agricultural use. In addition, it would be redefined in the Uniform Rules (Appendix B) to reflect the Zoning Code definition (Section 26-04-020) to read as:

“Cannabis” All parts of the plant *Cannabis sativa* Linnaeus, *Cannabis indica*, or *Cannabis ruderalis*, or any other strain or varietal of the genus *Cannabis* whether growing or not; “Cannabis” does not include “industrial hemp” as defined by Section 81000 of the California Food and Agriculture Code.

Sites subject to a Williamson Act contract would continue to be implemented through existing County development permitting processes in compliance with Policy and Procedure 8-1-8 (Procedure for Permits on Parcels under Williamson Act Contracts). Under the proposed Cannabis Program Update, Williamson Act would apply to cannabis operations, including cultivation and accessory uses that support onsite cannabis cultivation (e.g., propagation, research and development, self-distribution, and processing). Additionally, Uniform Rule Section 8.3-B Compatible Uses would be modified to include facilities for cannabis manufacturing and centralized processing of cannabis grown off-site as compatible agricultural support uses.

ES.3 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This EIR has been prepared pursuant to the CEQA (Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Section 1500, et seq.) to evaluate the physical environmental effects of the proposed Sonoma County Cannabis Program Update. Sonoma County is the lead

agency for the project. Sonoma County has the principal responsibility for approving and carrying out the project and for ensuring that the requirements of CEQA have been met. After the Final EIR is prepared and the EIR public-review process is complete, the Sonoma County Board of Supervisors (Board) is the party responsible for certifying that the EIR adequately evaluates the impacts of the project.

Table ES-1, presented at the end of this chapter, provides a summary of the environmental impacts for the Sonoma County Cannabis Program Update. The table provides the level of significance of the impact before mitigation, recommended mitigation measures, and the level of significance of the impact after implementation of the mitigation measures.

ES.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS AND CUMULATIVE IMPACTS

Mitigation measures have been identified in Sections 3.1 through 3.17 of this draft environmental impact report (Draft EIR) that are intended to mitigate project effects to the extent feasible. For the following environmental issue areas, one or more impacts are considered significant and unavoidable; that is, no feasible mitigation is available to reduce the project's impacts or the project's contribution to cumulative impacts to a less-than-significant level.

ES.4.1 Air Quality

- ▶ Expose a Substantial Number of People to Odors Considered Objectionable
- ▶ Contribution to Cumulative Impacts on Operational Criteria Air Pollutants

ES.4.2 Greenhouse Gas Emissions and Climate Change

- ▶ Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases
- ▶ Contribution to Cumulative Impacts on Greenhouse Gas Emissions and Climate Change Impacts

ES.4.3 Noise and Vibration

- ▶ Result in Excessive Short-Term Construction Noise Impacts

ES.4.4 Transportation

- ▶ Conflict or Be Inconsistent with CEQA Guidelines Section 15064.3(b) Regarding Vehicle Miles Traveled (VMT)
- ▶ Contribution to Cumulative Impacts on Vehicle Miles Traveled

ES.4.5 Utilities and Service Systems

- ▶ Contribution to Cumulative Impacts on Water Supply Sufficiency

ES.5 ENVIRONMENTALLY-SUPERIOR ALTERNATIVE

The following provides brief descriptions of the alternatives evaluated in this Draft EIR. Table ES-2 presents a comparison of the environmental impacts between the alternatives and the proposed project.

Alternative 1: No Project–Continuation of Existing Cannabis Program: Alternative 1 assumes that the existing regulation would remain in place.

Alternative 2: Commercial and Industrial Zones Only Alternative: Alternative 2 would only allow commercial cannabis uses within the commercial and industrial zoning districts, which would limit cultivation to indoor only, and events would not be allowed.

Alternative 3: Ministerial Only Alternative: Alternative 3 would allow future non-cultivation and cultivation facilities without further discretionary review, either by right or with a ministerial permit. Ministerial zoning permits require review of the permit application for permit eligibility and verification of the proposed project's conformance with set standards prior to approval. If the proposed project does not conform to the applicable standards, the permit would not be eligible for approval and would be denied by the County. If applicable standards are met, the permit is issued without project-specific discretionary review and without public notice.

Alternative 4: Reduced Scope Alternative: Under Alternative 4, proposed changes to the General Plan would be the same as under the proposed Cannabis Program Update, including redefining cannabis as controlled agriculture and limiting structural development to being secondary and incidental to outdoor agricultural production. The allowable uses in industrial and commercial districts would remain the same, but the allowable uses in agricultural and resources districts would be reduced compared to the proposed program.

Alternative 5: No New Development: Crop Swap and Shop Swap Only Alternative: Alternative 5 would limit new outdoor cannabis cultivation sites within agricultural or resources zoning districts to those meeting the crop swap criteria of the Cannabis Program Update. That is, cultivation would involve the replacement of active cultivation and of perennial or row crops with outdoor cannabis cultivation or the reuse of an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation, involving no or negligible expansion of use. Cannabis cultivation operations would be subject to a ministerial permit that would meet the requirements of the crop swap, as detailed in the proposed Cannabis Program Update Code Section 26-18-115. No new indoor or mixed-light facilities could be developed under the crop swap provisions, cannabis cultivation would be not allowed on agricultural or resources zoning districts that have not been in production within the 5 years prior to application for a permit.

Of these alternatives, Alternative 5, the No New Development: Crop Swap and Shop Swap Only Alternative, would avoid the most adverse impacts compared to the proposed Cannabis Program Update. Therefore, it is considered the environmentally superior alternative.

ES.6 AREAS OF CONTROVERSY

A notice of preparation (NOP) was distributed for the Sonoma County Cannabis Program Update on February 6, 2023, to responsible agencies, interested parties, and organizations, as well as private organizations and individuals that may have an interest in the project. A public scoping meeting was held on March 8, 2023. The purpose of the NOP and the scoping meeting was to provide notification that an EIR for was being prepared for the project and to solicit input on the scope and content of the environmental document. The NOP and responses to the NOP are included in Appendix A of this Draft EIR. Key concerns and issues that were expressed during the scoping process included the following:

- ▶ water supply sufficiency;
- ▶ effects on public safety;
- ▶ consideration of inclusion and exclusion zones;
- ▶ consideration of setback requirements;
- ▶ groundwater pollution;
- ▶ neighborhood compatibility;
- ▶ odor impacts;
- ▶ increase vehicular traffic on rural roads;
- ▶ hazardous materials control;

- ▶ noise pollution impacts;
- ▶ impacts related to consumption lounges, cannabis events, and cannabis tourism;
- ▶ increased wildfire risk;
- ▶ visual impacts from commercial cannabis structures; and
- ▶ Biological impacts from commercial cannabis activities.

ES.7 ISSUES TO BE RESOLVED

State CEQA Guidelines Section 15123 requires the summary section of a Draft EIR to identify issues to be resolved related to the proposed project. Issues to be resolved by the County are identified below, including issues that will not necessarily be resolved through the EIR:

- ▶ Should the proposed Cannabis Program Update be adopted?
- ▶ Which project alternative (or combination) should be adopted?
- ▶ What buffers are most appropriate and from what uses?
- ▶ Should the proposed mitigation measures identified in this EIR be applied to future permitting actions?

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Aesthetics			
Impact 3.1-1: Have a Substantial Adverse Effect on a Scenic Vista or Viewshed Adoption and implementation of the proposed Cannabis Program Update could result in new or modified cannabis cultivation sites and supply chain uses within the County, which may be visible from designated scenic vistas or resources, including scenic landscapes, community separators, and scenic corridors and could adversely alter the character of these features. New cannabis uses would be subject to the County's design standards, which would minimize adverse visual effects. However, depending on the color and materials used, tarps and security fencing may be visible from a distance and could be considered a dominant and intrusive feature of a scenic vista or viewshed. Therefore, this impact would be potentially significant.	PS	Mitigation Measure 3.1-1 (ZPC, DRH, UPC): Implement Additional Measures to Protect Scenic Resources The following mitigation measures would be included as new standards in proposed Section 26-18-115(C): <ul style="list-style-type: none"> ▶ If a hoop house is visible from a public vantage point, any covering must be non-reflective. ▶ Weed block materials shall be made of non-reflective and non-plastic materials. ▶ Installation of solid fencing, such as wood, masonry, and chain link covered with privacy cloth, is prohibited within County-designated scenic landscapes, scenic corridors, and community separators. 	LTS
Impact 3.1-2: Damage Scenic Resources Including, but Not Limited to, Trees, Rock Outcroppings, and Historical Buildings within a State Scenic Highway or County-Designated Scenic Roadway Within the Program area, there are two designated and five eligible state scenic highways. Adoption and implementation of the proposed Cannabis Program Update may result in new or modified cannabis uses that could adversely alter the character of scenic resources associated with these designated and eligible State scenic highways and County designated scenic corridors. This impact would be potentially significant.	PS	Mitigation Measure 3.1-1 (ZPC, DRH, UPC): Implement Additional Measures to Protect Scenic Resources	LTS
Impact 3.1-3: Substantially Degrade the Existing Visual Character or Quality Adoption and implementation of the proposed Cannabis Program Update would allow for the development of new or modified cannabis uses that would alter the rural and agricultural character of the County, especially in areas currently not developed with cannabis uses. While future cannabis uses would be required to comply with the development criteria established in the General Plan and County Code along with the performance standards proposed in the Cannabis Program Update, the potential for significant adverse changes to the existing rural character remains. This impact would be potentially significant.	PS	Mitigation Measure 3.1-1 (ZPC, DRH, UPC): Implement Additional Measures to Protect Scenic Resources	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>Impact 3.1-4: Create a New Source of Substantial Light or Glare that Would Adversely Affect Day or Nighttime Views</p> <p>Adoption and implementation of the proposed Cannabis Program Update would allow for the development of new cannabis uses that would include the potential for glare and nighttime light that could adversely impact adjoining land areas. While state licensing requirements would ensure that light and glare sources from outdoor cannabis cultivation is fully shielded and downward casting, County standards for lighting associated with uses other than outdoor cultivation may be insufficient. Therefore, this impact would be potentially significant.</p>	PS	<p>Mitigation Measure 3.1-4a (ZPC, UPC, DHR): Implement Mitigation Measure 3.1-1</p> <p>Mitigation Measure 3.1-4b: (ZPC, UPC, DRH): Implement New Light and Glare Requirements</p> <p>The following mitigation measures would be imposed through the zoning permit, use permit, and design review with hearing processes:</p> <ul style="list-style-type: none"> ▶ A lighting plan must be submitted for new cannabis uses that are subject to a use permit or design review with hearing. The lighting plan must demonstrate compliance with the following standards. ▶ Lighting Standards <ul style="list-style-type: none"> ▪ All exterior lighting shall be “Dark-sky” compliant and fully shielded to avoid nighttime light pollution per guidance provided by the International Dark Sky Association (www.darksky.org). ▪ Lighting shall be fully shielded to prevent nighttime light pollution. ▪ Lighting shall be downward facing, located at the lowest possible point to the ground to prevent spill over onto adjacent properties, glare, nighttime light pollution and unnecessary glow in the night sky. ▪ Light fixtures shall not be located at the periphery of the property and shall not reflect off structures. Security lighting shall be put on motion sensors. ▪ Uplights are not permitted; flood lights are permitted only for temporary use in fields during harvest. ▪ Signs that emit light are prohibited and lights used to illuminate signs shall be shielded to prevent light spill beyond the sign and not exceed a total light output of 1000 lumens. ▪ Light fixtures emitting over 1000 lumens are prohibited except where needed for agriculture, commercial fishing, and first responders. ▪ Total illuminance created by artificial lighting, shall not exceed 1.0 lux at the property line. Color temperature of exterior light sources shall be 3000 Kelvin or lower. ▶ Glare Standards. <ul style="list-style-type: none"> ▪ All glass used on building exteriors must have a visible light reflectance of no more than 15%. ▪ Glass with a visible light reflectance greater than 10% must incorporate glare mitigation strategies, including but not limited to exterior shading devices or non-reflective coatings. 	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ■ Certification from the glass manufacturer verifying compliance with reflectance limits must be provided with the building permit application. ■ Reflectance data and specifications for all exterior glass must be included in the permit documentation. 	
Agricultural and Forestry Resources			
<p>Impact 3.2-1: Directly or Indirectly Convert or Conflict with Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance</p> <p>Adoption and implementation of the proposed Cannabis Program Update could result in an increase in commercial cannabis cultivation and supply chain uses within the County. Cannabis is currently defined by the state as an agricultural product and is considered a secondary use of agricultural land by the County. Implementation of the proposed Cannabis Program Update would allow for development of structures to support non-production accessory uses, such as manufacturing, retail, and distribution, as well as permanent structures for events would involve conversion of farmland to a nonagricultural use. However, potential new developed uses that could be located on Farmland would not comprise a substantial area of the county's agricultural resources. Furthermore, support uses would be critical to protect the future agricultural use of the county's agricultural lands. Thus, the loss of such a relatively small area would not significantly detract from future agricultural use in the unincorporated area. This impact would be less than significant.</p>	LTS	No mitigation is required for this impact.	LTS
<p>Impact 3.2-2: Conflict with Existing Agricultural Zoning or with a Williamson Act Contract</p> <p>Adoption and implementation of the Cannabis Program Update would update the existing land use and zoning regulations to redefine cannabis cultivation and operations as agricultural uses, as well as provide additional standards and restrictions based on the type of use. The proposed updated regulations would complement the County's existing zoning requirements for agricultural uses and Williamson Act contracts and therefore, would not conflict with existing agricultural zoning. As such, there would be no impact related to conflicting with existing agricultural zoning or with a Williamson Act contract with adoption and implementation of the Cannabis Program Update.</p>	NI	No mitigation is required for this impact.	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>Impact 3.2-3: Conflict with Existing Zoning for, or Cause Rezoning of, Forest Land, Timberland, or Timberland-Zoned Timberland Production</p> <p>Adoption and implementation of the Cannabis Program Update would not rezone any parcels currently zoned as forest land, timberland, or areas designated for timberland production. The Cannabis Program Update would allow for cannabis cultivation, wholesale nursery, accessory uses, and events within the RRD zone, where timber production is an allowable use. Future cannabis operations would be required to comply with the requirements of the zoning designation as updated by the Cannabis Program Update. Compliance with the development standards established by the Cannabis Program Update would ensure future cannabis operations within the RRD zone would not conflict with the zoning requirements. As such, implementation of the Cannabis Program Update would not conflict with existing zoning for or cause the rezoning of forest land, timberland, or areas designated for timberland production. No impact would occur with adoption and implementation of the Cannabis Program Update.</p>	NI	No mitigation is required for this impact.	LTS
<p>Impact 3.2-4: Result in the Direct or Indirect Loss of Forest Land or Conversion of Forest Land to Nonforest Use</p> <p>Under the proposed Cannabis Program Update, allowable cannabis uses could be established in agricultural, resources, commercial, and industrial zones. Of these zones, forest land may occur within the RRD zone and could be converted to nonforest uses to support cannabis cultivation, nursery uses, accessory uses and events. However, compliance with the County's tree protection regulations would ensure future cannabis operations would provide adequate replacement or payment for the removal of any on-site protected trees, including those contained in existing forestland. Therefore, impacts related to the loss or conversion of forestland to nonforest use would be less than significant.</p>	LTS	No mitigation is required for this impact.	LTS
Air Quality			
<p>Impact 3.3-1: Conflict with or Obstruct Implementation of an Applicable Air Quality Plan</p> <p>Implementation of the Cannabis Program Update would not result in changes to land use designations and would thus not result in greater emissions than have already been accounted for in the regional emissions modeling used to develop the emissions reduction targets, strategies, and measures of the 2017 Clean Air Plan. Therefore, implementation of the Cannabis Program Update would not obstruct BAAQMD's efforts to attain and maintain the NAAQS and CAAQS in the SFBAAB. This impact would be less than significant.</p>	LTS	No mitigation is required for this impact.	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

ES-11

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>Impact 3.3-2: Generate Short-Term Construction-Related Emissions of ROG, NO_x, PM₁₀, and PM_{2.5}</p> <p>Construction related to the Cannabis Program Update could result in emission of ROG, NO_x, PM₁₀, and PM_{2.5} from the operation of heavy-duty equipment, vendor and worker commute trips, and application of architectural coatings. From a project-level, construction of individual cannabis sites would not generate construction emissions of ROG, NO_x, PM₁₀ exhaust, or PM_{2.5} exhaust exceeding BAAQMD's average daily mass emissions thresholds of significance. However, because the Cannabis Program Update does not include BAAQMD's basic construction mitigation measures as a component of the proposed Cannabis Update Program, construction-generated fugitive dust would be significant.</p>	S	<p>Mitigation Measure 3.3-2 (DRH and UPC): Implement the Bay Area Air Quality Management District's Basic Construction Mitigation Measures</p> <p>The following mitigation measures would be implemented through the design review with hearing (DRH) or use permit for cannabis (UPC) process for individual projects.</p> <p>Prior to the issuance of grading or building permits, Sonoma County shall ensure that BAAQMD's basic construction mitigation measures from Table 5-2 of the BAAQMD 2022 CEQA Guidelines (or subsequent updates) are noted on the construction documents. These basic construction mitigation measures include the following:</p> <ol style="list-style-type: none"> 1) All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2) All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4) All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph). 5) All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6) All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph. 7) All trucks and equipment, including their tires, shall be washed off prior to leaving the site. 8) Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel. 9) A Construction Coordinator shall be designated by the project applicant, and a sign shall be posted on the site including the Coordinator's 24-hour phone number for public contact regarding dust, trackout, and air quality complaints. The Coordinator shall respond and take corrective action within 48 hours. The Coordinator shall report all complaints and their resolutions to Permit Sonoma staff. 	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>Impact 3.3-3: Generate Long-Term Operation-Related Emissions of ROG, NO_x, PM₁₀, and PM_{2.5}</p> <p>Cannabis cultivation sites and associated supply chain uses under the Cannabis Program Update would not generate operational emissions of criteria air pollutants and ozone precursors exceeding BAAQMD's average daily mass emissions thresholds of significance. Because operational emissions of criteria air pollutants and ozone precursors from individual cannabis sites would not be greater than BAAQMD's daily mass emissions threshold, this impact would be less than significant.</p>	LTS	No mitigation is required for this impact.	LTS
<p>Impact 3.3-4: Expose a Substantial Number of People to Odors Considered Objectionable</p> <p>Operation of existing and new cannabis uses could generate objectionable odors with adverse effects for residents and other sensitive land uses. This impact would be significant.</p>	S	<p>Mitigation Measure 3.3-4a: Implement Additional Measures to Minimize Odors from Cultivation and Handling of Harvested Cannabis</p> <p>The Cannabis Program Update Code shall be modified as follows.</p> <p>Section 26-18-115. Cannabis Cultivation shall be amended to read as follows.</p> <p>(C)(1)(a). Odor control. Odors shall be managed by compliance with the following provisions:</p> <ol style="list-style-type: none"> 1. A structure containing cannabis must be equipped with a filtration and ventilation system to control odors, humidity, and mold, except for structures containing only prepackaged cannabis products. The air filtration system shall be sufficient to prevent internal odors from being emitted externally and must rely on activated carbon filtration, negative ion generation, ozone generation, or other odor control mechanisms demonstrated to achieve the same odor reductions so that odors are not detectable outside the structure. <p>Section 26-20-080. Manufacturing/Processing, Medium shall be amended to include the following provision:</p> <ul style="list-style-type: none"> ▶ A structure containing cannabis must be equipped with a filtration and ventilation system to control odors, humidity, and mold, except for structures containing only prepackaged cannabis products. The air filtration system shall be sufficient to prevent internal odors from being emitted externally and must rely on activated carbon filtration, negative ion generation, ozone generation, or other odor control mechanisms demonstrated to achieve the same odor reductions so that odors are not detectable outside the structure. <p>Section 26-26-025(C). Centralized Processing shall be amended to include the following provision:</p>	SU

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>1. A structure containing cannabis must be equipped with a filtration and ventilation system to control odors, humidity, and mold, except for structures containing only prepackaged cannabis products. The air filtration system shall be sufficient to prevent internal odors from being emitted externally and shall rely on activated carbon filtration, negative ion generation, ozone generation, or other odor control mechanisms demonstrated to achieve the same odor reductions so that odors are not detectable outside the structure.</p> <p>Mitigation Measure 3.3-4b: Implement Additional Measures to Minimize Odors from Cannabis Smoking</p> <p>Proposed Sections 26-18-270, 26-22-120, and 26-26-025 shall be amended as follows:</p> <ul style="list-style-type: none"> ► Designated outdoor smoking areas must be located at the furthest distance possible from offsite receptors. If a designated outdoor smoking area is within 600 feet from a property line, the site must employ odor control technology proven to reduce or control smoke and associated odors (e.g. vacuum ventilation or water misters). If smoking occurs indoors, the structure shall be equipped with an air filtration system sufficient to prevent internal odors from being emitted externally and shall rely on activated carbon filtration, negative ion generation, ozone generation, or other odor control mechanisms demonstrated to achieve the same odor reductions so that odors are not detectable outside the structure. Any facility where cannabis smoking occurs must also comply with the Sonoma County Health Ordinance related to employee protections. 	
Biological Resources			
<p>Impact 3.4-1: Result in Disturbance to or Loss of Special-Status Plant Species and Habitat</p> <p>Potential land use conversion and development from cannabis cultivation and supply chain (noncultivation) uses that involve construction, ground disturbance, or vegetation removal in Sonoma County under the Cannabis Program Update could result in disturbance to or loss of special-status plant species if they are present. In addition, expanded and new cannabis cultivation and supply chain uses could result in the introduction or spread of invasive plants during vegetation removal, grading, other ground disturbance, construction activities, installation of temporary event facilities, or introduction of off-site soils, which could result in exclusion of special-status plants. Because the loss of special-status plants could substantially affect the abundance, distribution, and viability of</p>	PS	<p>Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis</p> <p>Sonoma County shall require the following mitigation measures for cannabis project applications subject to a use permit or design review hearing.</p> <ul style="list-style-type: none"> ► A biotic resource assessment must be prepared to determine the presence of biological resources within a project site. The biotic resource assessment will include a biological survey and project-level analysis, which shall be conducted by a qualified biologist. The survey area shall include the proposed disturbance area for the proposed cannabis premises and supporting improvements outside of the premises, including areas of anticipated construction, grading, other ground disturbance, or vegetation removal as well as staging areas, areas of anticipated light or noise impacts, 	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
local and regional populations of these species, this impact would be potentially significant.		<p>ingress and egress routes, and utility routes. The survey area shall be large enough to encompass areas subject to both direct and indirect impacts. The qualified biologist shall assess the habitat suitability of the proposed disturbance area for all special-status plants, special-status wildlife, and sensitive habitats identified as having potential to occur in the County. This shall include an analysis of the late successional forest habitat present within the Program Area, if applicable (see "Late Successional Forest" under Section 3.4.2 above) to determine if there is old-growth habitat present within the proposed disturbance area (see Mature and Old-Growth Forests: Definition, Identification, and Initial Inventory on Lands Managed by the Forest Service and Bureau of Land Management, Appendix 1, Pacific Southwest Region [Region 5] [USFS 2023] to determine what qualifies as old-growth). The qualified biologist shall also assess the habitat suitability of the proposed disturbance area for all invasive species, as well as record locations of invasive species if they are observed during the survey. The biotic resource assessment must include sufficient evidence to support a conclusion as to whether special-status species and sensitive habitats are present or are likely to occur in the proposed disturbance area. At a minimum, the biotic resource assessment report shall include:</p> <ul style="list-style-type: none"> ▪ date, time, and weather conditions during the survey; ▪ a description and explanation of whether the site conditions are considered typical or atypical; ▪ a map depicting the proposed disturbance area and the unique, rare, and special-status species, sensitive habitats, or sensitive natural communities found; ▪ a vegetation map of the proposed disturbance area using the National Vegetation Classification System (e.g., <i>A Manual of California Vegetation</i>) and an associated table, including acreage of vegetation types that could be adversely affected by project implementation by also checking the Vital Lands Initiative priority areas for vegetation communities (Sonoma County Ag + Open Space 2024); ▪ a special-status species table generated from review of the CNDDDB, the California Native Plant Society Inventory of Rare and Endangered Plants, lists maintained by USFWS, and the most recent, best-available range information for special-status species; 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ■ a list of wildlife movement corridors present in the project area as well as footprint (i.e., area) of corridors, checking at least the following sources: Sonoma County General Plan (Habitat Connectivity Corridors), Sonoma County Ag + Open Space Vital Lands Initiative, and the Conservation Lands Network; ■ a description of survey methods and any protocols utilized during the survey; ■ a list of common and special-status species and habitats observed in the proposed disturbance area; and ■ a list of critical times of the year (e.g., migration season, nesting bird season) where nighttime lighting mitigation measure would apply. <p>► Following completion of the biotic resource assessment report, the qualified biologist shall submit the report to Sonoma County Planning Department for review. If no special status species, sensitive habitat, wetlands, or other waters are identified on an individual project site, no further mitigation is required.</p> <p>► If special-status species, sensitive habitats, or wetlands or other waters are present or have the potential to be present, the qualified biologist developing the biotic resource assessment report shall include a discussion of potential direct and indirect impacts (temporary and permanent) on these resources, including identifying the project activities that would lead to impacts, and the appropriate biological resource protection measures identified in Mitigation Measures 3.4-1b, 3.4-1c, 3.4-2a through 3.4-2q, 3.4-4, 3.4-5, 3.4-6a through 3.4-6d, 3.4-6c, 3.4-8 shall be implemented.</p> <p>Mitigation Measure 3.4-1b (DRH or UPC): Conduct Special-Status Plant Surveys and Implement Avoidance Measures and Mitigation</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) identifies the presence or potential presence of special-status plant species on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ► Within one year of the start of project-related ground disturbing activities and during the blooming period for the special-status plant species with potential to occur on the site, a qualified botanist shall conduct protocol- 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>level surveys for special-status plants in all proposed disturbance areas, including temporary features, following survey methods from the CDFW <i>Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities</i> (CDFW 2018a).</p> <ul style="list-style-type: none"> ▶ If special-status plants are not identified, the botanist shall document the findings in a report to the applicant, County, and CDFW, and no further mitigation shall be required. ▶ If special-status plant species are found, the qualified botanist shall consult with CDFW to designate a no-disturbance buffer or redesign of the cannabis site that shall be reflected in application materials to the County. If special-status plants cannot be avoided, then the applicant shall consult with CDFW to determine if an incidental take permit should be obtained (i.e., for special-status species listed under CESA) or if compensatory mitigation would be required. Impacts on special-status plant species will be mitigated such that there would be no net loss of occupied habitat or individuals. Mitigation measures shall include, at a minimum, preserving and enhancing existing populations, establishing populations through seed collection or transplantation from the site that is to be affected, and restoring or creating habitat in sufficient quantities to achieve no net loss of occupied habitat or individuals. Habitat and individual plants lost shall be mitigated at a minimum 2:1 ratio, considering acreage, as well as function and value, and in compliance with Sonoma County General Plan Policy OSRC-7b-1-d (though this only applies in designated Biotic Habitat Areas, which are only approximately 3.2 percent of the Program Area). As outlined in that policy, acreage required for adequate mitigation and replacement habitat shall be at least two times the acreage affected unless a lower level is acceptable to the applicable state agencies, with the amount depending on the habitat affected and the applicable mitigation priority value. Success criteria for preserved and compensatory populations shall include the following conditions: <ul style="list-style-type: none"> ▪ The extent of occupied area and plant density (number of plants per unit area) in compensatory populations shall be equal to or greater than the affected occupied habitat. ▪ Compensatory and preserved populations shall be self-producing. Populations shall be considered self-producing when: 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> Plants reestablish annually for a minimum of 5 years with no human intervention, such as supplemental seeding; and Reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the project vicinity. If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures shall be included in the mitigation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, success criteria such as those listed above, and other details, as appropriate to target the preservation of long-term viable populations. <ul style="list-style-type: none"> Any mitigation plan for impacts on special-status plants must be reviewed and approved by Sonoma County and CDFW. <p>► If special-status plants covered by the Santa Rosa Plain Conservation Strategy (Burke's goldfield, Sonoma sunshine, Sebastopol meadowfoam, and many-flowered navarretia) are found and the proposed disturbance area is located in the Conservation Strategy plan area, direct and indirect impacts on these plants shall be completely avoided through implementation of no-disturbance buffers or redesign of the project. If the plants cannot be completely avoided, the application shall be denied until such a time that cannabis uses are legalized under federal law and federal incidental take permitting through participation in the Conservation Strategy may be pursued. If the plants cannot be completely avoided and cannabis uses are legalized under federal law, applicants will pursue federal incidental take permitting through participation in the Conservation Strategy.</p> <p>Mitigation Measure 3.4-1c (DRH or UPC): Implement Measures to Avoid Introduction or Spread of Invasive Plant and Wildlife Species</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that special-status plants are present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and</p>	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ The application shall include identification of invasive plant species that occur on the site and where they are located. After identifying what type of invasive species could be or are present on the project site, the application shall identify specific measures to be employed for the removal of invasive species and on-site management practices. ▶ Invasive plant species (defined in the EIR, see Section 3.4.2 Environmental Setting, "Invasive Species") shall be removed from the site to the extent feasible, using measures appropriate to the species. For example, species that cannot easily reroor, resprout, or disperse seeds may be left on site in a debris pile. Species that resprout readily (e.g., English ivy) or disperse seeds (e.g., pampas grass) should be hauled off-site and disposed of appropriately at a landfill site. A qualified botanist shall determine the appropriate percent cover of invasive species to remove for the site and what type of restoration plantings shall be appropriate for the site. ▶ The site shall be monitored by a qualified botanist annually for 3 years or until the following success criteria are met, whichever is longer: <ul style="list-style-type: none"> ▪ Cover of existing invasive plants has either decreased or remained unchanged, there are no new infestations of invasive plants that existed on the site before project implementation, and there are no new invasive plant species that were not present onsite before project implementation. ▶ Heavy equipment and other machinery shall be inspected for the presence of invasive species before on-site use, and shall be cleaned before entering the site, to reduce the risk of introducing invasive plant species. ▶ No nonnative fish species shall be introduced into ponds on project sites. This measure does not apply to any activities conducted pursuant to the California Health and Safety Code, including mosquito control activities conducted by local vector control agencies. ▶ If storage ponds would be constructed, the applicant shall hire a qualified biologist to prepare an aquatic invasive species management plan, which shall include details regarding monitoring for aquatic invasive species, including bullfrogs, and appropriate measures for preventing establishment of these species and controlling invasive species populations. The aquatic invasive species management plan shall be reviewed and approved by Sonoma County prior to construction of stock ponds. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>Impact 3.4-2: Result in Disturbance to or Loss of Special-Status Wildlife Species and Habitat</p> <p>Potential land use conversion and development from cannabis cultivation and supply chain uses under the Cannabis Program Update could adversely affect several special-status wildlife species. Cannabis sites may include construction, grading, vegetation removal, other ground disturbance and trampling of wildlife, and overall conversion of wildlife habitat in both the agricultural and resources districts and industrial and commercial districts in the Program Area, which could result in the disturbance to or loss of individuals and reduced breeding productivity of these species. In select instances, removal of perennial orchard crops also could result in the disturbance to or loss of individuals and reduced breeding productivity of specific special-status bird species. Special-status wildlife species are protected under the ESA, CESA, California Fish and Game Code, CEQA, and other regulations. Because the loss of special-status wildlife species and their habitat could substantially affect the abundance, distribution, and viability of local and regional populations of these species, this impact would be potentially significant.</p>	PS	<p>Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis</p> <p>Mitigation Measure 3.4-2a (DRH or UPC): Conduct Pre-disturbance Surveys for Special-Status Amphibians and Implement Avoidance Measures</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that special-status amphibians are present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ For California tiger salamander or California red-legged frogs: <ul style="list-style-type: none"> ■ If California tiger salamanders or California red-legged frogs are detected during the initial biological survey (see Mitigation Measure 3.4-1a) or are determined to be likely to occur (i.e., aquatic or upland habitats potentially suitable for the species are present), then it shall be assumed that all cannabis-related activities, other than crop-swap, that involve construction, other project activities utilizing large machinery (by which special-status amphibians can be crushed), vegetation removal, or other ground disturbance, in all zoning districts in the Program could result in take of this species, and the application shall be denied until such a time that cannabis uses are legalized under federal law and protocol-level surveys by USFWS-approved biologists with ESA Section 10(a)(1)(A) permits may be conducted and federal incidental take permitting may be pursued. Furthermore, a buffer of 1.3 miles shall be established around existing known California tiger salamander breeding occurrences (e.g., Santa Rosa Plain Conservation Strategy Mapping, CNDDDB), and cannabis uses shall also be prohibited within the buffer. ■ If California tiger salamander or California red-legged frog are delisted from ESA and one of these delisted species are detected during the initial biological resources assessment survey (see Mitigation Measure 3.4-1a) or are determined to be likely to occur (i.e., aquatic or upland habitats potentially suitable for the species are present on the site), protocol-level surveys shall be conducted by a qualified biologist. For California tiger salamander, <i>Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger</i> 	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p><i>Salamander</i> (USFWS and CDFG 2003) shall be used, and for California red-legged frog <i>Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog</i> (USFWS 2005). If either of these species were identified in protocol-level surveys, work on the site shall not commence until the applicant has consulted with CDFW to determine whether mitigation measures, such as project design modifications, relocation of the site, or relocation of individual animals, shall be necessary and appropriate so that injury to or mortality of special-status amphibians shall be avoided.</p> <ul style="list-style-type: none"> ▶ For California giant salamander, foothill yellow-legged frog, Pacific tailed frog, red-bellied newt, or other amphibians considered special-status detected during the initial biotic resource assessment survey (see Mitigation Measure 3.4-1a) application: <ul style="list-style-type: none"> ■ If California giant salamanders, foothill yellow-legged frogs, Pacific tailed frogs, red-bellied newts, or any other amphibians considered special-status species are detected during the initial biotic resource assessment survey (see Mitigation Measure 3.4-1a) or are determined to be likely to occur based on the presence of habitat suitable for these species, the following measures shall apply: <ul style="list-style-type: none"> • A qualified biologist familiar with the life cycle of California giant salamander, foothill yellow-legged frog, Pacific tailed frog, and red-bellied newt shall conduct pre-disturbance surveys of proposed new disturbance areas within 48 hours before new disturbance activities. Pre-disturbance surveys for special-status amphibian species shall be conducted throughout the proposed development area, and a minimum 400-foot buffer around the proposed disturbance area. Surveys shall consist of “walk and turn” surveys of areas beneath surface objects (e.g., rocks, leaf litter, moss mats, coarse woody debris) for salamanders and visual searches for frogs. Appropriate surveys will be conducted for the applicable life stages (i.e., eggs, larvae, adults) depending on the timing of the survey. • If special-status amphibians are not detected during the pre-disturbance survey, then further mitigation is not required. • If California giant salamanders, foothill yellow-legged frogs, Pacific tailed frogs, or red-bellied newts are detected, injury to or mortality of special-status amphibians shall be avoided by modifying project design, relocating the site, or relocating individual animals (with an applicable 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

ES-21

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>CDFW scientific collecting permit and CDFW approval). A no-disturbance buffer shall be established around the location where the detection occurred, and around habitat suitable for the species detected, the size of which shall be determined by the qualified biologist such that injury and mortality of individuals, including individuals dispersing in upland habitats, would be avoided. No work shall occur in the no-disturbance buffer for the duration of disturbance activities. If the applicant determines that project implementation outside of the no-disturbance buffer is infeasible (i.e., most project objectives cannot be met), then the applicant may consult with CDFW to determine whether additional mitigation measures, such as compensatory mitigation would be necessary to minimize impacts on these species and allow development in the no-disturbance buffer.</p> <ul style="list-style-type: none"> ▶ Polyethylene plastic used for agricultural shade or crop structures for cannabis cultivation shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways. ▶ Polyethylene plastic sheeting may not be placed directly on the ground. <p>Mitigation Measure 3.4-2b (DRH or UPC): Conduct Pre-Disturbance Surveys for Northwestern Pond Turtle and Implement Avoidance Measures</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that northwestern pond turtle is present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ If northwestern pond turtles are detected during the initial biotic resource assessment survey (see Mitigation Measure 3.4-1a) or are determined to be likely to occur based on the presence of habitat suitable for this species, the following measures shall apply: ▶ A qualified biologist familiar with the life history of northwestern pond turtle shall conduct pre-disturbance surveys of proposed new disturbance areas within 1,640 feet of any aquatic habitat within 24 hours before disturbance activities. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ■ If northwestern pond turtles are not detected during the pre-disturbance survey, then no further mitigation is required. ■ If northwestern pond turtles are detected during the pre-disturbance survey, injury to or mortality of turtles shall be avoided by modifying project design, relocating the site, or relocating individual animals (with an applicable CDFW scientific collecting permit and CDFW approval). A no-disturbance buffer shall be established around the location where the detection occurred and around habitat suitable for northwestern pond turtle the size of which shall be determined by the qualified biologist such that injury and mortality of individuals, including individuals dispersing in upland habitats, would be avoided. No work shall occur in the no-disturbance buffer for the duration of disturbance activities. If the applicant determines that project implementation outside of the no-disturbance buffer is infeasible (i.e., most project objectives cannot be met), then the applicant may consult with CDFW to determine whether additional mitigation measures, such as compensatory mitigation would be necessary to minimize impacts on northwestern pond turtles species and allow disturbance in the no-disturbance buffer. <ul style="list-style-type: none"> ● If relocation of northwestern pond turtles is determined to be necessary and is approved by CDFW, turtles shall be relocated to similar nearby habitat free of predators (e.g., raccoons, coyotes, raptors, bullfrogs, nonnative turtles, other northwestern pond turtles) as determined by the qualified biologist. If northwestern pond turtles are relocated, a report shall be submitted electronically to CDFW within 15 days of the relocation. The report shall include the location, date, time, and duration of collection and release; the number of individuals relocated; and identification of the qualified biologist. ▶ If northwestern pond turtle, which is currently a candidate for listing under ESA, is listed as threatened (or endangered) in the future, take of individuals associated with cannabis activities shall be prohibited. If take cannot be avoided, the application shall be denied. ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways. ▶ Polyethylene plastic sheeting may not be placed directly on the ground. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>Mitigation Measure 3.4-2c (ZPC): Limit Removal of Trees to Outside of the Nesting Bird Season</p> <p>Add the following standard to Section 26-18-115 (C)(4)(h):</p> <p>If trees will be removed from an orchard to support a crop swap, it must occur outside of the nesting bird season (September 1 through January 31).</p> <p>Mitigation Measure 3.4-2d (DRH or UPC): Conduct Pre-Disturbance Nesting Raptor Surveys and Establish Protective Buffers</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that nesting raptors (excluding burrowing owl and northern spotted owl) are present or potentially present on or adjacent to the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ To minimize the potential for loss of nesting raptors, disturbance activities shall occur only during the nonbreeding season (September 1 through January 31) and outside the soil disturbance avoidance timeframe outlined in the <i>Best Management Practices Cannabis Cultivation</i> (Sonoma County Department of Agriculture n.d.-a), which all cannabis cultivation operations are required to follow. As such, all disturbance activities related to cannabis cultivation shall only occur from September 1 through October 31. In addition, disturbance activities for non-cultivation uses, as well as tree removal for cultivation uses that does not involve soil disturbance shall only occur during the nonbreeding season (September 1 through January 31). ▶ If removal of trees (without soil disturbance) cannot occur during the nonbreeding season (September 1 through January 31) or if ground-disturbing activities including removal of trees involving soil disturbance cannot occur between September 1 through October 31, the following will apply: <ul style="list-style-type: none"> ▪ Before removal of any trees or ground-disturbing activities between February 1 and August 31, a qualified biologist shall conduct pre-disturbance surveys for nesting raptors and shall identify active nests within a certain distance of the disturbance area, depending on the species that are known or have potential to be present. For northern harrier and short-eared owl, surveys shall occur at a minimum of 500 feet of the proposed 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>disturbance area. For Swainson's hawk and white-tailed kite, surveys shall occur at a minimum of 0.25 miles of the proposed disturbance area. Additionally, for American peregrine falcon, bald eagle, and golden eagle, surveys shall occur at a minimum of 0.5 miles of the proposed disturbance area. The surveys shall be conducted between February 1 and August 31. Inaccessible areas (e.g., private property) within the 0.25-mile or 0.5-mile survey buffers shall be surveyed using binoculars or a spotting scope.</p> <ul style="list-style-type: none"> ▶ If no active nests are found, the qualified biologist shall submit a report documenting the survey methods and results to the applicant and CDFW, and no further mitigation shall be required. ▶ If active nests are found, impacts on nesting raptors, including direct removal and disturbance (e.g., noise, presence of construction crews) shall be avoided by establishing appropriate buffers around active nest sites identified during pre-disturbance raptor surveys. ■ For northern harrier and short-eared owl, avoidance buffers will be established a minimum of 500 feet from the proposed disturbance area, including tree removal. For Swainson's hawk and white-tailed kite, avoidance buffers will be established a minimum of 0.25 miles of the proposed disturbance area, including tree removal. For American peregrine falcon, bald eagle, and golden eagle, avoidance buffers will be established a minimum of 0.5 miles from the proposed disturbance area, including tree removal. ■ Buffer size may be adjusted if the qualified biologist and the applicant, in consultation with CDFW, determine that such an adjustment would not be likely to adversely affect the nest. Factors to be considered for determining buffer size shall include the presence of natural buffers provided by vegetation or topography, nest height, locations of foraging territory, and baseline levels of noise and human activity. ■ The buffer areas shall be protected with construction fencing, and no activity shall occur within the buffer areas until the qualified biologist has determined, in coordination with CDFW, that the young have fledged, the nest is no longer active, or reducing the buffer would not likely result in nest abandonment. ■ Monitoring of the nest by a qualified biologist during disturbance (e.g., ground disturbance, vegetation removal [including tree removal], installation of cannabis cultivation sites, installation of temporary event 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>facilities, cannabis events) shall be required if the activity has potential to adversely affect the nest.</p> <ul style="list-style-type: none"> ▶ Removal of bald and golden eagle nests is prohibited regardless of the occupancy status under the federal Bald and Golden Eagle Protection Act. If bald or golden eagle nests are found during pre-disturbance surveys, then the nest tree shall not be removed. ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways. ▶ Polyethylene plastic sheeting shall not be placed directly on the ground. <p>Mitigation Measure 3.4-2e (DRH or UPC): Conduct Take-Avoidance Survey for Burrowing Owl, Implement Avoidance Measures, and Compensate for Loss of Occupied Burrows or Nests</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that burrowing owl is present or potentially present on or adjacent to the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ A qualified biologist shall conduct a pre-disturbance survey for burrowing owls in areas of habitat suitable for the species (e.g., grasslands, agricultural areas; as determined during the biotic resources assessment [Mitigation Measure 3.4-1a]) on and within a minimum of 1,640 feet of the cannabis site using survey methods described in Appendix D of the <i>Staff Report on Burrowing Owl Mitigation</i> (hereinafter, Staff Report; CDFG 2012), or any subsequent updated guidance. A minimum of four surveys shall be conducted to determine whether burrowing owls occupy the site. If feasible, at least one survey should be conducted between February 15 and April 15 and the remaining surveys should be conducted between April 15 and July 15, at least three weeks apart. Because burrowing owls may recolonize a site after only a few days, one of the surveys, or an additional survey, shall be conducted no less than 14 days before initiating ground disturbance activities to verify that take of burrowing owl would not occur. Inaccessible 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>areas (e.g., private property) within the 1,640-foot survey buffer shall be surveyed using binoculars or a spotting scope.</p> <ul style="list-style-type: none"> ▶ If no burrowing owls, including occupied burrowing owl burrows, are found, the qualified biologist shall submit a burrowing owl report documenting the survey methods and results to the applicant, Sonoma County, and CDFW, and no further mitigation shall be required. ▶ If an active burrow is found during the surveys, the project applicant shall establish and maintain a buffer around the occupied burrow and any identified satellite burrows (i.e., non-nesting burrows that burrowing owls use to escape predators or move young into after hatching) to prevent take of the burrowing owls. <ul style="list-style-type: none"> ■ During the non-breeding season (September 1 through January 31), the minimum buffer distance shall be 164 feet (50 m). During the breeding season (February 1 through August 31), the minimum buffer distance shall be increased to 1,640 feet (500 meters). ■ The buffer may be adjusted if, in consultation with CDFW, a qualified biologist determines that an alternative buffer will not result in take of burrowing owl adults, young, or eggs because of particular site features (e.g., topography, natural line-of-sight barriers), level of project disturbance, or other considerations. If the buffer is reduced, a qualified biologist shall monitor the behavior of the burrowing owls during all project activities within 1,640 feet of the burrow. If the owls are disturbed or agitated (e.g., vocalizations, bill snaps, fluffing feathers to increase body size appearance, drooping wings and rotating them forward, crouching and weaving back and forth) by the project activities, the biologist shall have the authority to halt the activities and re-establish a buffer consistent with the first bullet until the agitated behavior ceases and normal behavior resumes. ■ The buffer shall remain in place around the occupied burrow and associated satellite burrows until a qualified biologist has determined through noninvasive methods that the burrows are no longer occupied by burrowing owl. A previously occupied burrow will be considered unoccupied if surveys demonstrate that no owls have used the burrow for seven consecutive days. ■ Locations of burrowing owls detected during surveys shall be reported to the CNDDDB. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

ES-27

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ▶ If implementation of a buffer to prevent take of burrowing owl is not feasible, the project applicant shall consult with CDFW and obtain an Incidental Take Permit (ITP) prior to commencing project related ground-disturbing activities. The impacts of taking burrowing owl shall be minimized and fully mitigated. Alternatively, ground disturbance can be delayed until a qualified biologist has determined through noninvasive methods that the burrows are no longer occupied by burrowing owl. A previously occupied burrow will be considered unoccupied if surveys demonstrate that no owls have used the burrow for seven consecutive days. ▶ If take of burrowing owl is likely to occur, the project applicant shall compensate for the loss of burrowing owl by establishing permanent protection and perpetual management on land that provides burrowing owl habitat. Habitat management lands for burrowing owl may be established by conservation easement or fee title or credits may be purchased from a CDFW-approved conservation or mitigation bank. The compensatory mitigation shall satisfy permit conditions and all other permit conditions shall be implemented. ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways. ▶ Polyethylene plastic sheeting may not be placed directly on the ground. <p>Mitigation Measure 3.4-2f (DRH or UPC): Conduct Northern Spotted Owl Pre-Disturbance Habitat Suitability Surveys and Determine Presence or Absence of the Species</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that northern spotted owl is present or potentially present on or adjacent to the proposed new cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ To avoid the potential for loss of northern spotted owls and their nests, or loss or fragmentation of occupied habitat or habitat suitable for northern spotted owl, removal of old-growth habitat shall be prohibited, as outlined in Mitigation Measure 3.4-4. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>► If the area of proposed new disturbance activities is within or adjacent to habitat suitable for northern spotted owl, as determined during implementation of Mitigation Measure 3.4-1a, and a qualified biologist determines it is within a minimum of 1.3 miles (average species home range) of a known occurrence of northern spotted owl, the following measures shall be followed:</p> <ul style="list-style-type: none"> ■ Before permit application submittal, a qualified biologist familiar with the species and protocol, shall conduct pre-disturbance surveys for nests within a minimum 1.3-mile radius (i.e., buffer) around the site as described in <i>Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls</i> (USFWS 2012) and the 2019 revision to <i>Northern Spotted Owl Take Avoidance Analysis and Guidance for Private Lands in California</i> (USFWS 2019). Surveys shall take place between March 1 and August 31. At least six complete surveys per year over the course of 2 years must be completed to determine presence or absence of northern spotted owl. Three surveys must be completed by June 30 and must be conducted at least 7 days apart. Two additional surveys may be required after the first six if residency cannot be determined after a positive response. ■ Following 2 years of required surveys (and any additional surveys required if northern spotted owl residency cannot be determined following a positive response), if northern spotted owls are determined to be absent at a minimum of 1.3 miles from the site, then further mitigation is not required. ■ If northern spotted owls are determined to be present within a minimum of 1.3 miles of the site, then it is presumed that habitat removal; loud, continuous noises; or visual stimuli could cause disturbance and harm to northern spotted owls and could result in take of northern spotted owls and the application shall be denied. <p>► Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways.</p> <p>► Polyethylene plastic sheeting shall not be placed directly on the ground.</p> <p>Mitigation Measure 3.4-2g (DRH or UPC): Conduct Pre-Disturbance Special-Status Nesting Bird Surveys and Establish Protective Buffers</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that bank swallow, black swift, California black rail, California Ridgway's rail,</p>	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>grasshopper sparrow, purple martin, saltmarsh common yellowthroat, San Pablo song sparrow, tricolored blackbird, western snowy plover, western yellow-billed cuckoo, yellow rail, yellow warbler, and yellow-headed blackbird, or other bird nests are present or potentially present on or adjacent to the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ To minimize the potential for disturbance to or loss of bank swallow, black swift, California black rail, California Ridgway's rail, grasshopper sparrow, purple martin, saltmarsh common yellowthroat, San Pablo song sparrow, tricolored blackbird, western snowy plover, western yellow-billed cuckoo, yellow rail, yellow warbler, and yellow-headed blackbird, and other bird nests, vegetation removal activities shall occur only during the nonbreeding (September 1 through January 31) season and outside soil disturbance avoidance timeframe outlined in the <i>Best Management Practices Cannabis Cultivation</i> (Sonoma County Department of Agriculture n.d.-a). As such, disturbance activities related to cannabis cultivation shall only occur from September 1 through October 31. In addition, disturbance activities for non-cultivation uses, as well as tree removal for cultivation uses that does not involve soil disturbance, disturbance activities shall occur only during the nonbreeding season (September 1 through January 31). ▶ If seasonal avoidance is not possible (see bullet directly above), a pre-disturbance survey shall be conducted by a qualified biologist familiar with these species and survey protocols (where protocols are available) before removal of any vegetation or any ground disturbance. The surveys shall be conducted no more than 7 days before disturbance commences or as required by established protocols. The survey radius within which the qualified biologist will search for nests will include the proposed disturbance area and a 0.5-mile area surrounding the disturbance area (to account for the largest required no-disturbance buffer of 0.5 miles for western yellow-billed cuckoo). Inaccessible areas (e.g., adjacent private property) will not be surveyed directly, but the biologist may use binoculars or a spotting scope to survey these areas. Pre-disturbance surveys shall follow survey methods outlined in survey protocols where such protocols have been established, including <i>General Survey Methods for Covered Species</i> (for California black 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>rail), USFWS <i>California Clapper Rail Survey Protocol</i> (for California Ridgway's rail), <i>Yellow-Billed Cuckoo Survey Protocols</i> (SWRCB n.d.; USFWS 2015; Halterman et al. 2016), and any other appropriate, current protocol published by CDFW or USFWS.</p> <ul style="list-style-type: none"> ▪ If no active nests are found during pre-disturbance surveys, no further action under this measure (i.e., Mitigation Measure 3.4-2g) shall be required. ▪ If active nests associated with species listed under ESA (i.e., California Ridgway's rail, western snowy plover, western yellow-billed cuckoo) are found during pre-disturbance surveys, the applicant must avoid impacts by implementing no-disturbance buffers or redesigning the project until such time as federal permits, authorizations, and procedures/protocols can be applied. No-disturbance buffers for these species shall be at least 1,000 feet for western snowy plover and California Ridgway's rail, and at least 0.5 miles for western snowy plover. ▪ If active nests of species not listed under ESA are located during the pre-disturbance surveys, a no-disturbance buffer shall be established around active nests. The no-disturbance buffer shall be a minimum of 100 feet from the nest to avoid disturbance, depending on the species identified, until the nest is no longer active. No-disturbance buffers surrounding bank swallow and tricolored blackbird colonies or California black rail nests shall be a minimum of 500 feet. For species listed under CESA (i.e., bank swallow, California black rail, tricolored blackbird), occupied habitat shall be retained regardless of the activity status of the nest or colony. If avoidance of this habitat after the colony or nest is no longer active, is determined to be infeasible (e.g., most project objectives cannot be met) the applicant shall consult with CDFW to determine whether incidental take permitting and/or compensatory mitigation would be required to reduce impacts on these species. ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways. ▶ Polyethylene plastic sheeting shall not be placed directly on the ground. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>Mitigation Measure 3.4-2h (DRH or UPC): Conduct Marbled Murrelet Pre-Disturbance Habitat Suitability Surveys and Determine Presence or Absence of the Species</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that marbled murrelet is present or potentially present on or adjacent to the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ Within habitat suitable for marbled murrelet: To avoid loss of marbled murrelet and their nests, or loss or fragmentation of occupied habitat or habitat suitable for marbled murrelet, removal of old-growth habitat is prohibited, as outlined in Mitigation Measure 3.4-4a. ▶ Adjacent to habitat suitable for marbled murrelet: If the area of proposed new disturbance activities is adjacent to habitat suitable for marbled murrelet (e.g., coniferous forest), as determined by a qualified biologist, the following measures shall be followed: <ul style="list-style-type: none"> ■ Removal of any trees or ground-disturbing activities from August 6 through April 14 would not require pre-disturbance surveys for marbled murrelet. Conversely, if seasonal avoidance is not possible, before removal of any trees or ground-disturbing activities from April 15 through August 5 that occurs adjacent to habitat suitable for marbled murrelet, a qualified biologist familiar with the life history of the marbled murrelet shall conduct pre-disturbance surveys for nests within a 0.25-mile radius (i.e., buffer) around the site, as described in <i>Methods for Surveying Marbled Murrelets in Forests: A Revised Protocol for Land Management and Research</i> (Mack et al. 2003). ■ If marbled murrelets are determined to be absent at a minimum of 0.25 miles from the site, then further mitigation is not required. ■ If marbled murrelets are determined to be present on the site or within 0.25 miles of the site, a 0.25-mile buffer (or a larger buffer, as recommended by CDFW) shall be established around occupied nest sites. No project activity may occur within the 0.25-mile buffer area or other recommended buffer by CDFW until the end of the marbled murrelet breeding season (August 6). The nest tree and 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>any adjacent trees that provide screening or canopy cover to the nest shall be retained regardless of the diameter of the tree.</p> <ul style="list-style-type: none"> ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways. ▶ Polyethylene plastic sheeting shall not be placed directly on the ground. <p>Mitigation Measure 3.4-2i (DRH or UPC): Conduct Crotch's Bumble Bee Pre-Disturbance Habitat Suitability Surveys and Pre-Disturbance Surveys</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that Crotch's bumble bee is present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ Before implementation of ground-disturbing activities, a qualified biologist shall conduct a habitat suitability study for Crotch's bumble bee following the guidance in the <i>Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species</i> (CDFW 2023), which requires collection of specific information to determine habitat suitability for this species which may be in excess of the information collected during implementation of the biotic resources assessment described in Mitigation Measure 3.4-1a (e.g., depending on the time of year the biotic resources assessment was conducted). Results of the Crotch's bumble bee habitat suitability study shall be submitted to the applicant, Sonoma County, and CDFW before initiating ground-disturbing activities. If the area of proposed new disturbance activities contains habitat suitable for Crotch's bumble bee (e.g., nesting habitat, foraging habitat), the following measures shall be followed. <ul style="list-style-type: none"> ■ To avoid impacts on Crotch's bumble bee, cannabis-related disturbance activities shall not occur in habitats suitable for this species from April through August (i.e., colony active period) if feasible. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

ES-33

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ■ If not feasible to avoid ground-disturbance activities from April through August, pre-disturbance surveys for Crotch's bumble bees shall be conducted following the guidance in the <i>Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species</i> (CDFW, 2023). ● If Crotch's bumble bees are not detected during the pre-disturbance survey, no additional mitigation is required. ● If Crotch's bumble bees are detected during the pre-disturbance survey, appropriate avoidance measures shall be implemented: <ul style="list-style-type: none"> ○ Protective buffers shall be implemented around active nesting colonies until these sites are no longer active as determined by a qualified biologist. A qualified biologist, in consultation with CDFW, will determine the appropriate buffer size to protect nesting colonies; however, buffers shall be at least 50 feet. ○ If impacts on Crotch's bumble bee cannot be avoided, compliance with CESA and consultation with CDFW is required and the applicant shall acquire an incidental take permit (ITP) from CDFW. The applicant shall implement all avoidance measures included in the ITP such that take would be fully mitigated. Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways. ► Polyethylene plastic sheeting shall not be placed directly on the ground. <p>Mitigation Measure 3.4-2j (DRH or UPC): Avoid Overwintering Monarch Habitat and Conduct Pre-Disturbance Monarch Survey</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that monarch is present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ► Monarch Overwintering Sites Identified: 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ■ To avoid impacts on monarch butterfly, new disturbance activities that remove any vegetation shall not occur in previously identified overwintering sites identified by Xerces (2024) and within a 100-foot buffer surrounding the overwintering site. ■ If, during implementation of Mitigation Measure 3.4-1, a previously undetected monarch overwintering site is found by a qualified biologist, new disturbance related to the Program Update shall be prohibited in the overwintering site and within a 100-foot buffer surrounding the overwintering site. ► Habitat Potentially Suitable for Overwintering Sites Present on Project Site: <ul style="list-style-type: none"> ■ If, during implementation of Mitigation Measure 3.4-1a (biotic resources assessment), a qualified biologist determines that habitat suitable for overwintering monarchs is present in a new disturbance area, a qualified biologist familiar with monarchs and monarch overwintering habitat will conduct pre-disturbance surveys for monarch colonies in these areas between October 1 and March 31 and will identify any colonies found within the treatment area. Any identified colonies shall be avoided as described above. If no overwintering colonies are found, further mitigation to protect overwintering monarchs will not be required. ► Habitat Potentially Suitable for Monarch (Other Than Overwintering Sites) Present on Project Site: <ul style="list-style-type: none"> ■ If all disturbance activities are completed outside of the period when milkweed plants could host monarch eggs or caterpillars (i.e., all disturbance activities completed between October through February), surveys for milkweed plants, monarch eggs, and caterpillars would not be required. If disturbance activities cannot be completed between October and February, then during the period of March through September (i.e., when milkweed plants could host monarch eggs or caterpillars), and within no more than 14 days before implementing project activities, a qualified biologist shall conduct pre-disturbance surveys for milkweed plants and inspect these plants for monarch eggs, larvae (i.e., caterpillars), and pupae. Ground disturbance involving outdoor cultivation activities may not occur November 1 through April 15 per <i>Best Management Practices Cannabis Cultivation</i> (Sonoma County Department of Agriculture n.d.-a). If monarch eggs, caterpillars, or pupae are found, the host plants shall be avoided until metamorphosis is completed and adult butterflies emerge and leave the 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>host plant. If no eggs or caterpillars are detected, no additional protection measures are necessary.</p> <ul style="list-style-type: none"> ▶ If monarch butterfly is listed, a survey protocol and federal permit requirements for surveyors may be established, in which case, USFWS would not permit these surveys for the project until such a time that cannabis uses are legalized under federal law and federal incidental take permitting may be pursued. In this case, if habitat suitable for monarch is determined to be present on a site during the initial biological survey (see Mitigation Measure 3.4-1a), before commencing any new disturbance activities, a qualified biologist shall conduct an additional habitat suitability study (in addition to the pre-disturbance surveys) to determine whether: (1) the project site is within the range of this species and (2) the project site contains the microhabitat features suitable for this species (e.g., vegetation and habitat type, host plant availability, food plant availability). Surveys to determine host plant and food plant availability shall be conducted during the typical bloom period for this species to increase the chances of detecting the plants, if present. ▪ If habitat suitable for monarch (if the species is listed under ESA at the time of the survey) is present in a new disturbance area, the habitat will be considered occupied, and because this species may be listed under ESA, the applicant must avoid impacts by implementing no-disturbance buffers or redesigning the project until such time as federal permits, authorizations, and procedures/protocols can be applied. If the project cannot be redesigned to avoid all habitat suitable for this species and potential edge effects, then the application shall be denied. ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways. ▶ Polyethylene plastic sheeting shall not be placed directly on the ground. <p>Mitigation Measure 3.4-2k (DRH or UPC): Avoid Loss of Other Special-Status Butterfly Species and Host Plants</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that Behren's silverspot butterfly, Callippe silverspot butterfly, or Myrtle's silverspot butterfly are present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the</p>	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ To avoid impacts on Behren's silverspot butterfly, Callippe silverspot butterfly, or Myrtle's silverspot butterfly, depending on the species, new disturbance related to cannabis activities shall not occur in coastal prairie habitat, coastal scrub habitat, or coastal dune/hill habitat, respectively. If these habitats can be avoided, no further mitigation is required. If avoidance of these habitats is not feasible, further mitigation would be required. ▪ Surveys for federally listed butterfly species, including Behren's Silverspot Butterfly Minimum Qualifications Guidelines to be Permitted for Presence/Absence Surveys for Adult Butterflies (USFWS 2024d), require surveyors to have recovery permits for these species pursuant to Section 10(a)(1)(A) of ESA. Because of the current federal legal status of cannabis activities, USFWS would not permit these surveys for the project. Therefore, if habitat suitable for federally listed butterflies is determined to be present on a site during the initial biological survey (see Mitigation Measure 3.4-1a), before commencing any new disturbance activities, a qualified biologist shall conduct an additional habitat suitability study to determine whether: (1) the project site is within the limited range of any federally listed butterfly species and (2) the project site contains the microhabitat features suitable for these species (e.g., vegetation and habitat type, host plant availability, food plant availability). Surveys to determine host plant and food plant availability shall be conducted during the typical bloom period for these species to increase the chances of detecting the plants, if present. ▪ If habitat for federally listed butterflies is determined not to be present in a new disturbance area by the qualified biologist, a special-status butterfly report (in addition to the biotic resources assessment [see Mitigation Measure 3.4-1a]) shall be prepared by the qualified biologist and submitted to the County for approval. ▪ If habitat suitable for Behren's silverspot butterfly, Callippe silverspot butterfly, or Myrtle's silverspot butterfly is present in a new disturbance area, the habitat will be considered occupied, and because these species are listed under ESA, the applicant must avoid impacts by implementing no-disturbance buffers or redesigning the project until such time as federal 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>permits, authorizations, and procedures/protocols can be applied. If the project cannot be redesigned to avoid all habitat suitable for these species and potential edge effects, then the application shall be denied.</p> <ul style="list-style-type: none"> ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways. ▶ Polyethylene plastic sheeting shall not be placed directly on the ground. <p>Mitigation Measure 3.4-2I (DRH or UPC): Conduct Pre-Disturbance American Badger Survey and Establish Protective Buffers</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that American badger is present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ Before the commencement of new disturbance activities, a qualified wildlife biologist shall conduct surveys of the grassland or disturbance on the site to identify any American badger burrows/dens. These surveys shall be conducted no more than 30 days before the start of disturbance activities. ▶ If no occupied American badger burrows are found, further mitigation is not required. ▶ If occupied American badger burrows are found, impacts on active badger burrows shall be avoided through an exclusion zone around all active dens, the size and shape of which shall be established by a qualified biologist, in consultation with CDFW (but at least 100 feet). Within the exclusion zone, all project activities shall be prohibited until denning activities are complete or the den is abandoned. The qualified biologist shall monitor each den once per week to track the status of the den and to determine when it is no longer occupied. ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>► Polyethylene plastic sheeting shall not be placed directly on the ground.</p> <p>Mitigation Measure 3.4-2m (DRH or UPC): Conduct Pre-Disturbance Surveys for Ringtail and Implement Avoidance Measures</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that ringtail is present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ► If all new disturbance (e.g., tree or shrub removal) is completed outside of the ringtail maternity season (i.e., all disturbance is conducted between July 1 and April 14), then surveys for ringtails would not be required. ► Before commencement of new disturbance (e.g., tree or shrub removal) occurring during the ringtail maternity season (April 15 through June 30), a qualified wildlife biologist shall conduct pre-disturbance surveys no more than 30 days before the start of disturbance activities of all habitat suitable for ringtail on the site and shall record sightings of individual ringtails, as well as potential dens. No soil disturbance shall occur November 1 through April 15, consistent with <i>Best Management Practices Cannabis Cultivation</i> (Sonoma County Department of Agriculture n.d.-a). No action is needed if disturbance occurs outside of the time periods described herein. ► If no individuals or potential or occupied dens are found, further mitigation is not required. ► If ringtails are detected or if potential dens of this species are located, an appropriate method shall be used by the qualified wildlife biologist to confirm whether a ringtail is occupying the den. This may involve use of remote field cameras, track plates, or hair snares. Other devices, such as a fiber optic scope, may be used to determine occupancy. If no ringtail occupies the potential den, the entrance shall be temporarily blocked—after it has been fully inspected—so that no other animals occupy the area during ground disturbance, vegetation removal, or installation of cannabis site. The blockage shall be removed after new disturbance activities, including vegetation removal, grading, and construction have been completed. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ▶ If a den is found to be occupied by a ringtail, a no-disturbance buffer shall be placed around the occupied den location. The no-disturbance buffer shall include the den tree (or other structure) plus a buffer the size of which shall be determined by the biologist in coordination with CDFW to prevent disturbance and abandonment (but at least 250 feet). Disturbance activities in the no-disturbance buffer shall be avoided until the den is unoccupied as determined by a qualified wildlife biologist in coordination with CDFW. ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways. ▶ Polyethylene plastic sheeting shall not be placed directly on the ground. <p>Mitigation Measure 3.4-2n (DRH or UPC): Conduct Pre-Disturbance Special-Status Bat Surveys and Establish Protective Buffers</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that pallid bat, Townsend's big-eared bat, or western red bat are present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ Within 30 days of commencing any disturbance related to cannabis activities, a qualified biologist shall conduct surveys for roosting bats. If evidence of bat use is observed, the species and number of bats using the roost shall be determined. Bat detectors may be used to supplement survey efforts. If no evidence of bat roosts is found, then no further mitigation is required. ▶ If pallid bats, Townsend's big-eared bats, or western red bats are detected during the surveys, a program addressing mitigation for the specific occurrence (including at a minimum, compensation, exclusion methods, and roost removal procedures) shall be submitted to CDFW by the qualified biologist subject to the review and approval of CDFW. Implementation of the mitigation plan shall be a condition of project approval. The mitigation plan shall establish a buffer area around the roost during hibernation or while females in maternity colonies are nursing young that is large enough to prevent disturbance to the colonies (typically at least 250 feet). 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways. ▶ Polyethylene plastic sheeting shall not be placed directly on the ground. <p>Mitigation Measure 3.4-2o (DRH or UPC): Conduct Pre-Disturbance Sonoma Tree Vole Surveys and Implement Avoidance Measures</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that Sonoma tree vole is present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ To minimize the potential for loss of or disturbance to Sonoma tree vole habitat and nests, removal of old-growth habitat shall be prohibited, as outlined in Mitigation Measure 3.4-4 below. ▶ Before commencing any tree- or other vegetation-removal activities or ground disturbance, and no more than 7 days before disturbance activities commence, a qualified biologist shall conduct pre-disturbance surveys for Sonoma tree vole nests (e.g., searching for nests in trees on the site and confirming that nests belong to voles rather than squirrels or birds). If no evidence of Sonoma tree vole nests is found, then no further mitigation for the species is required. ▶ If occupied trees or nests are identified within a minimum of 100 feet of the site, the qualified biologist shall determine whether project disturbance activities shall adversely affect the voles, based on factors such as noise level of disturbance activities or line of sight between the tree and the disturbance source. If it is determined that disturbance activities would not affect the voles, then disturbance can proceed without protective measures. ▶ If the biologist determines that disturbance activities would likely disturb Sonoma tree vole nests, a buffer shall be established, the size of which shall be determined by the qualified biologist such that disturbance of the nest would not occur (typically at least 100 feet). No disturbance activities shall occur within the buffer until the nest is determined to be inactive by a qualified biologist. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways. ▶ Polyethylene plastic sheeting shall not be placed directly on the ground. <p>Mitigation Measure 3.4-2p (ZPC, UPC, DHR): Implement Mitigation Measure 3.1-4b</p> <ul style="list-style-type: none"> ▶ Mitigation Measure 3.1-4b: (ZPC, UPC, DRH): Implement New Light and Glare Requirements <p>Mitigation Measure 3.4-2q (DRH or UPC): Implement Operational Noise Reduction Measures for Northern Spotted Owl and Marbled Murrelet</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that northern spotted owl or marbled murrelet habitat occurs within 0.25 mile of a proposed cannabis premises, the applicant shall demonstrate compliance (e.g., prepare a noise analysis) with the following standards for all operational noise-generating activities through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones.</p> <ul style="list-style-type: none"> ▶ Project-generated sound must not exceed ambient nesting conditions (determined by a qualified biologist) by 20–25 A-weighted decibels (dBA). ▶ Project-generated sound, when added to existing ambient conditions, must not exceed 90 dBA. 	
<p>Impact 3.4-3: Result in Disturbance to or Loss of Special-Status Fisheries</p> <p>Surface water diversions for cannabis cultivation sites that may occur under the Cannabis Program Update could adversely affect several special-status fish species. Special-status fish species are protected under the ESA, CESA, and other regulations. The alteration of surface water conditions that support special-status fish species would be a less-than-significant impact.</p>	LTS	No mitigation is required for this impact.	LTS
<p>Impact 3.4-4: Result in Disturbance to or Loss of Sensitive Natural Communities, Riparian Habitat, Old-Growth Habitat, or Other Sensitive Habitats</p> <p>Potential land use conversion and development that may occur from cannabis cultivation sites, associated processing and ancillary operations, and all other cannabis-related activities under the Program Update operations could adversely affect riparian habitat, old-growth habitat, and other sensitive natural communities if they are present on the site. Development-related disturbance activities, including ground disturbance, old-growth habitat removal, removal of</p>	PS	<p>Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis</p> <p>Mitigation Measure 3.4-1c (DRH or UPC): Implement Measures to Avoid Introduction or Spread of Invasive Plant and Wildlife Species</p> <p>Mitigation Measure 3.4-4 (DRH or UPC): Identify, Avoid, and Protect Sensitive Natural Communities, Riparian Habitat, Old-Growth Habitat, or Other Sensitive Habitats or Provide Compensation</p>	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>riparian vegetation, or disturbance of stream and river habitat, would be a potentially significant impact.</p>		<p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that sensitive natural communities, riparian habitat, old-growth habitat, or other sensitive habitats are present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ The qualified biologist shall perform a protocol-level survey following the CDFW <i>Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities</i> (current version dated March 20, 2018) of the site before the start of new disturbance related to cannabis activities. Sensitive natural communities shall be identified using the best means possible, including keying them out using the most current edition of <i>A Manual of California Vegetation</i> (including updated natural communities data at http://vegetation.cnps.org/) or referring to relevant reports (e.g., reports found on the VegCAMP website). ▶ All sensitive habitat areas identified in the biotic resources assessment under Mitigation Measure 3.4-1a shall be flagged or fenced with brightly visible construction flagging and/or fencing under the direction of the qualified biologist before disturbance activities begin, along with the appropriate buffer size. The buffer size shall be determined by the qualified biologist (such that the sensitive habitat is protected from direct and indirect impacts). In addition, no vegetation removal shall occur in these areas. Foot traffic by project personnel shall also be prohibited in these areas to prevent the introduction of invasive or weedy species. Periodic inspections during disturbance activities shall be conducted by the monitoring biologist to maintain the integrity of exclusion fencing/flagging during ground-disturbing activities. ▶ If the biotic resource assessment report prepared under Mitigation Measure 3.4-1a documents that site disturbance would affect the bed, bank, channel, or associated riparian habitat subject to CDFW jurisdiction under Fish and Game Code Section 1602, a Streambed Alteration Notification shall be submitted to CDFW, pursuant to section 1600 et seq. of the Fish and Game Code. If proposed activities are determined to be subject to CDFW jurisdiction, the applicant shall abide by the conditions of any executed agreement before any ground disturbance. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ▶ Old-growth habitat identified shall be avoided. Applications proposing to alter old-growth habitat shall be denied. "Old-growth habitat alteration" is defined as any human caused tree removal, change in canopy cover, removal of understory vegetation, or impact to the root systems of a tree within old-growth habitat that occurs as a result of disturbance activities, direct or indirect. ▶ In consultation with the County and CDFW, applicants shall compensate for permanent loss of riparian habitat at a minimum of a 2:1 ratio through contributions to a CDFW-approved wetland mitigation bank or through the development and implementation of a Compensatory Stream and Riparian Mitigation and Monitoring Plan for creating or restoring in-kind habitat in the surrounding area. If mitigation credits are not available, stream and riparian habitat compensation shall include establishment of riparian vegetation on currently unvegetated bank portions of streams affected by the project and enhancement of riparian habitat through removal of nonnative species, where appropriate, and planting of additional native riparian plants to increase the cover, continuity, and width of the riparian corridor along streams in the site and surrounding areas. ▶ The Compensatory Stream and Riparian Mitigation and Monitoring Plan shall identify: <ul style="list-style-type: none"> ▪ compensatory mitigation sites and criteria for selecting these mitigation sites; ▪ in-kind reference habitats for comparison with compensatory riparian habitats (using performance and success criteria) to document success; ▪ monitoring protocol, including schedule and annual sensitive habitat report requirements (compensatory habitat shall be monitored for a minimum of 5 years from completion of mitigation, or human intervention [including recontouring and grading], or until the success criteria identified in the approved mitigation plan have been met, whichever is longer); ▪ ecological performance standards, based on the best available science and including specifications for native riparian plant densities, species composition, amount of dead woody vegetation gaps and bare ground, and survivorship; at a minimum, compensatory mitigation planting sites must achieve 80-percent survival of planted riparian trees and shrubs by the end of the 5-year maintenance and monitoring period, or dead and dying trees shall be replaced and monitoring continued until 80-percent survivorship is achieved; 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> corrective measures if performance standards are not met; responsible parties for monitoring and preparing sensitive habitat reports; and responsible parties for receiving and reviewing sensitive habitat reports and for verifying success or prescribing implementation or corrective actions. 	
<p>Impact 3.4-5: Result in Disturbance to or Loss of State or Federally Protected Wetlands and Other Waters</p> <p>Potential land use conversion and development in agricultural and resources districts and industrial and commercial districts from potential expansion of existing sites and newly permitted cannabis sites, associated processing and ancillary operations, and all other cannabis-related activities under the Program could adversely affect state or federally protected wetlands and other waters, such as streams, rivers, and lakes. This impact would be potentially significant.</p>	PS	<p>Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis</p> <p>Mitigation Measure 3.4-1c (DRH or UPC): Implement Measures to Avoid Introduction or Spread of Invasive Plant and Wildlife Species</p> <p>Mitigation Measure 3.4-5 (DRH or UPC): Identify State or Federally Protected Wetlands and Other Waters and Avoid These Features</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that state and federally protected wetlands or other waters are present or potentially present on the project site, Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ The application shall include a summary of sensitive resources, including wetlands, streams, and rivers, that were identified during the biotic resource assessment survey conducted under Mitigation Measure 3.4-1a. State and federally protected wetlands or other waters are of special concern to resource agencies and are afforded specific consideration, based on Section 404 and Section 401 of the CWA, the Porter-Cologne Water Quality Control Act, and other applicable regulations. ▶ If the biotic resource assessment report documents that state or federally protected wetlands or other waters are present, a delineation of these resources shall be prepared by a qualified biologist. The delineation shall be submitted to the County and the RWQCB. <p>If, based on the delineation, it is determined that fill of any state or federally protected wetlands would result from implementation of the project, then the applicant shall modify the proposed project to avoid these resources by providing a buffer of at least 100 feet around these features. Depending on site features, a buffer of greater than 100 feet may be required. Buffer size shall be determined in consultation with CDFW and RWQCB.</p> <ul style="list-style-type: none"> ▶ If the project cannot be redesigned to avoid all federally protected wetlands and other waters, then the application shall be denied. 	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>Impact 3.4-6: Interfere with Resident or Migratory Wildlife Corridors or Native Wildlife Nursery Sites</p> <p>Potential land use conversion and development from cannabis cultivation and supply chain uses under the Cannabis Program Update could adversely affect resident or migratory wildlife corridors, as well as wildlife nursery sites, through habitat fragmentation; degradation of aquatic habitat (e.g., streams, rivers); disturbance from increased noise and human presence, as well as increased trash, which may attract predators and discourage wildlife use of surrounding natural habitat; and disruption of important wildlife migration paths. The impact on movement corridors and habitat connectivity for these species as well as wildlife nursery sites would be potentially significant.</p>	PS	<p>Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis</p> <p>Mitigation Measure 3.4-4 (DRH or UPC): Identify, Avoid, and Protect Sensitive Natural Communities, Riparian Habitat, and Old-Growth Habitat, or Other Sensitive Habitats or Provide Compensation</p> <p>Mitigation Measure 3.4-5 (DRH or UPC): Identify State or Federally Protected Wetlands and Other Waters and Avoid These Features</p> <p>Mitigation Measure 3.4-6a (ZPC): Utilize Wildlife-Friendly Building and Fencing Designs</p> <p>Add the following standard to Section 26-18-115 (C)(4)(h):</p> <p>Wildlife-friendly fencing designs shall be incorporated into projects located within a Habitat Connectivity Corridor mapped by the Sonoma County General Plan or a priority wildlife habitat or movement area mapped by the Sonoma County Ag + Open Space Vital Lands Initiative, or Conservation Lands Network. This design shall be based on the following standards:</p> <ul style="list-style-type: none"> ▶ To avoid impacts on wildlife, monofilament plastic netting, which is commonly used as trellising on cannabis plants, shall be taken down immediately after plants are harvested and disposed of properly. ■ Fencing associated with the Program update including processing and ancillary activities will utilize wildlife-friendly fencing designed to minimize the risk of entanglement, entrapment, or impalement of wildlife. The fencing design shall meet the minimum following standards: <ul style="list-style-type: none"> ● Minimize the chance of wildlife entanglement by not using barbed wire, loose or broken wires, or any material that could impale, snag, or entrap a leaping animal (e.g., wrought iron fencing with spikes). ● Allow wildlife to jump over easily without injury. Typically, fences should be no more than 40 inches high on flat ground to allow adult deer to jump over. If fencing is required to be greater than 40 inches high for security or logistical purposes, then the fencing shall be high enough to deter wildlife from attempting to jump over (i.e., greater than 8 feet tall). ● Hollow posts and pipes shall be capped, and metal fence stakes used in the project shall be plugged with bolts or other plugging materials. 	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> • Allow smaller wildlife to pass under easily without injury or entrapment by ensuring that fencing material is not installed directly touching the earth. <p>Mitigation Measure 3.4-6b (DRH and UPC): Review Mapping and Analyze Landscape Impacts for Approval</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that the proposed project site is located within a Habitat Connectivity Corridor mapped by the Sonoma County General Plan or a priority wildlife habitat or movement area mapped by the Sonoma County Ag + Open Space Vital Lands Initiative, or Conservation Lands Network, Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ► If significant effects related to interference with wildlife corridors are identified as part of the biotic resources assessment required by Mitigation Measures 3.4-1a, and consultation with CDFW has been conducted, additional mitigation will be required for project approval. At a minimum, additional mitigation may include the following measures such that CDFW would be satisfied that impacts on wildlife movement would be less than significant: <ul style="list-style-type: none"> ▪ Redesigning the project to allow the corridor to continue to function, ▪ Building design or lighting measures, ▪ On-site habitat restoration, or ▪ Compensatory mitigation. <p>Mitigation Measure 3.4-6c (DRH or UPC): Utilize Wildlife-Friendly Building and Fencing Designs</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that wildlife habitat and movement occurs or potentially occurs on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p>	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ▶ To avoid impacts on wildlife, monofilament plastic netting, which is commonly used as trellising on cannabis plants, shall be taken down immediately after plants are harvested and disposed of properly. ▶ Buildings and other permanent structures in the Program Area that would be constructed under the Program update, including for processing and ancillary activities shall be designed to minimize impacts on wildlife, including disruption to wildlife movement, bird strikes, and wildlife entanglement. <ul style="list-style-type: none"> ■ Building design shall utilize guidelines regarding building height, materials, external lighting, and landscaping provided in the <i>American Bird Conservancy's Bird-Friendly Building Design</i> (American Bird Conservancy 2015). The County shall require review of the conceptual design plans by a qualified biologist to determine whether the plans are sufficient to reduce the likelihood of bird strikes or recommend additional measures. ■ Fencing associated with the Program update, including for cultivation sites or around buildings for processing and ancillary activities will utilize wildlife-friendly fencing designed to minimize the risk of entanglement, entrapment, or impalement of wildlife. The County shall require the review of fencing design by a qualified biologist prior to installation. The fencing design shall meet, but not be limited, to the following standards: <ul style="list-style-type: none"> ● Minimize the chance of wildlife entanglement by not using barbed wire, loose or broken wires, or any material that could impale, snag, or entrap a leaping animal (e.g., wrought iron fencing with spikes). ● Allow wildlife to jump over easily without injury. Typically, fences should be no more than 40 inches high on flat ground to allow adult deer to jump over. The determination of appropriate fence height will consider slope because steep slopes are more difficult for wildlife to pass. If fencing is required to be greater than 40 inches high for security or logistical purposes, then the fencing shall be high enough to deter wildlife from attempting to jump over (i.e., greater than 8 feet tall). ● Hollow posts and pipes shall be capped, and metal fence stakes used in the project shall be plugged with bolts or other plugging materials. ● Allow smaller wildlife to pass under easily without injury or entrapment by ensuring that fencing material is not installed directly touching the earth. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>Mitigation Measure 3.4-6d (DRH or UPC): Retain Wildlife Nursery Habitat and Implement Buffers to Avoid Wildlife Nursery Sites</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that wildlife nursery habitat is present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:</p> <ul style="list-style-type: none"> ▶ A qualified biologist shall conduct a pre-disturbance survey no more than 14 days prior to disturbance activities to identify the important habitat features of the wildlife nursery and, prior to commencement of disturbance activities (e.g., ground disturbance, vegetation removal, staging), shall mark these features for avoidance and retention during project construction and operation to maintain the function of the nursery habitat. ▶ A no-disturbance buffer shall be established around the nursery site if disturbance activities are required while the nursery site is active/occupied. The appropriate size and shape of the buffer shall be determined by a qualified biologist based on potential effects of project-related habitat disturbance, noise, visual disturbance, and other factors but shall typically be a minimum of 100 feet. No project activity shall commence within the buffer area until a qualified biologist confirms that the nursery site is no longer active/occupied. Monitoring of the effectiveness of the no-disturbance buffer around the nursery site by a qualified biologist during disturbance activities may be required. If disturbance activities cause agitated behavior of the individual(s), as observed during monitoring, the buffer distance shall be increased or disturbance activities modified until the agitated behavior stops. The qualified biologist shall have the authority to stop any disturbance activities that could result in potential adverse effects on wildlife nursery sites. 	
<p>Impact 3.4-7: Conflict with Any Local Policies or Ordinances Protecting Biological Resources</p> <p>Multiple policies in the Sonoma County General Plan, multiple area plans, and Sonoma County Code protect biological resources. Mitigation measures identified in Impacts 3.4-1, 3.4-2, 3.4-3, 3.4-4, 3.4-5, and 3.4-6 would be consistent Sonoma County policies and requirements that protect biological resources. This impact would be less than significant.</p>	LTS	No mitigation is required for this impact.	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>Impact 3.4-8: Conflict with Provisions of an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or Other Approved Local, Regional, or State Habitat Conservation Plan</p> <p>All districts in the Program Area overlap the Santa Rosa Plain Conservation Strategy plan area. It is currently not possible to obtain a federal permit, including an incidental take permit for a federally listed species, which would be the case unless cannabis is legalized under federal law; therefore, cannabis activities in the Conservation Strategy plan area could result in conflict with the plan. This impact would be potentially significant.</p>	PS	<p>Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Surveys and Project-Level Analysis</p> <p>Mitigation Measure 3.4-1b (DRH or UPC): Conduct Special-Status Plant Surveys and Implement Avoidance Measures and Mitigation</p> <p>Mitigation Measure 3.4-2a (DRH or UPC): Conduct Pre-Disturbance Surveys for Special-Status Amphibians and Implement Avoidance Measures</p> <p>Mitigation Measure 3.4-8 (DRH or UPC and ZPC): Limit New Disturbance Activities in the Santa Rosa Plain Conservation Strategy Plan Area</p> <p>If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that California tiger salamander or Conservation Strategy special-status plants are present, potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), or the project site is within the Conservation Strategy plan boundary, the following shall apply:</p> <ul style="list-style-type: none"> ▶ If a new disturbance area is within the Santa Rosa Plain Conservation Strategy plan area and is specifically located within 1.3 miles of known California tiger salamander breeding or in an area with potential for California tiger salamander presence, as defined in the Conservation Strategy, the project shall be redesigned such that all new disturbance activities which include construction, installation of temporary event facilities such as tents or other activities that could involve trampling, grading, vegetation removal, and other ground disturbance activities, would occur outside of these designations. If the project cannot be redesigned to avoid these designations (e.g., the applicant's parcels are completely within the designations), then the application will be denied, and cannabis activities will not be permitted on the site. These prohibitions shall apply until such a time that cannabis uses are legalized under federal law and federal incidental take permitting through participation in the Conservation Strategy may be pursued. This measure shall apply to ministerial and discretionary permits under the Program. 	LTS
Cultural Resources			
<p>Impact 3.5-1: Cause a Substantial Adverse Change in the Significance of a Historical Resource</p> <p>Implementation of the Cannabis Program Update could result in cannabis cultivation and supply chain uses that contain or are near historical resources. This could result in damage to or destruction of a historic building or structure,</p>	PS	<p>Mitigation Measure 3.5-1 (UPC and DRH): Implement Additional Measures to Protect Historical Resources</p> <p>Sonoma County shall require the following mitigation measures for cannabis project applications subject to a use permit or design review hearing.</p>	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
thereby resulting in a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines, Section 15064.5. This would be a potentially significant impact.		<ul style="list-style-type: none"> ▶ For all historic-age (over 45-years in age) buildings and structures, projects involving interior alterations, the addition of rooftop solar, or routine maintenance work, do not need evaluation of eligibility by an architectural historian. ▶ Applicants shall identify and evaluate all historic-age (over 45-years in age) buildings and structures that are proposed to be removed or proposed to have modifications as part of cannabis operations. This must include search results from the NWIC, preparation of an historic structure report and evaluation of resources to determine their eligibility for recognition under state, federal, or County Local Official Register of Historic Resources criteria. The evaluation shall be prepared by an architectural historian or historical architect who meets the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation's professional qualification standards. The evaluation shall comply with CEQA Guidelines Section 15064.5(b) and, if federal funding or permits are required, with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (16 U.S.C., Section 470 et seq.). ▶ If resources eligible for inclusion in the NRHP, CRHR, or local Official Register of Historic Resources are identified, an assessment of impacts on these resources shall be included in the report, as well as detailed measures to avoid impacts. If avoidance of a significant architectural/built-environment resource is not feasible, additional mitigation options include, but are not limited to, specific design plans for historic districts or plans for alteration or adaptive reuse of a historical resource that follows the Secretary of the Interior's <i>Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitation, Restoring, and Reconstructing Historic Buildings</i>. 	
Impact 3.5-2: Cause a Substantial Adverse Change in the Significance of Unique Archaeological Resources New cannabis cultivation, processing, or manufacturing sites associated with implementation of the Cannabis Program Update could be located on properties that contain known or unknown archaeological resources. Ground-disturbing activities associated with new or modified cannabis site operations could result in discovery or damage of yet undiscovered archaeological resources as defined in State CEQA Guidelines, Section 15064.5. However, new cannabis sites would be required to comply with Sonoma County Code Sections 11.14.050 and 36.20.040, and Attachment A (Section 1, General Requirements and Prohibitions) of SWRCB	PS	Mitigation Measure 3.5-2a – (UPC and DRH) Cultural Resource Pre-Approval Evaluation Sonoma County shall require the following mitigation measures for cannabis project applications subject to a use permit or design review hearing. <ul style="list-style-type: none"> ▶ The applicant must retain an archaeologist who meets the Secretary of the Interior's professional standards in archaeology to conduct a site-specific survey of the area and prepare a cultural resource survey report. The survey methodology (e.g., pedestrian survey, subsurface investigation) depends on whether the area has a low, moderate, or high sensitivity for resources, which is 	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>Order WQ 2023-0102-DWQ, which includes protection measures to archaeological resources. Nevertheless, ground-disturbing activities could result in the accidental discovery and damage to archeological sites. Therefore, this impact would be potentially significant.</p>		<p>based on whether the records search and/or Native American consultation identifies archaeological resources near or within the treatment area. The cultural resource survey report must also include a search of the Sacred Lands Inventory that is maintained by the Native American Heritage Commission. The cultural resource survey report must comply with the applicable state or local agency procedures and include recommendations that must be implemented prior to and/or during construction to avoid or reduce impacts on archaeological resources, to the extent that the resource's physical constituents are preserved or their destruction is offset by the recovery of scientifically consequential information. The report must include whether an archeological monitoring is required to ensure impacts to resources are avoided.</p> <ul style="list-style-type: none"> ▶ The County shall send a referral to the Northwest Information Center to perform a records search of potential archeological or cultural resources contained in the California Historical Resources Information System (CHRIS). <p>Mitigation Measure 3.5-2b – (UPC and DRH) Archeological Site Avoidance</p> <p>Cannabis project applications shall be designed to avoid impacts to archaeological sites identified by Mitigation Measure 3.5-2a. A barrier (temporary fencing) and flagging shall be placed between the work location and any resources within 60 feet of a work location to minimize the potential for inadvertent impacts. The applicant must retain a qualified archeological monitor if the cultural resources survey report indicates that one is required to avoid impacts to archeological sites.</p> <p>Mitigation Measure 3.5-2c (ZPC): Implement Mitigation Measure 3.15-1a</p> <ul style="list-style-type: none"> ▶ Mitigation Measure 3.15-1a (ZPC): Protection of Tribal Cultural Resources for Permitted Uses 	
<p>Impact 3.5-3: Disturb Human Remains</p> <p>Previously undiscovered human remains could be discovered when soils are disturbed during construction of cannabis sites permitted under the proposed Cannabis Program Update. Compliance with Sonoma County Code Sections 11.14.050 and 36.20.040 SWRCB Order WQ 2023-0102-DWQ, Health and Safety Code Section 7050.5, PRC Section 5097 would reduce this impact because required notification would occur and any remains that are discovered would be treated appropriately. However, because these standards do not serve to avoid human remains that may be expected to be present on a site for all types of development, this impact would be potentially significant.</p>	PS	<p>Mitigation Measure 3.5-2a (UPC and DRH): Cultural Resource Pre-Approval Evaluation</p> <p>Measure 3.5-3a (UPC and DRH): Implement Mitigation Measure 3.15-1c</p> <ul style="list-style-type: none"> ▶ Measure 3.15-1c (UPC and DRH): Tribal Cultural Resources Pre-Approval Consultation <p>Mitigation Measure 3.5-3b (UPC and DRH): Implement Mitigation Measure 3.15-1e</p> <ul style="list-style-type: none"> ▶ Measure 3.15-1e. (UPC and DRH) Avoidance of Human Remains 	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Energy			
Impact 3.6-1: Result in a Potentially Significant Environmental Impact Due to Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources <p>The energy needs for construction of new cannabis cultivation and supply chain uses would be temporary and would not require additional capacity or increase peak or base period demand for electricity or other forms of energy. New cannabis sites would be built to comply with the California Energy Code in effect at the time of construction and would therefore be more energy efficient than existing cannabis sites because of increasing requirements related to energy efficiency in the building code and in on-road and off-road fuel efficiency. Future cultivation sites would also be required to comply with CCR, Title 4, Section 16305, which would reduce energy impacts. Thus, this impact would be less than significant.</p>	LTS	No mitigation is required for this impact.	LTS
Impact 3.6-2: Conflict with or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency <p>The Sonoma County Climate Change Action Resolution contains various goals related to energy resources, including measures to improve energy efficiency and promote the generation and use of renewable energy resources. The proposed Cannabis Program Update does not include any provisions that address renewable energy or energy efficiency. Therefore, the Cannabis Program Update would conflict with the Climate Action Resolution's energy goals. This impact would be significant.</p>	S	Mitigation Measure 3.6-2 (DRH and UPC): Implement Energy Conservation and Renewable Energy Measures <p>The following mitigation measures would be implemented through the design review with hearing or use permit for cannabis process for individual projects.</p> <ul style="list-style-type: none"> ▶ Implement Tier 2 requirements of the most current CALGreen Code's EV-charging standards. ▶ On-site natural gas or propane use shall be avoided, with the exception of an emergency generator during emergencies. ▶ If natural gas or propane use cannot be feasibly avoided by a new cannabis cultivation or supply chain use's project design due to infrastructure limitations for rural project sites, other relevant project design characteristics may be implemented. A combination of the following measures shall be applied to individual cannabis cultivation and supply chain use sites to the degree that the additional British thermal units from natural gas combustion are completely offset as demonstrated in an energy or greenhouse gas report to be submitted to the County for review: <ul style="list-style-type: none"> ▪ a requirement to exceed the mandatory requirements of the most recent version of Part 6 of the Title 24 California Building Code (California Energy Code), ▪ a requirement to use low-flow appliances, ▪ a requirement to use Energy Star appliances, 	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

ES-53

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> a requirement to procure all electricity from the Sonoma Clean Power Authority Evergreen Program, and a requirement to implement zero net energy buildings through the incorporation of on-site renewable energy features (i.e., solar photovoltaic or wind systems). 	
Geology, Soils, and Mineral Resources			
Impact 3.7-1: Directly or Indirectly Cause Potential Substantial Adverse Effects, Including the Risk of Loss, Injury, or Death from Seismic Hazards Commercial cannabis sites approved under the proposed Cannabis Program Update may be constructed in areas prone to strong seismic shaking. However, such uses would not exacerbate existing seismic hazards and would be required to comply with existing state and local regulatory requirements related to seismic hazards (e.g., building codes and other laws and regulations), such that the exposure of people or structures to risk of loss, injury, or death resulting from rupture of a known earthquake fault or strong seismic shaking would be avoided or reduced. This impact would be less than significant.	LTS	No mitigation is required for this impact.	LTS
Impact 3.7-2: Result in Substantial Soil Erosion of the Loss of Topsoil or Be Located on Expansive Soils, Creating Substantial Direct or Indirect Risks to Life or Property Cannabis sites permitted under the proposed Cannabis Program Update could result in the development of new facilities, which could include clearing, grading, excavation, and other earthmoving activities. The potential for new or expanded cannabis sites being located on expansive soils, substantial soil erosion, or loss of topsoil from implementation of the project would be addressed through compliance with County Code, Sonoma County's Grading and Drainage Regulation, Best Management Practices for Cannabis Cultivation, and the SWRCB Order WQ 2023-0102-DWQ. Impacts related to soil erosion, loss of topsoil, or expansive soils would be less than significant.	LTS	No mitigation is required for this impact.	LTS
Impact 3.7-3: Be Located on a Geologic Unit or Soil That Is Unstable, or That Would Become Unstable as a Result of the Project, and Potentially Result in On- or Off-Site Landslide, Lateral Spreading, Subsidence, Liquefaction, or Collapse Cannabis sites permitted under the proposed Cannabis Program Update could result in the exposure of people and property to risks associated with unstable soils. However, sites would be required to comply with state and local regulatory requirements (e.g., building codes and other laws and regulations) related to	LTS	No mitigation is required for this impact.	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
geologic hazards, such that the risk to life or property through exposure to unstable soils because of the project would be reduced. This impact would be less than significant.			
<p>Impact 3.7-4: Directly or Indirectly Destroy a Unique Paleontological Resource or Site</p> <p>Earthmoving activities associated with development and operation of cannabis facilities, approved under the proposed Cannabis Program Update, could result in the discovery of previously unknown paleontological resources. This impact would be potentially significant.</p>	PS	<p>Mitigation Measure 3.7-1 (DRH and UPC): Protection of paleontological resources.</p> <p>The following mitigation measures would be implemented through the design review with hearing or use permit for cannabis process for individual projects.</p> <p>Where paleontological resources are discovered during grading and drainage, all work shall be halted in the vicinity of the find, the director shall be notified, and the following shall occur and be approved by the County before work may resume. The permittee shall retain a Qualified Professional Paleontologist to prepare a project-specific Paleontological Resource Mitigation and Monitoring Program (PRMMP). A qualified professional paleontologist is an individual with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least two years. Monitoring shall be conducted by a qualified paleontological monitor with experience in collection and salvage of paleontological resources. The PRMMP procedures and protocols shall include:</p> <ol style="list-style-type: none"> 1. Location and type of ground disturbance requiring paleontological monitoring based on the location and depth of ground disturbing activity in the context of the paleontological potential and potential impacts outlined in this section. 2. Timing and duration of paleontological monitoring. 3. Procedures for work stoppage and collection of scientifically significant fossils; including identifiable specimens of vertebrate fossils, uncommon invertebrate, plant, and trace fossils. This must include the authority to temporarily direct, divert or halt construction activity to ensure that larger fossils can be removed in a safe and timely manner. 4. The type and extent of data that should be collected with recovered fossils, such as field notes, photos, data, and maps. 5. Procedures for preparation and curation of fossils. Significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological. 6. Minimum qualifications for qualified paleontologists and paleontological monitors. 	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

ES-55

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>7. Conditions under which modifications to the monitoring schedule could be implemented, such as when sediments are likely too young, or conditions are such that fossil preservation would have been unlikely, or that fossils present have little potential scientific value.</p> <p>Upon completion of grading and drainage work (and curation of fossils if necessary) the Qualified Professional Paleontologist shall prepare a final report outlining the results of the PRMMP. The report shall include discussion of the location, duration, and methods of the monitoring, stratigraphic sections, any recovered fossils, and the scientific significance of those fossils, and where fossils were curated. The report shall be submitted to the County prior to occupancy permits. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the designated museum repository.</p>	
Greenhouse Gas Emissions and Climate Change			
<p>Impact 3.8-1: Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases</p> <p>Operation of cannabis cultivation sites and supply chain operations under the Cannabis Program Update would result in GHG emissions that could conflict with state GHG reduction targets and decarbonization efforts. Therefore, operation of cannabis sites would have a significant climate change impact.</p>	S	<p>Mitigation Measures 3.8-1: Implement Mitigation Measures 3.6-2 and 3.14-2.</p> <ul style="list-style-type: none"> ▶ Mitigation Measure 3.6-2 (DRH and UPC): Implement Energy Conservation and Renewable Energy Measures ▶ Mitigation Measure 3.14-2 (UPC and DRH): Conduct VMT Analysis and Identify Mitigation for VMT 	SU
Hazards and Hazardous Materials			
<p>Impact 3.9-1: Create a Significant Hazard through Routine Transport, Use, or Disposal of Hazardous Materials</p> <p>Implementation of the Cannabis Program Update may result in the transportation, use, or disposal of hazardous materials. However, regulatory compliance with established safety regulations designed to protect against significant hazards to public health and well-being would be sufficient to minimize this impact to a less-than-significant level.</p>	LTS	No mitigation is required for this impact.	LTS
<p>Impact 3.9-2: Emit Hazardous Emissions or Handle Hazardous Materials within 0.25 Miles of an Existing or Proposed School</p> <p>Implementation of the Cannabis Program Update would allow for the permitting and development of cannabis uses that would emit or handle hazardous materials, such as pesticides, herbicides, fungicides, rodenticides, and other chemicals for growing, processing, and manufacturing of cannabis and cannabis products within 0.25 miles of an existing or proposed school. However, these hazardous materials would be utilized in accordance with existing regulatory</p>	LTS	No mitigation is required for this impact.	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
compliance established by state and federal requirements designed to protect against significant hazards to public health and well-being. Additionally, the Cannabis Program Update includes required setbacks from school sites. Adherence to regulatory compliance would be sufficient to minimize this impact to a less-than-significant level.			
<p>Impact 3.9-3: Be Located on a Site Included on a List of Hazardous Material Sites Compiled Pursuant to Government Code Section 65962.5, Which Would Create a Significant Hazard to the Public or Environment or Create a Significant Hazard to the Public or Environment through Reasonably Foreseeable Upset and/or Accident Conditions Involving Release of Hazardous Materials</p> <p>New cannabis cultivation sites, crop swap, and new development of supply chain uses could involve earth-moving activities where known or unknown hazardous conditions may be present. Although sites that have been listed pursuant to Government Code Section 65962.5 would be subject to remediation requirements per local, state, and federal requirements, there may be contamination from previous or historical practices from certain land uses (e.g., agricultural use of pesticides and herbicides), placement of undocumented fill, presence of naturally occurring asbestos, or even authorized disposal of hazardous wastes from prior land uses. These materials could expose construction workers, the public, or the environment to adverse effects, depending on the volume of hazardous materials involved and their concentrations. Thus, this impact would be potentially significant.</p>	PS	<p>Mitigation Measure 3.9-3 (DRH and UPC): Implement Soils Investigation Requirements</p> <p>Sonoma County shall require the following mitigation measures for cannabis project applications subject to a use permit or design review with hearing.</p> <ul style="list-style-type: none"> ▶ If a site is identified on the Cortese List, a Phase I Environmental Site Assessment (ESA) must be prepared. For all other sites, in the event that previously unidentified potentially hazardous materials are discovered at any time during ground disturbance, all work shall be halted in the vicinity and a Phase I ESA must be prepared. ▶ The required Phase I ESA must be prepared in accordance with the American Society for Testing and Materials' E-1527-05 standard. For work requiring any demolition, the Phase I ESA shall make recommendations for any hazardous building materials survey work that shall be done. All recommendations included in a Phase I ESA prepared for a site shall be implemented to protect public health. If a Phase I ESA indicates the presence or likely presence of contamination, the applicant shall prepare a Phase II ESA, and recommendations of the Phase II ESA shall be fully implemented before ground disturbance, which will be made a requirement for approval of the project. 	LTS
<p>Impact 3.9-4: Result in a Safety Hazard or Noise Hazard for People Residing or Working within 2 Miles of a Public Airport or Public Use Airport</p> <p>Implementation of the Cannabis Program Update may allow for the permitting and development of cannabis uses on sites near airports. However, cannabis uses are required to comply with applicable development standards and land use requirements of the CALUP, General Plan Air Transportation Element policies, and FAA notification requirements, as applicable. This impact would be less than significant.</p>	LTS	No mitigation is required for this impact.	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

ES-57

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Hydrology and Water Quality			
<p>Impact 3.10-1: Violate Water Quality Standards and Regulation or Conflict with Water Quality Control Plans</p> <p>Construction and operation of cannabis cultivation and supply chain uses under the proposed Cannabis Program Update have the potential to degrade water quality in various ways. Compliance with relevant water quality regulations and BMPs would reduce the risk of water degradation from soil erosion and other pollutants related to project construction and operational activities. These requirements would ensure that the Cannabis Program Update does not contribute to or exacerbate identified water quality contamination in the applicable water quality control board. For these reasons, construction and operation of development approved under the Cannabis Program Update would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality. Therefore, this impact would be less than significant.</p>	LTS	No mitigation is required for this impact.	LTS
<p>Impact 3.10-2: Decrease of Groundwater Supplies or Interfere Substantially with Groundwater Recharge Such That the Project May Impede Sustainable Groundwater Management of the Basin</p> <p>Cannabis uses may rely upon groundwater resources to support water demand. In areas where groundwater is available and depending on the location of extraction and condition of local groundwater resources, it is possible for drawdown at a well in one location to affect groundwater elevations in other wells. It is also possible that groundwater extraction may cause or exacerbate declines in water levels regionally, degradation of groundwater quality, and reduce streamflow of interconnected surface waters. While SGMA involves long term planning and groundwater management intended to ensure groundwater basins are managed sustainably, not all areas of the County are subject to regulations under SGMA. Regardless of SGMA priority designation, it cannot be stated with certainty that operation of new cannabis facilities relying on groundwater would not decrease groundwater supplies such that resources are not affected or that implementation of a groundwater sustainability plan would not be impeded. Increased groundwater extraction may result in adverse environmental impacts, including reduced groundwater levels and/or altered streamflow through depletion of interconnected surface waters, as well as degraded groundwater quality. Therefore, this impact would be potentially significant.</p>	PS	<p>Mitigation Measure 3.10-2a (DRH and UPC): Implement Additional Measures to Protect Groundwater Resources</p> <p>Sonoma County shall require the following mitigation measures for cannabis project applications subject to a use permit or design review with hearing.</p> <ul style="list-style-type: none"> ▶ For projects that demonstrate no increase in groundwater production at a site, no further mitigation is necessary. ▶ For water supply wells located within Class 3 or 4 groundwater availability areas, no cannabis permit shall be granted without meeting the following standards. <ul style="list-style-type: none"> ▪ Proof of sufficient yield demonstrated through an 8-hour dry season well yield test with sustained yield of 5 gallons per minute per 1 AFY of irrigation demand, plus sufficient yield for other existing uses. ▪ A hydrogeologic report that meets the requirements set forth under Policy and Procedure 8-1-14 shall be prepared that contains supporting data and analysis to demonstrate that the onsite groundwater supply is adequate to meet the proposed uses and cumulative projected land uses in the area on a sustained basis, and that the operation will not: (1) result in or exacerbate an overdraft condition in basin or aquifer; (2) result in reduction of critical flow in nearby streams; or (3) result in well interference at offsite wells. 	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ▶ For water supply wells located within medium- and high-priority groundwater basins, a groundwater report must be prepared in compliance with requirements set forth under Policy and Procedure 8-1-14. The report must demonstrate the following standards for issuance of a cannabis permit: <ul style="list-style-type: none"> ▪ consistency with applicable sustainable groundwater management programs, and ▪ that the project does not decrease the likelihood of achieving sustainability in the underlying basin. ▶ For water supply wells located within upper portions of critical habitat watersheds identified in the 2015 SWRCB's Emergency Information Order, and within the "Groundwater Sustainability Priority Areas" adopted by the Sonoma Valley GSA, or as further updated, a cannabis permit may only be granted if the report demonstrates that the cannabis use meets net zero groundwater standards consistent with Policy and Procedure 8-2-2. ▶ A maximum level of groundwater use shall be established for each cannabis permit. If monitoring data collected in compliance with Policy and Procedure 8-1-3 indicates groundwater use in excess of the maximum allowed for a permit, the facility operators, in conjunction with the County, shall develop adaptive management measures to reduced groundwater to net zero levels. Adaptive management measures may include forbearance (e.g., prohibition of groundwater extraction from the months of May to October), water conservation measures, reductions in on-site cannabis cultivation, alteration of the groundwater pumping schedule, or other measures determined appropriate. Adaptive management measures will remain in place until groundwater use levels have recovered based on quarterly monitoring data provided to the County as part of subsequent annual inspections. <p>Mitigation Measure 3.10-2b (ZPC): Implement Groundwater Monitoring</p> <p>Sonoma County shall require the following mitigation measures for cannabis project applications subject to zoning permit.</p> <p>The following requirements shall be included as new performance standards for new cannabis cultivation and crop swaps using groundwater in Section 26-18-115(C)(4)(h):</p> <ul style="list-style-type: none"> ▶ Groundwater Metering and Monitoring. An easement shall be recorded to provide Sonoma County personnel access to any on-site water well serving 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>the proposed use and any required monitoring well to collect water meter readings and groundwater level measurements. Access shall be granted for this purpose Monday through Friday from 8:00 a.m. to 5:00 p.m. All easement language is subject to review and approval by Permit Sonoma and County Counsel prior to recordation. Groundwater level and total quantity of water pumped shall be recorded quarterly and reported annually. Groundwater metering, groundwater level monitoring, reporting, maintenance, and meter calibration shall be conducted consistent with Policy and Procedure 8-1-3.</p> <p>► If monitoring data collected in compliance with Policy and Procedure 8-1-3 indicates groundwater use exceeds net zero production from the time that the cannabis permit was granted, the facility operators, in conjunction with the County, shall develop adaptive management measures to allow for recovery of groundwater levels. Adaptive management measures may include forbearance (e.g., prohibition of groundwater extraction from the months of May to October), water conservation measures, reductions in on-site cannabis cultivation, alteration of the groundwater pumping schedule, or other measures determined appropriate. Adaptive management measures will remain in place until groundwater levels have recovered based on annual monitoring data provided to the County as part of subsequent annual inspections.</p>	
<p>Impact 3.10-3: Degrade Water Quality through Diversion of Surface Water</p> <p>Cannabis cultivation sites could divert surface water from County streams and rivers to support water supply demands. Low flows are associated with increased temperature and may also aggravate the effects of water pollution. Compliance with SWRCB Order WQ 2023-0102-DWQ requires that certain flow and gauging requirements be met and that a surface water diversion forbearance period be implemented. This impact would be less than significant.</p>	LTS	No mitigation is required for this impact.	LTS
<p>Impact 3.10-4: Substantially Alter the Existing Drainage Pattern of a Site or Area through Alteration of the Course of a Stream or River</p> <p>Development and operation of cannabis facilities could affect the peak flow and volume of storm water runoff generated from such areas would be affected by development through conversion of vegetated or otherwise pervious surfaces to impervious surfaces (e.g., roads, roofs, driveways, walkways) and by the development of drainage systems that might more effectively connect these impervious surfaces to streams or other water bodies. However, implementation</p>	LTS	No mitigation is required for this impact.	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
of State and local regulations, pertaining to site drainage and erosion, would ensure that drainage patterns are not substantially altered. This impact would be less than significant.			
Land Use and Planning			
<p>Impact 3.11-1: Cause a Significant Environmental Impact Due to a Conflict with any Land Use Plan, Policy, or Regulation Adopted for the Purpose of Avoiding or Mitigating an Environmental Effect</p> <p>Adoption of the Cannabis Program Update would amend the General Plan and County Code to allow proposed cannabis cultivation and supply chain uses beyond what the current County regulations allow, which could result in an expansion of cultivation and supply chain uses. Adoption and implementation of the Cannabis Program Update would be consistent with General Plan policies related to land use and would incorporate performance standards that implement environmental protections identified in the General Plan policies and Sonoma County Code. As a result, conflicts with applicable land use plans, policies, or regulations would be minimized. This impact would be less than significant.</p>	LTS	No mitigation is required for this impact.	LTS
Noise and Vibration			
<p>Impact 3.12-1: Result in Excessive Short-Term Construction Noise Impacts</p> <p>Implementation of the Cannabis Program Update could result in construction of new cannabis facilities in the unincorporated County. It is possible that construction activity could generate excessive short-term noise levels at existing sensitive receptors that could result in adverse health effects (e.g., sleep disturbance). Therefore, this impact would be significant.</p>	S	<p>Mitigation Measure 3.12-1a (DRH or UPC): Incorporate Noise Reduction Measures into Construction Specifications</p> <p>Sonoma County shall require the following mitigation measures for cannabis project applications subject to issuance of a use permit or design review with hearing.</p> <p>To minimize noise levels during construction activities, the development of cannabis uses shall comply with the following measures during construction work.</p> <ul style="list-style-type: none"> ▶ Noise-generating construction activities should be restricted to between the hours of 7:00 a.m. to 7:00 p.m. Monday through Saturday. No construction activities should occur on weekends or holidays. If work is necessary outside of these hours, the County should require the contractor to implement a construction noise monitoring program and, if feasible, provide additional mitigation as necessary (in the form of noise control blankets or other temporary noise barriers, etc.) for affected receptors. A sign(s) shall be posted on the site regarding allowable hours of construction. ▶ All construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in 	SU

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

ES-61

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>accordance with manufacturer recommendations. Equipment shrouds shall be closed during equipment operation.</p> <ul style="list-style-type: none"> ▶ Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. Equipment shall be properly maintained and turned off when not in use. ▶ Unnecessary idling of internal combustion engines should be strictly prohibited. ▶ Locate stationary noise-generating equipment, such as air compressors or portable power generators, as far as possible from sensitive receptors as feasible. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used. Any enclosure openings or venting shall face away from sensitive receptors. ▶ Utilize "quiet" air compressors and other stationary noise sources where technology exists. ▶ Construction maintenance, storage and staging areas for construction equipment shall avoid proximity to residential areas to the maximum extent practicable. Stationary construction equipment, such as compressors, mixers, etc., shall be placed away from residential areas and/or provided with acoustical shielding. Quiet construction equipment shall be used when possible. ▶ Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction. ▶ Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site. <p>Mitigation Measure 3.12-1b (UPC or DRH): Prepare Noise Analysis for Ongoing Construction Projects Anticipated to Last One Year or More</p> <p>Sonoma County shall require the following mitigation measure for cannabis project applications subject to issuance of a use permit or design review with hearing.</p> <ul style="list-style-type: none"> ▶ Sonoma County shall require the cannabis permit applicants to submit a noise analysis prepared in accordance with the County Guidelines for the Preparation of Noise Analysis. The noise analysis shall demonstrate 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		compliance with the required County noise thresholds through the use of noise reduction measures (such as those identified in Mitigation Measure 3.12-1a) and will be subject to review by Permit Sonoma. This measure shall be incorporated into project-specific approvals.	
Impact 3.12-2: Expose Sensitive Receptors to Excessive Short-Term Vibration Construction activity associated with implementation of the Cannabis Program Update would not require the use of ground vibration-intensive activities, such as pile driving or blasting. While bulldozers may be used to prepare sites for development, the associated vibration would not adversely affect nearby buildings or receptors. This impact would be less than significant.	LTS	No mitigation is required for this impact.	LTS
Impact 3.12-3: Expose Existing Receptors to Excessive Traffic Noise Levels Implementation of the Cannabis Program Update could result in new cannabis sites that would generate new vehicle trips. These trips could result in an increase in traffic noise levels on the roadway network surrounding the cannabis facility. Because cannabis facilities within the unincorporated County would produce a lower or similar average daily trip rate to surrounding land uses, a doubling of traffic volumes along County roadways that would result in a substantial increase in traffic noise (i.e., 3+ dB) is not anticipated. This impact would be less than significant.	LTS	No mitigation is required for this impact.	LTS
Impact 3.12-4: Cause Excessive Long-Term Operational Stationary Noise Levels Implementation of the Cannabis Program Update could result in the long-term operation of new noise-generating stationary equipment (e.g., mechanical trimmers) and activities (e.g., special events). Specific building footprints, layouts, and the locations of stationary equipment are currently unknown; thus, it is possible that noise associated with mechanical equipment, cannabis events, and cannabis lounges could be located within distances that expose existing sensitive receptors to noise levels that exceed County noise standards and result in public health effects (e.g., sleep disturbance) at nearby sensitive receptors. Therefore, this impact would be significant.	S	Mitigation Measure 3.12-4a: Outdoor Amplified Live Music Requires a Use Permit at Storefront Retailers The proposed Code Section 26-26-025 shall be modified to include the following standard. <ul style="list-style-type: none"> ▶ Amplified live music at a storefront retailer is prohibited without a use permit. Mitigation Measure 3.12-4b (UPC): Noise Reduction Measures for Outdoor Amplified Live Music at Cannabis Events or at Storefront Retailers The following mitigation measure would be implemented through the Use Permit for individual projects. <ul style="list-style-type: none"> ▶ Applicants must demonstrate compliance with the County Noise Standards presented in General Plan Policy NE-1c and Table NE-2. If outdoor amplified live music is proposed, compliance with the County Noise Standards shall be demonstrated through a project-specific noise study prepared in accordance with the County Guidelines for the Preparation of Noise Analysis. Compliance with these requirements may be met through development design considerations such as; 	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ▪ Locating performance areas away from noise sensitive land uses. ▪ Locating live music indoors. ▪ Positioning speaker at locations where noise barriers such as buildings can serve to reduce noise at off-site sensitive receptor locations. ▪ Prohibit amplified music or sound after 10:00 p.m. ▪ During the sound testing of the amplified sound system prior to each event multiple sound level measurements shall be conducted along the property line of the most affected residential land uses. Volume settings shall be adjusted to ensure that the applicable county noise standards will not be exceeded at the residences during the event <p>Mitigation Measure 3.12-4c (DRH): Implement Noise Reduction Measures to Reduce Operational Noise Impacts in Industrial and Commercial Districts</p> <p>The following mitigation measures would be implemented through the design review with hearing (DRH) for individual projects.</p> <ul style="list-style-type: none"> ► Demonstrate compliance with the County Noise Standards presented in Policy NE-1c (TABLE NE-2). Compliance with these requirements may be met through development design considerations such as those listed below. ▪ Selection of HVAC with low decibel rating. ▪ Locate HVAC units within equipment rooms or enclosures that incorporate noise reduction features, such as acoustical louvers. Equipment enclosures shall be oriented so that major openings (i.e., intake louvers, exhaust) are directed away from nearby noise-sensitive receptors. ▪ Set back all HVAC units as much as possible from off-site noise-sensitive receptors, including residential land uses. ▪ Position HVAC units on the opposite side of an on-site buildings from off-site sensitive receptors so that the buildings serve as an intervening noise barrier. 	
Public Services and Recreation			
<p>Impact 3.13-1: Result in Substantial Adverse Physical Impacts Associated with the Need for New or Physically Altered Fire Protection Facilities</p> <p>Implementation of the Cannabis Program Update would amend the Sonoma County Code to address proposed cannabis cultivation and supply chain uses beyond what the current County regulations allow, which could result in an expansion of cultivation and supply chain uses that could increase the demand</p>	LTS	No mitigation is required for this impact.	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
for fire protection services. All existing and future permitted sites would be required to comply with state and local regulations (including the County Code, California Building Code, and California Fire Code regulations) to minimize fire risks. Compliance with these regulations would provide a sufficient level of fire protection and access such that fire protection services would not be substantially affected and would not necessitate the construction of new or expanded fire protection facilities that could result in physical impacts on the environment. This impact would be less than significant.			
Impact 3.13-2: Result in Substantial Adverse Physical Impacts Associated with the Need for New or Physically Altered Law Enforcement Facilities Under the proposed Cannabis Program Update, cannabis cultivation and supply chain uses would be subject to State access and security requirements under CCR Title 4, Division 19, Sections 15036, 15042, 15042.1, 15043, 15045, 15046, 15047, and 15601. Implementation of these standards would address security needs for cannabis uses and avoid the need for additional law enforcement services and facilities. This impact would be less than significant.	LTS	No mitigation is required for this impact.	LTS
Transportation			
Impact 3.14-1: Conflict with a Program, Plan, Ordinance, or Policy Addressing the Circulation System, Including Transit, Roadway, Bicycle, and Pedestrian Facilities Adoption and implementation of the proposed Cannabis Program Update, including approval of subsequent commercial cannabis uses, would not conflict with the adopted policies of the Sonoma County General Plan regarding the circulation system. Therefore, this impact would be less than significant.	LTS	No mitigation is required for this impact.	LTS
Impact 3.14-2: Conflict or Be Inconsistent with CEQA Guidelines Section 15064.3(b) Regarding Vehicle Miles Traveled Construction and operation of cannabis sites associated with adoption and implementation of the proposed Cannabis Program Update could potentially result in increased countywide VMT. It is anticipated that most new cannabis uses would screen out from a quantitative VMT analysis and therefore would have a less-than-significant impact. However, because individual cannabis projects are not yet defined, project-specific details are unknown and the conclusions of project review are speculative. Given this uncertainty, the Cannabis Program Update impacts on VMT would be potentially significant.	PS	Mitigation Measure 3.14-2 (UPC, DRH): Conduct VMT Analysis and Identify Mitigation for VMT Sonoma County shall require the following mitigation measures for cannabis project applications subject to a use permit or design review with hearing: Cannabis cultivation and supply chain sites that are located outside of VMT efficient areas, as identified in Table 3.14-3, shall conduct a project-level VMT analysis and identify VMT impacts associated with the cannabis facility. Consistent with this guidance, projects that include accessory uses would be analyzed independently. Where appropriate, VMT shall be evaluated using VMT screening maps based on the outputs from the most recent update of the Sonoma County Travel Demand Model or a dedicated model run. Please see Table 3.14-3 on page 3.14-17 of this Draft EIR.	SU

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>Because some projects may not be screened out based on these criteria, the process described below shall be applied to assess potential VMT impacts at the project level:</p> <p><u>Step 1 - Map-Based Low VMT Screening</u></p> <p>The SCTA travel demand model analyzes geographic areas throughout the county known as transportation analysis zones (TAZs) and the VMT per employee is calculated for each TAZ. As shown in Figure 3.14-1, the VMT per employee is at least 15 percent below the county-wide average for a large portion of Sonoma County. Since incoming development is presumed to be associated with similar commuting patterns as existing conditions in the TAZ, individual cannabis projects proposed for sites in TAZs that have a VMT per employee at least 15 percent below the regional average are presumed to have a less-than-significant VMT impact. This screening criteria shall only be applied to projects that do not include cannabis events, as the SCTA model does not include data for events, or other types of visitor-focused uses. For employee-based projects not located in a TAZ with a VMT per employee at least 15 percent below the regional average, the analysis shall proceed to Step 2.</p> <p><u>Step 2 - Proximity to Transit</u></p> <p>In accordance with the screening criteria recommended by OPR, projects located within one-half mile of an existing major transit stop or an existing stop along a high-quality transit corridor shall be presumed to have a less than significant VMT impact, unless they meet at least one of the following:</p> <ul style="list-style-type: none"> ▶ Have a Floor Area Ratio (FAR) of less than 0.75 ▶ Includes more parking for use by customers or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking) ▶ Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization) <p>As in the case of map-based screening, projects that include cannabis events are not presumed to have a less than significant VMT impact and therefore could not be screened using this criterion, and must start at Step 3.</p> <p><u>Step 3 – Project VMT Assessment (if screening is not applicable)</u></p> <p>For projects that do not screen from VMT analysis, including those that propose events, the individual cannabis project must be compared with the appropriate</p>	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>VTM significance threshold. For employment-based land uses, the OPR-recommended threshold is 15 percent below the regional average; for projects in Sonoma County, the countywide average is typically used as regional. Projects that cannot reduce their VTM to a level that is at least 15 percent below the county-wide average are considered to have a significant VTM impact.</p> <p>For individual cannabis projects resulting in a significant VTM impact, a Transportation Demand Management (TDM) Program shall be developed that commits the project to VTM reduction measures that match their specific operation and geographic location in the county. These measures may include, but are not limited to the following:</p> <ul style="list-style-type: none"> ▶ Implementation of an employee rideshare program ▶ Subsidies to employees for public transit use ▶ Provision of on-site bicycle storage and maintenance facilities ▶ Shuttle service for employees and customers for all cannabis events ▶ Participation in future Sonoma County VTM reduction programs <p>The TDM will quantify the effectiveness of VTM reduction measures and their ability to reduce project VTM 15 percent below the county-wide average or why attainment of 15 percent reduction is not feasible to the satisfaction of the County prior to the issuance of occupancy permits or other approvals allowing for operation of the cannabis site.</p>	
<p>Impact 3.14-3: Substantially Increase Hazards Due to a Geometric Design Feature or Incompatible Uses</p> <p>Under the Cannabis Program Update, future cannabis uses would be required to comply with local and state federal standards and would be reviewed for compliance as part of the development review process. Therefore, the Cannabis Program Update would not substantially increase hazards due to a geometric design feature or incompatible uses. This impact would be less than significant.</p>	LTS	No mitigation is required for this impact.	LTS
Tribal Cultural Resources			
<p>Impact 3.15-1: Change the Significance of a Tribal Cultural Resource</p> <p>Although no tribal cultural resources, defined by PRC Section 21074, were identified through the consultation process, it is possible that tribal cultural resources could be identified through the development of permitted cannabis cultivation and supply chain activities from implementation of the proposed Cannabis Program Update. However, permitted cannabis cultivation sites would be</p>	PS	<p>Mitigation Measure 3.15-1a (ZPC): Protection of Tribal Cultural Resources for Permitted Uses</p> <p>The following measures would be included as standards in Section 26-18-115(C)(4)(h):</p>	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

ES-67

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>required to comply with County requirements as well as Attachment A (Section 1, General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ, which includes protection measures for tribal cultural resources. Nevertheless, project-related ground-disturbing activities could result in damage to tribal cultural resources. This would be a potentially significant impact.</p>		<ul style="list-style-type: none"> ▶ The applicant must attest that they do not know of or have reason to believe that an archaeological tribal cultural resource is present within the cannabis premises. ▶ The applicant must provide search results from the Sacred Lands Inventory maintained by the Native American Heritage Commission demonstrating that the project will not impact a known archeological resource. ▶ A referral must be sent to the Northwest Information Center. The application cannot be approved if the project will impact a known archaeological resource identified by the Northwest Information Center. ▶ A referral must be sent to the local tribes. The application cannot be approved if the project will affect a known archaeological tribal cultural resource as identified by a local tribe. Documentation must be provided by a local tribe to support a finding that an archaeological tribal cultural resource is present. The County must maintain the confidentiality of supporting documentation in accordance with California Government Code Sections 7927.000 and 7927.005. ▶ If requested by a local tribe, the applicant must retain a tribal cultural monitor, at its own cost, during crop removal and initial ground disturbing replanting activities. <p>Mitigation Measure 3.15-1b (UPC and DRH): Implement Mitigation Measure 3.5-2a</p> <ul style="list-style-type: none"> ▶ Mitigation Measure 3.5-2a – (UPC and DRH) Cultural Resource Pre-Approval Evaluation <p>Mitigation Measure 3.15-1c. (UPC and DRH) Tribal Cultural Resources Pre-Approval Consultation</p> <p>The County shall send a project referral to all tribes that are culturally affiliated with the area as determined by the Native American Heritage Commission with the cultural resources survey report generated under Mitigation Measure 3.5-2a. If requested by a tribe, the County shall engage in consultation to identify potential impacts to tribal cultural resources. The information provided by tribes through consultation with the applicant shall be maintained as confidential in accordance with California Government Code Sections 7927.000 and 7927.005 and all other applicable laws.</p> <p>Mitigation Measure 3.15-1d. (UPC and DRH) Avoidance of Tribal Cultural Resources</p> <ul style="list-style-type: none"> ▶ Cannabis project applications shall be designed to avoid impacts to tribal cultural resources identified by Mitigation Measure 3.5-2a and Mitigation Measure 3.15-1c. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ▶ A barrier (temporary fencing) and flagging shall be placed between the work location and any resources within 60 feet of a work location to minimize the potential for inadvertent impacts. ▶ If the site is identified as potentially sensitive for tribal cultural resources under Mitigation Measure 3.5-1b or Mitigation Measure 3.15-1c, the applicant shall retain a qualified archeologist to prepare a tribal cultural resource treatment plan to be implemented in the event an unanticipated archeological resource that may be considered a tribal cultural resource is identified during ground disturbance. The plan shall include any necessary monitoring requirements, suspension of all earth-disturbing work in the vicinity of the find, avoidance of the resource or, if avoidance is infeasible, the plan shall outline the appropriate treatment of the resource in coordination and as agreed to by the local tribe or tribes and, if applicable, a qualified archeologist. Examples of appropriate treatment for the tribal cultural resources include, but are not limited to, protecting the cultural character and integrity of the resource, protecting traditional use of the resource, protecting the confidentiality of the resource, and heritage recovery. The plan shall be reviewed by the County and the local tribe or tribes prior to construction to confirm compliance with this measure. ▶ If the site is identified as potentially sensitive for tribal cultural resources under Mitigation Measure 3.5-2a or Mitigation Measure 3.15-1c, the applicant shall retain a tribal monitor to observe all ground disturbance, including archeological excavation. Monitoring methods and requirements shall be outlined in the tribal cultural resource treatment plan to mitigate impacts to the identified resource. <p>Mitigation Measure 3.15-1e. (UPC and DRH) Avoidance of Human Remains Impacts to human remains must be avoided. For a site where human remains are expected to be present based on the results of studies or consultation conducted under Mitigation Measure 3.5-2a or Mitigation Measure 3.15-1c, the County shall consult with the local tribe(s) on whether to employ a canine forensics team. If appropriate, the County shall require the use of a canine forensics team to attempt to identify the location of human remains in a noninvasive way for purpose of avoidance. Any requirements for the use of a canine forensics team shall be documented in a tribal cultural resources treatment plan prepared under Mitigation Measure 3.15-1d. The tribal cultural resources treatment plan may</p>	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		require revision or an addendum to reflect additional recommendations or requirements if human remains are present.	
Utilities and Service Systems			
Impact 3.16-1: Result in Insufficient Water Supplies Municipal water is supplied to entities within Sonoma County through retail water services. Cannabis uses would require water supply for irrigation and operational demands. According to relevant UWMPs, some areas of the County are not expected to have sufficient water during all dry year scenarios. Therefore, it cannot be stated with certainty that adequate water supply would be available to new cannabis uses. Thus, this impact would be significant.	S	Mitigation Measure 3.16-1 (All Cannabis Uses): Municipal Water Supply Verification for New Cannabis Uses The proposed Code Sections for all cannabis uses shall be modified to include the following standard. <ul style="list-style-type: none"> Individual projects must demonstrate that water demand would be equivalent or less than current levels of a facility or if the entity providing water can demonstrate that water is available to serve the project in normal, dry, and multiple dry years. 	LTS
Impact 3.16-2: Interfere with Adequate Wastewater Treatment Facility Capacity New cannabis facilities operating under the Cannabis Program Update would generate wastewater that would require treatment. As required under Sonoma Water's Sanitation Code Section 3.13, a sewer service permit would be required for installation, alteration, or repair of public sewer and sanitation facilities. Section 3.14 of the Sanitation Code requires sewer services to be granted solely for the specific use for which application was made. That is, a new cannabis use would be required to submit an application to the applicable sanitation district to establish service. This impact would be less than significant.	LTS	No mitigation is required for this impact.	LTS
Impact 3.16-3: Generate Solid Waste in Excess of Solid Waste Facilities or That Conflicts with Regulations Implementation of the Cannabis Program Update would generate solid waste, including cannabis waste that would be required to comply with state regulations related to cannabis waste. There are various cannabis waste disposal facilities available in the County, which may be contracted with to develop a cannabis waste management plan and support the state's track-and-trace system. This impact would be less than significant.	LTS	No mitigation is required for this impact.	LTS
Wildfire			
Impact 3.17-1: Expose People or Structures, Either Directly or Indirectly, to a Significant Risk of Loss, Injury, or Death Involving Wildland Fires New cannabis uses would be allowed under the proposed Cannabis Program Update in areas where existing risk of wildland fire has been established. While outdoor cultivation would not create an increased risk of wildland fire, indoor cultivation, mixed-light cultivation, centralized processing, cannabis events, and	PS	Mitigation Measure 3.17-1a (UPC, DRH, and ZPC): Limitation of Use Types in Very High Fire Hazard Severity Zones The following requirements shall be included as new performance standards for all parcels supporting a cannabis use within the Very High FHSZs in SRA or VHFHSZ in LRA.	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>other supply chain uses would increase the potential for new ignitions. If wildland fires are ignited within undeveloped areas of the County, there is substantial potential risk of loss, injury, or death because emergency access and evacuation may be impeded in these areas. This impact is potentially significant for allowable cannabis land uses other than outdoor cultivation within the county.</p>		<ul style="list-style-type: none"> ▶ Only outdoor cultivation and accessory processing are allowed. ▶ Accessory processing activities conducted within structures are limited to storage, drying, and curing of cannabis. ▶ Defensible space and building hardening are required, consistent with the requirements set forth under Mitigation Measures 3.17-1b and 3.17-1c. ▶ No new extension of electricity power lines is allowed. <p>Mitigation Measure 3.17-1b (UPC and DRH): Require All Structures to Meet Defensible Space</p> <p>The following requirements shall be included as conditions of approval for issuance of a use permit or approval under the design review with hearing processes.</p> <p>All structures irrespective of occupancy type shall meet the defensible space standards outlined below:</p> <ul style="list-style-type: none"> ▶ 0 to 5 feet from a structure: <ul style="list-style-type: none"> ▪ Only hardscape materials (e.g., gravel, pavers, concrete) ▪ No dead or dying plants, weeds, or debris on roof, gutter, deck, porch stairways, or under structure ▪ Remove all branches within 10 feet of any chimney or stovepipe outlet. ▪ No combustible outdoor furniture or planters within decks or attached patios ▪ No stockpiling of firewood or lumber ▪ No attached fencing, gates, or arbors constructed with combustible materials ▶ 5-30 feet from a structure: <ul style="list-style-type: none"> ▪ Remove all dead plants, grass, and weeds ▪ Remove all dead or dry leaves ▪ Trim trees regularly to keep branches a minimum of 10 feet from other trees ▶ 30-100 feet from a structure: <ul style="list-style-type: none"> ▪ Cut or mow annual grass down to a maximum height of four inches. ▪ Create horizontal space between shrubs and trees. ▪ Create vertical space between grass, shrubs and trees. ▪ Remove fallen leaves, needles, twigs, bark, cones, and small branches greater than a depth of three inches. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ■ Keep 10 feet of clearance around exposed wood piles, down to bare mineral soil, in all directions. ■ Clear areas around outbuildings and propane tanks. Keep 10 feet of clearance to bare mineral soil and no flammable vegetation for an additional 10 feet around their exterior. <p>Mitigation Measure 3.17-1c (UPC, DRH): Require All Structures to Be Constructed with Noncombustible Materials</p> <p>The following requirements shall be included as conditions of approval for issuance of a use permit or approval under the design review with hearing processes for all cannabis uses within the unincorporated County, including both the SRA and LRA.</p> <ul style="list-style-type: none"> ▶ The facility would be subject to an annual inspection by either the local fire district or the County Fire Division. ▶ Building materials, including siding, decks, doors, and trim, shall consist of noncombustible material, as listed on the State Fire Marshal's Building Materials Listing Program. ▶ Roofs shall be constructed with noncombustible or ignition resistant materials, and must meet Class A fire rating. ▶ Vents must prevent intrusion of embers and flame (i.e., ember-resistant vents). ▶ Windows shall be dual paned tempered glass and constructed with fire-resistant materials. ▶ Parking areas shall be designated and consist of noncombustible materials (e.g., poured concrete or gravel). ▶ Vegetation shall not be permitted within 10 feet of power poles. ▶ Gutters and downspouts shall be noncombustible, and cleared of debris on a monthly basis. ▶ No solid wood fencing shall be constructed. ▶ A minimum of 30 feet between structures shall be maintained. <p>Mitigation Measure 3.17-1d (UPC and DRH): Develop and Implement Site-Specific Fire Protection and Prevention Plan</p> <p>Applicant must prepare a Fire Protection and Prevention Plan that includes site-specific and detailed plans to address increased wildfire risk at the cannabis site. The Fire Protection and Prevention Plan will be subject to review and approval by the County Fire Marshal and the fire district with jurisdiction over the cannabis</p>	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<p>site before issuance of a permit by the County. The County Fire Marshal shall use the Fire Protection and Prevention Plan to establish conditions of approval for the site that will be incorporated into requirements for issuance of a use permit or design review approval.</p> <p>The site-specific Fire Protection and Prevention Plan shall include the following minimum components. Additional requirements and inspections may be included in the plan at the discretion of the County Fire Marshal or local fire district.</p> <ul style="list-style-type: none"> ▶ Verification that Mitigation Measures 3.17-1a, 3.17-1b, and 3.17-1c are feasible and incorporated into project plans. ▶ Verification that the cannabis site is located within a fire district with adequate capacity to serve the site in the event of unintended fire ignition. ▶ Identification of emergency response and evacuation routes. Unless the site is located along a State or federal Highway, a street identified by the County as an arterial or collector, or as otherwise directed by the County Fire Marshal, the adequacy of emergency response shall be determined based on modeling prepared by a traffic engineer. Minimum response objectives shall be evaluated and approved by the local fire district or the County. Unless otherwise established by the County or the local fire district, emergency response standards established by the National Fire Protection Association shall be used to determine if emergency response time of the associated fire district is adequate. ▶ Defined staff roles and responsibilities, including staff responsible for communicating with emergency service providers. Communication protocols must also be included to ensure that staff, customers, and vendors are informed of potential emergencies and needed actions due to an emergency, up to and including evacuation of the site. ▶ Verification that roadway conditions are consistent with all applicable requirements. ▶ Verification that all roads leading up to the individual site and buildings on the site are designated by names or numbers posted on signs clearly visible and legible from the roadway and at interchanges. ▶ Identification of emergency water supply that is available, accessible, and maintained in quantities and locations specified consistent with all applicable requirements. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

ES-73

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		<ul style="list-style-type: none"> ▶ Verification that areawide fuel breaks are sufficient and in compliance all applicable requirements. ▶ Confirmation that roadways are in compliance with the State and local roadway standards. ▶ Identification of operational requirements, including the following: <ul style="list-style-type: none"> ▪ Mowing shall occur before 10 a.m. and never on a hot or windy day, or a red flag warning or a particularly dangerous situation event issued by the National Weather Service. ▪ String trimmers shall be used rather than lawnmowers for clearing vegetation wherever feasible. ▪ All dead or dying vegetation shall be removed during drought conditions when water use restrictions are in place. <p>Mitigation Measure 3.17-1e (UPC and DRH): Implement Site-Specific Standards for Events</p> <p>Standards for cannabis events shall be established to meet the requirements of a specific site. These standards must be developed by the applicant, subject to review and approval by the County Fire Marshal and the local fire district. Requirements for events shall be incorporated into the conditions for approval of a use permit and include the following, at minimum.</p> <ul style="list-style-type: none"> ▶ Standards for water application at the perimeter of the event. ▶ Designated smoking areas where incendiaries devices may be used. Such smoking areas must consist of noncombustible materials (e.g., poured concrete or gravel). ▶ Installation and maintenance of fire extinguishers. ▶ Access to adequate water supply for fire suppression (e.g., hoses, reservoirs, pumps or water tanks). ▶ Installation of sprinkler systems in strategic locations to address potential ignition sources. ▶ The pertinent emergency evacuation zone, map of the site that clearly shows nearby roadways, and shelter-in-place locations on the subject property shall be posted in a conspicuous location within the cannabis facility or event location. 	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
<p>Impact 3.17-2: Substantially Impair an Adopted Emergency Response Plan, Emergency Access, or Emergency Evacuation Plan in Areas in or Near SRAs or Land Classified as Very High Fire Hazard Severity Zones</p> <p>New cannabis uses would be allowed under the proposed Cannabis Program Update in areas in and near SRAs and lands classified as LRA VHFHSZ. While outdoor cultivation would not create an increased risk of wildland fire, indoor cultivation, mixed-light cultivation, centralized processing, cannabis events, and other supply chain uses would increase the potential for new ignitions. If wildland fires are ignited within undeveloped areas of the County, emergency access and evacuation may be impeded in these areas. This impact would be potentially significant for allowable cannabis land uses other than outdoor cultivation within the county.</p>	PS	<p>Mitigation Measure 3.17-1a: Require All Structures to Meet Defensible Space Parameter</p> <p>Mitigation Measure 3.17-1b: Require All Structures to Be Constructed with Noncombustible Materials</p> <p>Mitigation Measure 3.17-1c: Ensure Roadways Comply with Board of Forestry State Minimum Fire Safe Regulations</p> <p>Mitigation Measure 3.17-1d: Minimize Wildfire/Ignition Risk during Operations</p> <p>Mitigation Measure 3.17-1e: Minimize Ignition Risk during Events</p>	LTS
<p>Impact 3.17-3: Due to Slope, Prevailing Winds, and Other Factors, Exacerbate Wildfire Risks, and Thereby Expose Project Occupants to Pollutant Concentrations from a Wildfire or the Uncontrolled Spread of a Wildfire</p> <p>The Cannabis Program Update would allow the continued development of cannabis uses, and for the construction and operation of associated infrastructure necessary to support future cannabis operations. During a wildfire, most locations within Sonoma County could experience air pollutant concentration levels that exceed safe levels of exposure (i.e., AQI of 151 or greater). As discussed above in Section 3.17-1, "Regulatory Setting," CCR, Title 8, Section 5141.1 requires employers to take steps to limit workers' exposure to wildfire smoke through feasible methods such as air filtration systems and respiratory protective equipment. Because individual sites would be subject to these standards, which require employers to limit employee exposure of hazard air pollutants during a wildfire, this impact would be less than significant.</p>	LTS	No mitigation is required for this impact.	LTS
<p>Impact 3.17-4: Require the Installation or Maintenance of Associated Infrastructure (such as Roads, Fuel Breaks, Emergency Water Sources) That May Exacerbate Fire Risk or That May Result in Temporary or Ongoing Impacts to the Environment</p> <p>The Cannabis Program Update would allow for new or expanded commercial cannabis uses in and near the SRA and LRA VHFHSZ. If new development were to occur in these areas, regulation compliance measures would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources). The development of these facilities could result in environmental impacts that could be potentially significant.</p>	PS	<p>Mitigation Measure 3.17-1a: Require All Structures to Meet Defensible Space Parameter</p> <p>Mitigation Measure 3.17-1b: Require All Structures to Be Constructed with Noncombustible Materials</p> <p>Mitigation Measure 3.17-1c: Ensure Roadways Comply with Board of Forestry State Minimum Fire Safe Regulations</p> <p>Mitigation Measure 3.17-1d: Minimize Wildfire/Ignition Risk during Operations</p> <p>Mitigation Measure 3.17-1e: Minimize Ignition Risk during Events</p>	LTS

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

ES-75

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact 3.17-5: 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 The Cannabis Program Update would allow the continued development of cannabis uses, and for the construction and operation of associated infrastructure necessary to support future cannabis operations. These future projects could be located in and near areas designated as SRAs or VHFHSZs. The development and operation of facilities under the Cannabis Program Update would be expected to substantially increase wildfire risk. Due to the existing conditions within Sonoma County, burn scars present a risk of post-fire flooding, landslide, and slope instability; thus, this impact would be potentially significant.	PS	Mitigation Measure 3.17-1a: Require All Structures to Meet Defensible Space Parameter Mitigation Measure 3.17-1b: Require All Structures to Be Constructed with Noncombustible Materials Mitigation Measure 3.17-1c: Ensure Roadways Comply with Board of Forestry State Minimum Fire Safe Regulations Mitigation Measure 3.17-1d: Minimize Wildfire/Ignition Risk during Operations Mitigation Measure 3.17-1e: Minimize Ignition Risk during Events	LTS
Cumulative			
CUM-1: Contribution to Cumulative Impacts on Scenic Resources and Scenic Highways		Would not be cumulatively considerable	
CUM-2: Contribution to Cumulative Impacts on Visual Character and Quality		Would not be cumulatively considerable	
CUM-3: Contribution to Cumulative Impacts on Light and Glare		Would not be cumulatively considerable	
CUM-4: Contribution to Cumulative Impacts on Agricultural Resources		Would not be cumulatively considerable	
CUM-5: Contribution to Cumulative Impacts on Timberland and Forestry Resources		Would not be cumulatively considerable	
CUM-6: Contribution to Cumulative Impacts on Construction Criteria Air Pollutants		Would not be cumulatively considerable	
CUM-7: Contribution to Cumulative Impacts on Operational Criteria Air Pollutants		Would be cumulatively considerable and significant and unavoidable	
CUM-8: Contribution to Cumulative Impacts on Odors		Would not be cumulatively considerable	
CUM-9: Contribution to Cumulative Impacts on Special-Status Plant Species and Habitat		Would be less than cumulatively considerable	
CUM-10: Contribution to Cumulative Impacts on Special-Status Wildlife Species and Habitat		Would be less than cumulatively considerable	
CUM-11: Contribution to Cumulative Impacts on Special-Status Fisheries		Would be less than cumulatively considerable	
CUM-12: Contribution to Cumulative Impacts on Sensitive Natural Communities, Riparian Habitat, Old-Growth Habitat, or Other Sensitive Habitats		Would be less than cumulatively considerable	
CUM-13: Contribution to Cumulative Impacts on State or Federally Protected Wetlands		Would be less than cumulatively considerable	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
CUM-14: Contribution to Cumulative Impacts on Migratory Wildlife Corridors or Native Wildlife Nursery Sites		Would be less than cumulatively considerable	
CUM-15: Contribution to Cumulative Impacts on Conflicts with Any Local Policies or Ordinances Protecting Biological Resources		Would be less than cumulatively considerable	
CUM-16: Contribution to Cumulative Impacts on Conflicts with Provisions of an Adopted Local Habitat Conservation Plan		Would be less than cumulatively considerable	
CUM-17: Contribution to Cumulative Impacts on Historical Resources		Would not be cumulatively considerable	
CUM-18: Contribution to Cumulative Impacts on Archaeological Resources and Human Remains		Would be less than cumulatively considerable	
Impact CUM-19: Contribution to Cumulative Energy Impacts		Would not be cumulatively considerable	
Impact CUM-20: Contribution to Cumulative Impacts on Geologic and Soil Resources		Would not be cumulatively considerable	
Impact CUM-21: Contribution to Cumulative Impacts on Paleontological Resources		Would be less than cumulatively considerable	
Impact CUM-22: Contribution to Cumulative Impacts on Greenhouse Gas Emissions and Climate Change Impacts		Would be cumulatively considerable and significant and unavoidable	
Impact CUM-23: Contribution to Cumulative Impacts on Hazardous and Hazardous Materials Impacts		Would be less than cumulatively considerable	
Impact CUM-24: Contribution to Cumulative Impacts on Water Quality		Would be less than cumulatively considerable	
Impact CUM-25: Contribution to Cumulative Impacts on Groundwater Resources		Would be less than cumulatively considerable	
Impact CUM-26: Contribution to Cumulative Impacts on Surface Water Diversion		Would be less than cumulatively considerable	
Impact CUM-27: Contribution to Cumulative Impacts on Alteration of Drainage Patterns		Would be less than cumulatively considerable	
Impact CUM-28: Contribution to Cumulative Impacts on Land Use and Planning Impacts		Would not be cumulatively considerable	
Impact CUM-29: Contribution to Cumulative Impacts on Construction-Related Noise and Vibration		Would not be cumulatively considerable	
Impact CUM-30: Contribution to Cumulative Impacts on Long-Term Operational Traffic Noise		Would not be cumulatively considerable	
Impact CUM-31: Contribution to Cumulative Impacts on Long-Term Operational Stationary Noise		Would not be cumulatively considerable	
Impact CUM-32: Contribution to Cumulative Impacts on Fire Protection Services		Would not be cumulatively considerable	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Sonoma County

Cannabis Program Update Draft EIR

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact CUM-33: Contribution to Cumulative Impacts on Law Enforcement Services		Would not be cumulatively considerable	
Impact CUM-34: Contribution to Cumulative Impacts on Vehicle Miles Traveled		Would be considerable and significant and unavoidable	
Impact CUM-35: Contribution to Cumulative Impacts on Tribal Cultural Impacts		Would not be cumulatively considerable	
Impact CUM-36: Contribution to Cumulative Infrastructure Improvement Impacts		Would not be cumulatively considerable	
Impact CUM-37: Contribution to Cumulative Impacts on Wastewater Service		Would not be cumulatively considerable	
Impact CUM-38: Contribution to Cumulative Impacts on Water Supply Sufficiency		Would be considerable and significant and unavoidable	
Impact CUM-39: Contribution to Cumulative Impacts on Solid Waste Service		Would not be cumulatively considerable	
Impact CUM-40: Contribution to Cumulative Impacts on Wildfire Impacts		Would not be cumulatively considerable	

NI = No impact

LTS = Less than significant

PS = Potentially significant

S = Significant

SU = Significant and unavoidable

Table ES-2 Summary of Environmental Effects of the Alternatives Relative to the Proposed Cannabis Program Update

Environmental Topic	Proposed Project	Alternative 1: No Project	Alternative 2: Commercial and Industrial Zones Only	Alternative 3: Ministerial Only	Alternative 4: Reduced Scope	Alternative 5 No New Development
Aesthetics	LTS/M	Less	Less	Similar	Similar	Less
Agricultural and Forestry Resources	LTS	Greater	Less	Less	Similar	Less
Air Quality	SU (Odor only)	Less	Less (Eliminates SU)	Greater	Less	Less
Biological Resources	LTS/M	Similar	Less	Similar	Similar	Less
Cultural Resources	LTS/M	Similar	Similar	Similar	Similar	Less
Energy	LTS/M	Similar	Greater	Similar	Similar	Less
Geology, Soils, and Mineral Resources	LTS/M	Similar	Similar	Similar	Similar	Less
Greenhouse Gas Emissions and Climate Change	SU	Less	Less	Less	Similar	Less (Eliminates SU)
Hazards and Hazardous Materials	LTS/M	Similar	Similar	Similar	Similar	Less
Hydrology and Water Quality	LTS/M	Less	Less	Similar	Similar	Less
Land Use and Planning	LTS	Similar	Similar	Similar	Similar	Similar
Noise and Vibration	SU (Construction Noise Only)	Less	Similar	Less	Less	Less (Eliminates SU)
Public Services and Recreation	LTS	Similar	Similar	Similar	Similar	Similar
Transportation	SU (VMT Only)	Less	Similar	Less	Less	Less (Eliminates SU)
Tribal Cultural Resources	LTS	Similar	Similar	Similar	Similar	Less
Utilities and Service Systems	LTS/M	Less	Greater	Similar	Similar	Less
Wildfire	LTS	Similar	Less	Less	Less	Less

This page is intentionally left blank.

1 INTRODUCTION

This draft environmental impact report (Draft EIR) evaluates the potential environmental impacts of adoption and implementation of the Sonoma County proposed Comprehensive Cannabis Program Update (Cannabis Program Update), including adoption of related General Plan amendments and changes to the Sonoma County Code related to the regulation of cannabis uses. It has been prepared under the direction of Sonoma County in accordance with the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Sections 21000–21177) and the State CEQA Guidelines (California Code of Regulations [CCR], Title 14, Division 6, Chapter 3, Sections 15000–15387). The County of Sonoma is the lead agency for consideration of this EIR and potential project approval.

1.1 PURPOSE OF THIS EIR

CEQA requires that public agencies consider the significant adverse environmental effects of projects over which they have discretionary approval authority before taking action on those projects (PRC Section 21000 et seq.). It also requires that each public agency avoid or mitigate to less-than-significant levels, wherever feasible, significant adverse environmental effects of projects it approves or implements. If implementing a project would result in significant and unavoidable environmental impacts (i.e., significant effects that cannot be feasibly mitigated to less-than-significant levels), the project can still be approved, but the lead agency decision maker—in this case, the Sonoma County Board of Supervisors (Board)—must prepare findings and issue a “statement of overriding considerations,” explaining in writing the specific economic, social, or other considerations that they have determined, based on substantial evidence, make those significant effects acceptable (PRC Section 21002, CCR Section 15093).

According to State CEQA Guidelines Section 15064(f)(1), preparation of an EIR is required whenever a project may result in a significant adverse environmental impact that cannot be clearly mitigated to a less-than-significant level. As required by CEQA, an EIR is used to inform public agency decision makers and the public of the significant environmental effects of a project, identify possible ways to mitigate or avoid the significant effects, and describe a range of reasonable alternatives to the project that could feasibly attain most of the basic objectives of the project while substantially lessening or avoiding any of the significant environmental impacts. Public agencies are required to consider the information presented in the EIR when determining whether to approve a project.

In compliance with CEQA, this EIR discloses the environmental consequences of implementing the Cannabis Program Update. This EIR is designed to fully inform the County decision makers, in addition to other responsible agencies, persons, and the general public, of the potential environmental effects of implementing the Cannabis Program Update. Upon certification of the Final EIR, the Sonoma County Board of Supervisors will use the analysis in this EIR to support a decision to adopt the proposed General Plan Amendment and the Cannabis Program Update.

As encouraged under CEQA, the County intends to use this Program EIR prepared for the Cannabis Program Update to streamline the environmental review and consideration of future cannabis operation applications and associated license actions. The County plans to make use of the streamlining provided by CEQA, as applicable. Subsequent to adoption of the Cannabis Program Update, applicants, including those licensed or eligible for licensing under the County’s current cannabis program, will apply for Cannabis Use Permits pursuant to the new regulations. Individual applications for commercial cannabis operations under the ordinance will be subject to further site-specific environmental review as applicable under CEQA pursuant to State CEQA Guidelines Section 15168(c), Use with Later Activities. This section of the guidelines addresses environmental review of projects intended to be addressed in a program for which an EIR was prepared. The County may determine that the environmental impacts of an individual project are adequately addressed in the EIR and that no further environmental review is required, or it may determine that additional environmental review is required or could require focused environmental review. Preparation of a site-specific environmental review document would be required if the County determines that the individual project would cause a significant environmental impact that was not examined in the EIR or would substantially increase the severity of a previously identified significant impact under State CEQA Guidelines Sections 15162 and 15168(c).

Under PRC Section 21083.3 and State CEQA Guidelines Section 15183, lead agencies can use EIRs prepared for zoning actions (such as this ordinance) to analyze the impacts of proposed cannabis projects that may be approved pursuant to the ordinance, and limit later project-level analysis to only site-specific issues not already examined (if any). Under the above-referenced code sections, CEQA analysis for later projects will be limited to issues “peculiar” to the site or new environmental concerns not previously addressed. State CEQA Guidelines Section 15183(f) provides that impacts are not “peculiar” to the project if uniformly applied development policies or standards substantially mitigate that environmental effect. Upon adoption, the Cannabis Program Update will meet the definition of a uniformly adopted standard, and compliance with the Cannabis Program Update will allow for CEQA streamlining.

1.2 CANNABIS PROGRAM UPDATE BACKGROUND

Sonoma County’s first regulation of cannabis as an industry was the County’s original dispensary ordinance (Ord. No. 5715), as adopted March 20, 2007, and amended on February 7, 2012, and which imposed a cap of nine dispensaries in the unincorporated County (Ord. No. 5967). The County’s first comprehensive Cannabis Land Use Ordinance (Ord. No. 6189) was adopted under a Negative Declaration on December 20, 2016, and amended in 2018 to make minor changes to allowed uses (e.g., allow adult use) and enhance neighborhood compatibility (e.g., 10-acre minimum parcel size for cultivation). The 2018 amendments were found to be within the scope of the adopted Negative Declaration, found to be exempt under Section 15061(b)(3) of the State CEQA Guidelines, and consistent with the Business and Professionals Code Section 26055(h) Medical and Adult Use Cannabis Regulation and Safety Act.

Sonoma County currently regulates commercial cannabis land uses in the unincorporated areas of the County under Zoning Code Sections 26-88-250 through 26-88-256 and regulates personal cannabis cultivation under Section 26-88-258. These provisions contain allowable cannabis uses and permit requirements by zoning district and include development criteria and operating standards for commercial cannabis activities.

The proposed Cannabis Program Update complies with a June 8, 2021, directive from the Board of Supervisors to complete a comprehensive update of the cannabis program and prepare an EIR in compliance with CEQA. On March 15, 2022, the Board adopted a Cannabis Program Update Framework to guide development of the project description, CEQA alternatives, and draft ordinance. The reader is referred to Chapter 2, “Project Description,” for a detailed description of the Cannabis Program Update.

1.3 LEAD AGENCY

For this EIR, Sonoma County is the lead agency under CEQA (State CEQA Guidelines Section 15367).

1.4 RESPONSIBLE AND TRUSTEE AGENCIES

Under CEQA, a responsible agency is a public agency, other than the lead agency, that has responsibility to carry out or approve a project (PRC Section 21069). A trustee agency is a state agency that has jurisdiction by law over natural resources that are held in trust for the people of the State of California (PRC Section 21070).

The following responsible and trustee agencies may have jurisdiction over elements of the project:

- ▶ California Department of Cannabis Control,
- ▶ California Department of Fish and Wildlife,
- ▶ California Department of Pesticide Regulation,
- ▶ California Department of Public Health,
- ▶ California Department of Transportation,
- ▶ California Department of Water Resources,
- ▶ San Francisco Bay Regional Water Quality Control Board,
- ▶ North Coast Regional Water Quality Control Board,
- ▶ State Water Resources Control Board,
- ▶ Northern Sonoma County Air Pollution Control District, and
- ▶ Bay Area Air Quality Management District.

1.5 CEQA PROCESS AND SCOPE OF ENVIRONMENTAL ANALYSIS

Pursuant to CEQA and the State CEQA Guidelines, a lead agency shall focus an EIR's discussion on significant environmental effects and may limit discussion on other effects to brief explanations about why they are not significant (PRC Section 21002.1, State CEQA Guidelines Section 15128). Potentially significant impacts were identified based on review of comments received as part of the public scoping process for the notice of preparation (NOP) (Appendix A) and additional research and analysis of relevant project data during preparation of this Draft EIR.

The County has determined that the project has the potential to result in significant environmental impacts on the following resources, which are addressed in detail in this Draft EIR:

- ▶ aesthetics;
- ▶ agricultural and forestry resources;
- ▶ air quality;
- ▶ biological resources;
- ▶ cultural resources;
- ▶ energy;
- ▶ geology, soils, and mineral resources;
- ▶ greenhouse gas emissions and climate change;
- ▶ hazards and hazardous materials;
- ▶ hydrology and water quality;
- ▶ land use and planning;
- ▶ noise and vibration;
- ▶ public services;
- ▶ transportation;
- ▶ tribal cultural resources;
- ▶ utilities and service systems;
- ▶ wildfire; and
- ▶ cumulative impacts.

The Cannabis Program Update is not anticipated to result in significant impacts to population and housing or recreation because it would not involve the generation of substantial new employment or a need for housing that could generate additional demand on recreation resources.

1.6 NOTICE OF PREPARATION AND PUBLIC SCOPING

CEQA requires an early and open process for determining the scope of issues that should be addressed in the EIR. The NOP provides formal notification to all state, regional, and local agencies that may have interest in the project, and to other interested organizations and members of the public, that an EIR will be prepared for the project. The NOP is intended to encourage interagency communication concerning the proposed action and to provide background information about the proposed action sufficient to allow agencies, organizations, and individuals to respond with specific comments and questions on the scope and content of the EIR. A copy of the NOP, a table of comments received and how the comments are addressed in the Draft EIR, and copies of the comments received on the NOP are provided in Appendix A.

Sonoma County issued the NOP on February 6, 2023. As required by CEQA, the County sent a copy of the NOP to the State Clearinghouse within the California Office of Planning and Research and to the Sonoma County Clerk-Recorder. The NOP was also posted on the County's website.

A public scoping meeting was conducted on March 8, 2023.

1.7 ORGANIZATION OF THIS DRAFT EIR

This Draft EIR is organized as follows:

- ▶ **Executive Summary:** This chapter introduces the Cannabis Program Update; provides a summary of the environmental review process, and key environmental issues; and lists significant environmental impacts and mitigation measures to reduce significant impacts to a less-than-significant level. Finally, areas of controversy and issues to be resolved are described.
- ▶ **Chapter 1, "Introduction":** This chapter provides a description of the lead and responsible agencies, the legal authority and purpose of the EIR, the scope of the environmental analysis, agency roles and responsibilities, the CEQA public review process, and organization of this EIR.

- ▶ **Chapter 2, "Project Description":** This chapter describes the project background, including existing and related regulations; lists the objectives of the proposed Cannabis Program Update.
- ▶ **Chapter 3, "Environmental Impacts and Mitigation Measures":** The resource sections in this chapter evaluate the environmental impacts expected to be generated by the project. In each subsection of Chapter 3, the regulatory background, existing environmental setting, significance criteria, and analysis methodology and assumptions are described. The anticipated changes to existing environmental conditions associated with adoption and implementation of the proposed Cannabis Program Update, including subsequent Cannabis Use Permits pursuant to the adopted Cannabis Program Update are evaluated for each resource. For any significant or potentially significant impact that would result from implementing the Cannabis Program Update, mitigation measures are presented, and the resulting level of significance is identified. Environmental impacts are numbered to reflect the section of Chapter 3 in which they are introduced and the order in which they are discussed. For example, the first impact discussed in Section 3.1, "Aesthetics," is identified as Impact 3.1-1. Any required mitigation measures are named and numbered to correspond to the relevant impacts; therefore, the mitigation measure for Impact 3.1-1 would be Mitigation Measure 3.1-1.
- ▶ **Chapter 4, "Cumulative Impacts":** This chapter provides information regarding the potential cumulative impacts that would result from implementation of the Cannabis Program Update together with other past, present, and probable future projects.
- ▶ **Chapter 5, "Alternatives":** This chapter evaluates alternatives to the Cannabis Program update, including alternatives considered but eliminated from further consideration, the No Project Alternative, and two alternative development options. The environmentally superior alternative is identified.
- ▶ **Chapter 6, "Other CEQA-Mandated Sections":** This chapter provides a summary of the significant and irreversible commitment of resources, and the growth-inducing impacts associated with implementing the Cannabis Program Update.
- ▶ **Chapter 7, "Report Preparers":** This chapter identifies the lead agency contacts and the preparers of this Draft EIR.
- ▶ **Chapter 8, "References":** This chapter identifies the documents and persons used as sources for the analysis presented in this Draft EIR.

1.8 STANDARD TERMINOLOGY

This Draft EIR uses the following standard terminology related to impact analysis and the project:

- ▶ "Cannabis Premises" means the entire land area, including structures used for a cannabis operation, but not including driveways.
- ▶ "Cannabis Program Update" is the Sonoma County proposed Comprehensive Cannabis Program Update (Cannabis Program Update) that consists of adoption of related General Plan amendments and changes to the Sonoma County Code related to the regulation of cannabis uses.
- ▶ "Less-than-significant impact" means no substantial adverse change in the physical environment (no mitigation is needed).
- ▶ "No impact" means no change from existing conditions (no mitigation is needed).
- ▶ "Potentially significant impact" means a substantial adverse change in the environment that might occur (mitigation is recommended, as feasible, because potentially significant impacts are treated as significant).
- ▶ "Significant impact" means a substantial adverse change in the physical environment that would occur (mitigation is recommended, as feasible).
- ▶ "Significant and unavoidable impact" means a substantial adverse change in the physical environment that would occur and that cannot be avoided, even with the implementation of all feasible mitigation.

2 PROJECT DESCRIPTION

This Draft EIR evaluates the environmental impacts associated with the Comprehensive Cannabis Program Update (Cannabis Program Update). Adoption of the proposed Cannabis Program Update would result in a series of zoning changes that may retain, replace, expand on, or eliminate existing provisions of Sonoma County's current cannabis ordinance.

Sonoma County currently regulates commercial cannabis land uses in the unincorporated areas of the County under Zoning Code Sections 26-88-250 through 26-88-256 and regulates personal cannabis cultivation under Section 26-88-258. These provisions contain allowable cannabis uses and permit requirements by zoning district and include development criteria and operating standards for commercial cannabis activities. The Cannabis Program Update would repeal Section 26-88-250 through 258 of the Sonoma County Code, modify Section 26-18-020 of the County Code, and amend the General Plan to include cannabis as a "controlled agricultural crop." The following proposed code amendments would be codified into the Sonoma County Code (see Appendix B for the full code language).

- ▶ Chapter 4, Article IX, Cannabis Licenses
- ▶ Chapter 26, Article 4., Section 26-04-020, Definitions
- ▶ Cannabis Land Use Table (to be incorporated into Chapter 26, Articles 6 - 14, as appropriate)
- ▶ Chapter 26, Article 18. Section 26-18-020 – Ag Crop Production & Cultivation
- ▶ Chapter 26, Article 18. Section 26-18-115 – Cannabis Cultivation
- ▶ Chapter 26, Article 18. Section 26-18-270 – Cannabis Events
- ▶ Chapter 26, Article 20. Industrial Manufacturing and Processing Use Standards
- ▶ Chapter 26, Article 22. Section 26-22-120 – Periodic Special Events
- ▶ Chapter 26, Article 26. Retail Use Standards
- ▶ Chapter 26, Article 86. Section 26-86-010 – Cannabis Storefront Retailer Parking Standards

In addition to the County Code amendments, the Cannabis Program Update would include refinements to the Sonoma County Uniform Rules for Agricultural Preserves and Farmland Security Zones.

2.1 REGIONAL AND LOCAL SETTING

Sonoma County, the most northerly of the nine counties in the San Francisco Bay region, is located along the Pacific coastline about 40 miles north of San Francisco and the Golden Gate Bridge. The county is just over 1,500 square miles, making it the largest of the nine Bay Area counties. Sonoma County is bordered by the Pacific Ocean on the west; Marin County and San Pablo Bay to the south; Solano, Napa, and Lake Counties to the east; and Mendocino County to the north. Major roadways providing access through Sonoma County include United States (US) 101, US 1, State Route (SR) 12, SR 116, and SR 128.

Sonoma County includes a diverse mosaic of landforms, environments, and human settlements. The broad, flat Santa Rosa Plain, which lies between the Sonoma Mountains on the east and low coastal hills on the west, contains the Cities of Santa Rosa, Rohnert Park, and Cotati. The sparsely settled western margin of the County, along the Pacific coastline, includes the redwood and mixed-conifer forests of the Mendocino Highlands in the north and rolling oak studded hills, dairy farms, and coastal prairies in the south. The Mayacamas Range forms the eastern boundary of the County. Along with the Sonoma Mountain range, it encloses the Sonoma Valley or "Valley of the Moon," a scenic valley that extends from near Santa Rosa southeastward to the City of Sonoma and the marshlands of San Pablo Bay. In the north, the Mayacamas Range and Mendocino Highlands enclose the farming regions of Alexander and Dry

Creek Valleys. In the far northeast, the remote interior of the Mayacamas Range contains the Geysers geothermal steam field.

The program area consists of unincorporated Sonoma County, outside of the coastal zone (see Figure 2-1). The Local Coastal Plan does not allow commercial cannabis activities; the Cannabis Program Update will not result in changes to the Local Coastal Plan or inclusion of commercial cannabis land uses within the Coastal Zone.

2.2 CANNABIS OVERVIEW

Cannabis cultivation requires the same basic conditions of most plants: a growth medium, light, water, and nutrients. This section generally describes activities associated with cannabis cultivation, including indoor and outdoor growth requirements, harvesting activities, and preparation of cannabis products for sale. It also describes the commerce process for cannabis, which includes testing, manufacturing, distribution, and retail activities. The extent of existing cannabis uses in the county in 2024 are identified below.

2.2.1 Cultivation Operations

This section summarizes cultivation operation types.

NURSERY OPERATIONS

To maintain specific varieties of cannabis at cultivation sites, the practice of cloning is often employed. Mature female plants maintained in a vegetative nonflowering stage using artificial light for approximately 18 hours per day are used as a source of the cuttings, or “clones.” Cuttings (i.e., targeted trimmings of a plant) are taken and dipped into a medium to stimulate root growth. After roots develop, the clones are placed into small pots to grow to a size sufficient for transplanting to larger pots in which they grow to maturity. The clones must all be female plants with the same genetic composition as the “mother” plant.

Germination, the process during which seeds sprout, typically occurs in a nursery in an enclosed building. Generally, germination is initiated by soaking seeds between wet paper towels, soaking them in a cup of water at room temperature, planting them in wet peat pellets, or planting them directly in potting soil. Warmth, darkness, and moisture initiate metabolic processes, such as the activation of hormones that trigger the expansion of the embryo in the seed. After germination is complete, seedlings are prepared for indoor, outdoor, or mixed-light cultivation.

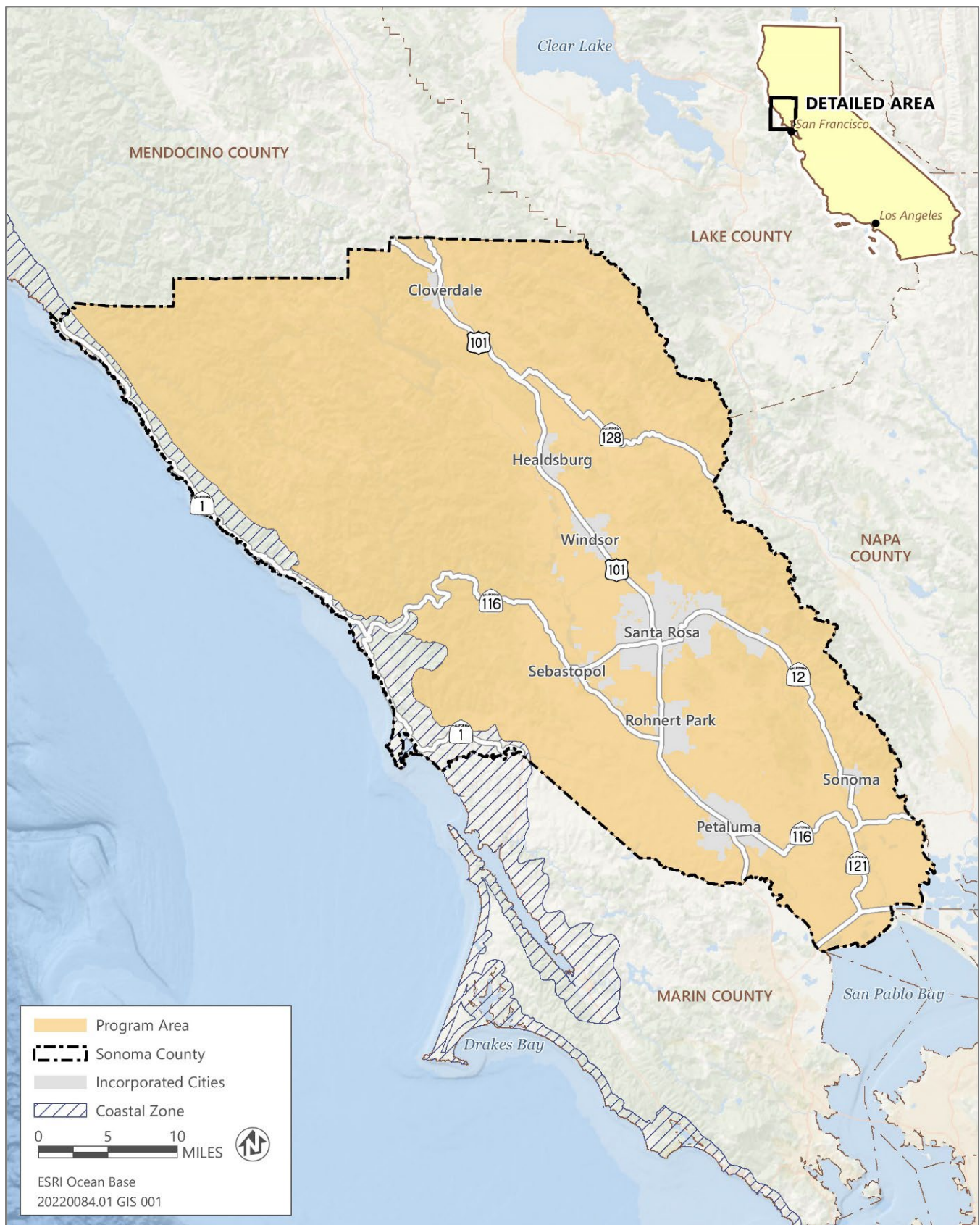
Nurseries can be located on cultivation sites as an ancillary component of cultivation operations when used to support on-site needs without separate state licensing.

Nurseries can also be operated as stand-alone retail or wholesale operations that can provide a source of seeds or immature clone plants that can be purchased for personal use or for commercial cultivation operation. These types of nurseries are licensed separately from cultivation under the state’s licensing process.

There are seven operating wholesale nurseries permitted for up to 15,663 square feet of nursery cultivation area in the unincorporated area of the County. There are no retail nurseries in the unincorporated County.

OUTDOOR CULTIVATION

Cannabis can be grown outdoors, either in natural soil or in pots of premade or commercial soil with no artificial light but may involve light deprivation of the cannabis plants. Some strains perform better than others in outdoor settings, depending on conditions. To generate optimum quantities of cannabinoids, the active chemical compounds in cannabis, the plant needs fertile soil and long hours of daylight. For outdoor cultivation, growers generally select areas that receive 12 hours or more of sunlight per day. Depending on the strain, each plant can reach as much as 12 or more feet in height with a radius of 6 feet or more. Within Sonoma County, an average cannabis plant is 5 feet high and 5 feet in diameter.



Source: Adapted by Ascent in 2023.

Figure 2-1 Cannabis Program Area

There are 153 operating outdoor cultivation sites permitted for up to 20.45 acres of canopy area in the unincorporated area of the County.

MIXED-LIGHT CULTIVATION

Mixed-light cultivation uses a combination of natural and supplemental artificial lighting to increase the number of harvests in a year. Mixed-light cultivation operations manipulate light and dark cycles through the use of artificial lighting or deprivation of light. Light manipulation is used to increase or decrease the vegetative and flowering phases by mimicking seasonal daylight variation. In the northern hemisphere, daylight exceeds 12 hours per day beginning with the vernal equinox (March 21) and is less than 12 hours per day after the autumnal equinox (September 21). Longer light exposure, which peaks at the summer solstice (June 21), is associated with the vegetative stage; the flowering stage is prompted when the number of daylight hours approaches 12 hours per day or less.

Light manipulation techniques can increase the number of harvests per year. Artificial light is used to “extend” daylight hours or to disrupt periods of darkness (typically for approximately 2 hours in the middle of the night) to foster vegetative development. This can be achieved for outdoor operations by covering hoop houses (temporary membrane-covered frame structures used in outdoor operations) with light-blocking tarps, which are used to promote flowering. Light deprivation can also be utilized in permanent mixed-light greenhouse structures, which typically incorporate interior light-blocking blinds or curtains rather than tarping over the structure.¹ In addition, artificial light may be used in permanent mixed-light greenhouses to supplement sunlight during periods of low light.

There are two operating mixed-light cultivation sites permitted for up to 0.18 acres of canopy area in the unincorporated area of the County.

INDOOR CULTIVATION

Indoor cultivation makes exclusive use of artificial light during the vegetative and flowering phases. Generally, cultivating cannabis indoors is more complicated and expensive than outdoor cultivation, but it allows the cultivator complete control over the growing environment and provides regular harvests irrelevant of seasons. Plants of any type can be grown faster indoors than outdoors because light, carbon dioxide concentrations, and humidity can be controlled. Plants can also be grown indoors through the use of hydroponics, which uses a mineral nutrient solution in water rather than soil.

There are 20 operating indoor cultivation sites permitted for up to 1.32 acres of canopy area in the unincorporated area of the County.

2.2.2 Processing Activities

Processing involves drying, curing, grading, trimming, rolling, storing, and packaging. These steps may be performed on the parcel where the cannabis was grown as an accessory use to support the on-site cultivation, or at separate facilities that accept product from multiple cultivation sites (i.e., “centralized processing”). Plants are trimmed of their leaves to reveal buds, which typically are hang-dried or placed on drying racks in a warehouse or other enclosed building that meets building occupancy requirements. Trimming may be done by hand or through the use of mechanized trimming. Harvested and trimmed cannabis typically is vacuum sealed in plastic bags.

There is one operating centralized processing facility in the unincorporated area of the County.

¹ Sonoma County Code Section 26-04-020 currently defines mixed-light cultivation as cultivation in a greenhouse or other similar structure using natural light, light deprivation, and/or any combination of natural and supplemental artificial lighting. This differs from the California Department of Cannabis Control definition under the California Code of Regulations Title 4, Division 19 that allows outdoor cannabis cultivation to use light deprivation.

2.2.3 Testing Activities

Upon taking physical possession of a cannabis goods batch, cannabis distributors are required under California Code of Regulations (CCR) Title 4, Division 19, Section 15304, to have the cannabis tested by a licensed testing laboratory. Testing facilities must be an accredited laboratory that performs tests consistent with the requirements of CCR Section 15714. Cannabis must be sampled for the following constituents:

- ▶ cannabinoids;
- ▶ foreign material;
- ▶ heavy metals;
- ▶ microbial impurities;
- ▶ mycotoxins;
- ▶ moisture content and water activity;
- ▶ residual pesticides;
- ▶ residual solvents and processing chemicals; and
- ▶ terpenoids, if applicable.

There are no operating testing facilities in the unincorporated area of the County.

2.2.4 Manufacturing Activities

Manufacturing is the process by which the raw cannabis product is transformed into a concentrate, edible products, or topical products. The production, preparation, propagation, and compounding of cannabis or cannabis products is accomplished through extraction methods or chemical synthesis. Extraction can involve the use of a closed-loop system using carbon dioxide or volatiles (e.g., butane) to remove the key constituents from the cannabis. Extraction can also be done by mechanical means, such as dry-sieving and water or ice extraction. Various types of licenses can be obtained through the state for different types of manufacturing activities, which can include packaging or repackaging cannabis products or labeling or relabeling the cannabis product container.

There are four operating manufacturing facilities in the unincorporated area of the County.

2.2.5 Distribution Activities

Distribution operations move cannabis and cannabis products between cultivation, manufacturing, testing, and distribution facilities; move finished cannabis goods to retail facilities; and provide storage services for cultivation and manufacturing operations. Under current state law, manufactured cannabis products must pass through a licensed distributor before they can be offered for retail sale (note that a cultivator or manufacturer may hold a distributor license to move products). The distribution phase includes an important quality control step whereby the product is held by independent testing laboratories for testing for cannabis constituent content, strength, and contaminants.

There are 9 operating distribution facilities in the unincorporated area of the County.

2.2.6 Retail Activities

Retail facilities are required under the state regulations to maintain and implement operating procedures for the safe transportation of cannabis, inventory procedures, quality control process for cannabis goods, security and surveillance systems, and waste management procedures. Retail sale of cannabis products is required by state law to be conducted exclusively through licensed dispensaries. Retail sales are only allowed to adults and persons under 21 years of age holding a physician recommendation for cannabis use or for adults 21 years of age and older for

recreational use. The retail outlets may not offer alcohol or tobacco products for sale. State licenses do not require separate retail outlets for medical cannabis and adult cannabis uses.

There are currently five operating cannabis storefront retail dispensaries in the unincorporated area of the County.

The following sections describe retail activities for cannabis and cannabis products.

NON-STOREFRONT RETAIL

Non-storefront retail use consists of selling cannabis or cannabis products to consumers exclusively by delivery from facilities that are not open to the public.

STOREFRONT RETAIL

Storefront retail uses include on-site sales from facilities open to the public and may also include delivery of cannabis or cannabis products to consumers.

CANNABIS CONSUMPTION LOUNGES

A local jurisdiction may allow for the smoking, vaporizing, and ingesting of cannabis or cannabis products on the premises of a retailer or microbusiness licensed under this division if all of the following are met:

- (1) Access to the area where cannabis consumption is allowed is restricted to persons 21 years of age or older.
- (2) Cannabis consumption is not visible from any public place or nonage-restricted area.
- (3) Sale or consumption of alcohol or tobacco is not allowed on the premises.

Pursuant to Business and Professions Code Section 26200(g)(1)(B), food and non-alcoholic beverages may be served at cannabis consumption lounges. Business and Professions Code Section 26200(g)(B)(2) requires that noncannabis food or beverage products are not contaminated by or commingled with any cannabis products sold or served on the premises where the consumption of cannabis is allowed. Smoking or vaporizing of any cannabis product by an employee or customer is also not allowed in the food preparation, food storage, or washing area of a food facility located on the premises.

MICROBUSINESS

Microbusinesses may combine small cultivation operations (limited to 10,000 square feet or less of canopy area), manufacturing, distribution, and retail use at a single location. Such an operation would be analogous to a winery with an associated small vineyard and a retail outlet. Note that although separate state licenses may be required, other combinations of uses can be combined into one facility.

There is one operating microbusiness (distribution, cultivation, and manufacturing) in the unincorporated area of the County.

CANNABIS EVENTS

Temporary cannabis events are single or multi-day events where people can sell and consume cannabis (note that consumption would be limited to designated smoking areas). These events may last from one to four consecutive days at a location approved by the local jurisdiction (city or county). Multiple separate events may occur at the same location; each would require approval by the local jurisdiction and the state. Cannabis event organizers host temporary cannabis events. Under current state law, to host a cannabis event you must have two licenses:

- ▶ Event Organizer: License required for the person hosting the cannabis event.
- ▶ Temporary Cannabis Event: License required for the cannabis event itself.

Cannabis events can only be held by a person with an event organizer license. The cannabis event license authorizes a licensed cannabis event organizer to hold a temporary cannabis event where the on-site sale and consumption of cannabis goods is authorized at the location indicated on the license during the dates indicated on the license. The licensed cannabis events are required to hire or contract for security personnel to provide security services. Security personnel are required to be present on the licensed premises at all times cannabis goods are available for sale and/or cannabis goods consumption is allowed. State licensing includes additional security requirements events to ensure there is not unlawful use. All security personnel hired or contracted for by the licensee shall be at least 21 years of age.

2.2.7 Unlicensed and Illegal Cannabis Operations in the County

The County’s first comprehensive Cannabis Land Use Ordinance (Ord. No. 6189) was adopted under a Negative Declaration on December 20, 2016, and amended in 2018 to make minor changes to allowed uses (e.g., allow adult use) and enhance neighborhood compatibility (e.g., 10-acre minimum parcel size for cultivation) within the scope of the adopted Negative Declaration. Sonoma County’s Code Enforcement Division began tracking illegal cannabis sites after July 1, 2018, when the County began to issue civil penalties for illegal cultivation. The number of illegal cannabis sites documented by year is included in the table below. Since 2020, the number of illegal cannabis sites has been trending down in number and size consistently.

Table 2-1 Unpermitted Cannabis Sites in Sonoma County 2018–2023

Year	Number of Sites
2018	44 unpermitted sites
2019	267 unpermitted sites
2020	130 unpermitted sites
2021	173 unpermitted sites
2022	84 unpermitted sites
2023	27 unpermitted sites

Source: Compiled by Sonoma County in 2024.

2.2.8 Evolution of State Cannabis Regulations

COMPASSIONATE USE ACT (1996) AND THE MEDICAL MARIJUANA PROGRAM ACT (2003)

The Compassionate Use Act of 1996, which allowed for the medical use of cannabis in California under state law, was passed through voter approval of Proposition 215. It allowed patients with a valid doctor’s recommendation and the patients’ designated primary caregivers to possess and cultivate cannabis for personal medical use without facing criminal charges from the state. The Compassionate Use Act changed California’s penal code by decriminalizing the cultivation and possession of medical marijuana by a patient or the patient’s primary caregiver for the patient’s personal use and by creating a limited defense to the crimes of possessing or cultivating marijuana.

The passage of Senate Bill (SB) 420 (Statutes of 2003) enacted the Medical Marijuana Program Act, which clarified the scope and application of the Compassionate Use Act and established the California medical marijuana program. Specially, this act established a voluntary program for the issuance of identification cards to qualified patients and established procedures under which a qualified patient with an identification card may use marijuana for medical purposes to protect patients and their caregivers from arrest.

MEDICAL CANNABIS REGULATION AND SAFETY ACT (2015)

Originally referred to as the Medical Marijuana Regulation and Safety Act but renamed through subsequent amendments, the Medical Cannabis Regulation and Safety Act consists of three separate bills that were enacted together in September 2015 (Assembly Bill [AB] 266, AB 243, and SB 643). The bills created a comprehensive state licensing system for the commercial cultivation, manufacture, retail sale, transport, distribution, delivery, and testing of medical cannabis. All licenses must be approved by local governments. AB 266 established a new Bureau of Medical Cannabis Regulation (now called the California Department of Cannabis Control, or DCC) under the California Department of Consumer Affairs. SB 643 and AB 243 established the following responsibilities: the California Department of Food and Agriculture (CDFA) was responsible for regulating cultivation; the California Department of Public Health is responsible for developing standards for the manufacture, testing, and production and labeling of edibles; the California Department of Pesticide Regulation is responsible for developing pesticide standards; and the California Department of Fish and Wildlife and State Water Resources Control Board (SWRCB) are responsible for protecting water quality.

ADULT USE OF MARIJUANA ACT (2016) AND MEDICINAL AND ADULT-USE CANNABIS REGULATION AND SAFETY ACT (2017)

On November 8, 2016, California voters approved Proposition 64, the California Marijuana Legalization Initiative, or the Adult Use of Marijuana Act. Proposition 64 legalized the personal use and cultivation of marijuana in California as of November 9, 2016. The ability to sell recreational cannabis, and taxation of those transactions, went into effect January 1, 2018. The act established a comprehensive system to legalize, control, and regulate the cultivation, processing, manufacture, distribution, testing, and sale of nonmedical marijuana product, for use by adults 21 years old and older, and to tax the commercial growth and retail sale of marijuana for recreational use.

The Medicinal and Adult-Use Cannabis Regulation and Safety Act (SB 94), adopted in June 2017, reconciles conflicts in regulations between the Medical Cannabis Regulation and Safety Act and the Adult Use of Marijuana Act.

2.2.9 Current State Permitting of Commercial Cannabis Operations

Permitting of commercial cannabis operations (medical and adult use) is regulated by the California Department of Cannabis Control (DCC) under CCR Title 4, Division 19. **A summary of state cannabis operation license types is provided in Table 2-2.**

Table 2-2 State Cannabis Operation License Types

Name	Description
Cultivation	
Specialty Cottage Outdoor	For outdoor cultivation site with up to 25 mature plants or 2,500 square feet or less of total canopy
Specialty Cottage Indoor	For indoor cultivation site with 500 square feet or less of total canopy
Specialty Cottage Mixed-Light Tier 1 and 2	For mixed-light cultivation site with 2,500 square feet or less of total canopy
Specialty Outdoor	For outdoor cultivation site with less than or equal to 5,000 square feet of total canopy or up to 50 mature plants on noncontiguous plots
Specialty Indoor	For indoor cultivation site with between 501 and 5,000 square feet of total canopy
Specialty Mixed-Light Tier 1 and 2	For mixed-light cultivation site with between 2,501 and 5,000 square feet of total canopy
Small Outdoor	For outdoor cultivation site with between 5,001 and 10,000 square feet of total canopy
Small Indoor	For indoor cultivation site with between 5,001 and 10,000 square feet of total canopy
Small Mixed-Light Tier 1 and 2	For mixed-light cultivation site with between 5,001 and 10,000 square feet of total canopy

Name	Description
Medium Outdoor	For outdoor cultivation site with between 10,001 square feet and 1 acre (43,560 square feet) of total canopy
Medium Indoor	For indoor cultivation site with between 10,001 and 22,000 square feet of total canopy
Medium Mixed-Light Tier 1 and 2	For mixed-light cultivation site between 10,001 and 22,000 square feet of total canopy
Nursery	For nursery cultivating only cannabis
Processor	For processor-only trimming, drying, curing, grading, packaging, or labeling of cannabis and nonmanufactured cannabis products
Large Outdoor	For outdoor cultivation that uses no artificial lighting for more than 1 acre of total canopy size
Large Indoor	For indoor cultivation that exclusively uses artificial lighting for more than 22,000 square feet of total canopy size
Large Mixed-Light	For mixed-light cultivation using a for more than 22,000 square feet of total canopy size
Supply Chain	
Distributor	For the transport and storage of cannabis or cannabis product between license holders. This includes arrangement of testing of cannabis.
Distributor-Transport Only	For the transportation of cannabis or cannabis products between license holders
Non-Storefront Retailer (Delivery)	For the retailer who sells cannabis or cannabis products from licensed premises that are not open to the public and who conducts sales exclusively for delivery
Storefront Retailer (i.e., dispensary)	For the retailer who sells cannabis or cannabis products to consumers from licensed premises that may be open to the public; sales may also be conducted for delivery
Microbusiness	For the microbusiness that may act (in part or whole) as a retailer, distributor, manufacturer (Level 1), and cultivator (less than 10,000 square feet of area) for medicinal and adult use; the microbusiness must engage in at least three of the above commercial cannabis activities
Event Organizer	For person hosting the cannabis event
Temporary Cannabis Event	For the cannabis event itself
Testing Laboratory	For a laboratory, facility, or entity that offers or performs tests of cannabis or cannabis products
Manufacturing	For a facility that creates cannabis products that may include use of volatile or non-volatile solvents, packaging, and labeling of cannabis products
Combined Uses	Combined activities license as a state license that authorizes two or more commercial cannabis activities at the same premises, with the exception of laboratory testing.
Consumption lounges	Local governments may allow cannabis retailers and microbusinesses that have licenses to operate cannabis consumption lounges to conduct additional business activities, such as preparing and selling non-cannabis-infused food, selling non-alcoholic beverages, and allowing and selling tickets for live musical or other performances

Source: Compiled by Ascent in 2023.

2.2.10 Sonoma County Cannabis Regulations

Sonoma County's first regulation of cannabis as an industry was the County's original dispensary ordinance (Ord. No. 5715) adopted March 20, 2007, and amended on February 7, 2012, to impose a cap of nine dispensaries in the unincorporated county (Ord. No. 5967). The County's first comprehensive Cannabis Land Use Ordinance (Ord. No. 6189) was adopted under a Negative Declaration on December 20, 2016, and amended on October 16, 2018 (Ord. No. 6245), to make minor changes to allowed uses (e.g., allow adult use) and enhance neighborhood compatibility (e.g., 10-acre minimum parcel size for cultivation) within the scope of the adopted Negative Declaration and a statutory exemption.

Sonoma County currently regulates commercial cannabis land uses in the unincorporated areas of the County under Zoning Code Sections 26-88-250 through 26-88-256 and regulates personal cannabis cultivation under Section 26-88-258. These provisions contain allowable cannabis uses and permit requirements by zoning district and include development criteria and operating standards for commercial cannabis activities. Existing allowed uses by zoning designation are summarized below.

- ▶ Personal use allows up to 100 square feet (sf), including up to six plants grown (indoor, mixed-light, or outdoor) for adult use, per residence (personal outdoor cultivation is prohibited in multifamily units and in the R2 and R3 zones).
- ▶ Outdoor, indoor, and mixed-light commercial cannabis uses are limited by canopy size, parcel size, and permit type in Agricultural, Resource, and Industrial Zones.
 - Canopy size: The maximum canopy size is limited to 1 acre (43,560 square feet) in Agricultural and Resource Zones. The maximum canopy is limited to 22,000 square feet in Industrial Zones.
 - Parcel size: The minimum parcel size is 10 acres in Agricultural and Resource Zones for all cultivation types. In Industrial Zones, there is no minimum parcel size for indoor cultivation; mixed-light cultivation has minimum parcel size ranging from 2 acres to 10 acres, depending on canopy size.
 - Permit type: Some outdoor cultivation in Agricultural Zones with a canopy of 10,000 square feet or less can be permitted with a ministerial Zoning Permit if all standards can be met. Cottage indoor (500 square feet or less) and cottage mixed-light (2,500 square feet or less) can be permitted by Zoning Permit in Agricultural Zones, and cottage indoor (500 square feet or less) can be permitted by Zoning Permit in Industrial Zones if all standards are met. Cannabis cultivation that exceeds any of the above requires a discretionary Use Permit.
- ▶ Testing/laboratories and dispensaries (storefront and delivery) are limited to Commercial Zones and require discretionary Use Permits.
- ▶ Manufacturing (level 1, nonvolatile), microbusinesses, and distributor uses are limited to Industrial Zones and require discretionary Use Permits.
- ▶ Centralized processing is allowed in both Industrial and Agricultural Zones but has a cap of nine within agricultural zones. Centralized processing requires a discretionary Use Permit in all zones.
- ▶ Storefront retail (i.e., dispensaries) are allowed in the following Commercial Zones, Neighborhood Commercial District (C1), Retail and Business Service District (C2) and Limited Commercial District (LC). Dispensaries have a cap of nine within the unincorporated County. Dispensaries require a discretionary Use Permit in all permitted zones.

2.3 PROJECT BACKGROUND

The County's first comprehensive Cannabis Land Use Ordinance (Ord. No. 6189) was adopted under a Negative Declaration on December 20, 2016. On October 16, 2018, Ordinance No. 6245 was adopted to allow adult-use cannabis in Sonoma County in addition to medical use, enhance neighborhood compatibility with a 10-acre minimum parcel size for cultivation, add new definitions, and make minor nonsubstantive amendments to harmonize with California state law and regulations, where appropriate. In May 2021, the Sonoma County Board of Supervisors (Board) directed staff to update the cannabis ordinance and to prepare a program EIR after opting not to adopt a Subsequent Mitigated Negative Declaration and a new County Code Chapter 38 to increase ministerial permitting for cannabis cultivation within Agricultural and Resources–Zoned parcels.

On June 8, 2021, the Board directed staff to prepare a comprehensive program update to the cannabis ordinance. In response to the Board's direction, staff conducted community engagement activities, which occurred from August through September 2021. The summary report compiled from the community engagement was used to identify the overall goals and policy options for the program update.

On September 28, 2021, the Board received a report summarizing results of community engagement conducted in August and early September 2021 and provided direction to staff on overall goals and policy options for updating the cannabis ordinance and associated EIR. On March 15, 2022, the Board adopted a Resolution of Intention and Cannabis Program Update Framework that directs and guides staff in its preparation of a draft ordinance, General Plan Amendments, and a programmatic EIR to amend the Cannabis Land Use Ordinance and related regulations. County Resolution No. 22-0088, "Cannabis Program Update Framework," (Framework) consists of the following requirements:

- ▶ Defining which activities are allowed or prohibited, and what authorization is required for allowed activities (i.e., by right; ministerial zoning permit; discretionary use permit; business license).
- ▶ Consideration of one or more General Plan Amendments to ensure the new ordinance remains consistent with the General Plan, including to address the relationship between cannabis and traditional agriculture and other existing uses.
- ▶ Policy development informed by data and factual analyses, including:
 - Neighborhood separation criteria to ensure sufficient separation of a cannabis operation from a residential type neighborhood as it relates to odor, groundwater, visual, safety (including road access and wildfire), and noise impacts.
 - Criteria for and mapping of "Rural Neighborhood Enclaves," considering, at minimum, residential density and community character.
 - Criteria for and mapping of Exclusion Zones related to groundwater availability, topography, infrastructure (e.g., road access, lack of electrical/other utilities), safety concerns (including wildfire risk and emergency response times), and biological habitat protection.
- ▶ Permit streamlining, including development of:
 - Site development and operating standards for ministerial permits.
 - Criteria for and mapping of Inclusion Zones, based on groundwater availability, infrastructure (e.g., road access, availability of electrical/public water/sewer/ stormwater facilities), safety concerns (including wildfire risk and emergency response times), biological habitat protection, and proximity/density of sensitive uses.
 - Other permit streamlining options, such as development of a CEQA streamlining checklist for discretionary permits to limit additional project-specific environmental review.

2.4 PROJECT OBJECTIVES

The overall purpose of the Cannabis Program Update is to address requirements set forth under the Resolution of Intention and Cannabis Program Update Framework. The Program Update would provide standards to regulate the size, location, and intensity of cannabis uses in agricultural areas to limit conflicts with traditional agriculture, ensure agriculturally zoned lands remain available for agricultural production by limiting structural development, and to provide separation between cannabis production and existing residential areas. These updates aim to provide opportunities for farmers to diversify and obtain additional income, including allowing marketing and visitor-serving activities that promote agricultural products to include cannabis agricultural products.

The primary objectives of the Program Update are identified as follows:

- ▶ Protect environmental resources and minimize environmental impacts.
- ▶ Ensure cannabis uses are compatible with areas of concentrated residential uses.
- ▶ Ensure compatibility between cannabis and existing non-residential uses.
- ▶ Regulate cannabis located on agricultural lands more similarly to other agricultural uses, while recognizing its Federal classification, legal history, crop value, transaction security, distinct odor, and energy and water requirements.

- ▶ Regulate cannabis supply chain uses and cultivation located in industrial and commercial areas more similarly to other industrial and commercial uses.
- ▶ Reduce barriers to entry by allowing by right uses where appropriate and eliminating duplicative regulations that unnecessarily bog down permitting without adding value in order to streamline permit processes.
- ▶ Increase business opportunities for the cannabis industry and supporting industries by allowing an expansion in cannabis uses including cultivation, supply chain, additional support and accessory uses. Allow for multiple cannabis uses within a single operation i.e., vertical integration.
- ▶ Recognize competing and evolving community values and interests related to the cannabis industry when implementing the above objectives.
- ▶ Consider the protection of public health and safety and racial and socio-economic equity when implementing the above objectives.

2.5 PROPOSED SONOMA COUNTY CANNABIS PROGRAM UPDATE

The Cannabis Program Update includes amendments to the Sonoma County General Plan and changes to the County Code in Chapter 26 (Sonoma County Zoning Regulations) and Chapter 4 (Amusements and Business Regulations) to further address proposed cannabis cultivation and supply chain uses allowed by the state licensing program beyond the current County regulations. The following discussion contains an overview of the Cannabis Program Update background, project objectives, and a summary of proposed changes to the existing Cannabis Program. In March of 2022, the Board of Supervisors adopted the Cannabis Program Update Framework to direct and guide staff in its preparation of a draft ordinance supported by a Programmatic Environmental Impact Report to amend the Cannabis Land Use Ordinance and related regulations. Item 7 of the Cannabis Program Update Framework summarizes the County's intent to increase compatibility between cannabis land uses and the neighborhoods they are located within or adjacent to.

Components proposed Cannabis Program Update are described below that consists of the following:

- ▶ amendments to the General Plan;
- ▶ refinements to the Sonoma County Code that regulate cannabis uses;
- ▶ new cannabis regulations to the Sonoma County Code, including setbacks specific to existing permits and applications; and
- ▶ refinements to the Sonoma County Uniform Rules for Agricultural Preserves and Farmland Security Zones (Uniform Rules).

Please refer to Chapter 3, "Environmental Impacts and Mitigation Measures," for a full description of applicable federal, state, and local regulations, as well as a discussion of how the proposed Cannabis Program Update would apply to the environmental effects of cannabis operations in the County.

2.5.1 Summary of General Plan Amendments

The General Plan amendment includes revisions to the Agricultural Resources Element of the Sonoma County General Plan. Under the current General Plan and County Code provisions, cannabis cultivation is classified as a nonagricultural commercial use. That is, cannabis operations on agricultural land may be allowed as a secondary or incidental use to a "traditional" agricultural use. The proposed General Plan amendments would reclassify cannabis as "controlled agriculture." The majority of policies related to agriculture in the General Plan would apply equally to cannabis uses. However, the "controlled" designation would recognize that cannabis remains classified as a controlled substance under the Controlled Substances Act, and therefore it is appropriate to subject cannabis to certain additional regulations and limitations compared to other agricultural uses. Under the proposed Cannabis Program Update, proposed Policy AR-4g would be added, which limits permanent structures used for cannabis production on

agricultural lands in order to minimize loss of agricultural soils; and proposed Policy AR-4h would separate cannabis production on agricultural lands from existing residential areas to protect public health and safety. The text of the proposed General Plan amendment is provided in Appendix B of this Draft EIR.

2.5.2 Summary of Refinements to Existing Sonoma County Code

Currently, cannabis regulations are separated from other land uses into Article 88 (Sec. 26-88-250 through Sec. 26-88-258). Approval of the Cannabis Program Update would involve repeal of that code and integration of cannabis regulations into existing code by zoning. For example, allowed cannabis cultivation activities in agricultural and resource zones would be contained in Article 6 (Agricultural and Resource Zones) with other land uses allowed in those zoning districts, while use standards associated with those allowed cultivation land uses would be located in Article 18 (Agriculture and Resources-Based Use Standards) along with other use standards that apply to allowed land uses in agricultural and resource zoning districts. Generally, the proposed Code language and its integration into code by zoning district is intended to: (1) regulate cannabis more similarly to other uses, (2) remove duplicative regulations to streamline permitting, and (3) remove provisions that apply solely to currently allowed ministerial cannabis permits as the proposed Update includes a substantially smaller ministerial component.

As part of the Cannabis Program Update, some existing cannabis-specific regulations would be retained, and some new cannabis-specific regulations would be added and integrated into code as described above. Duplicative cannabis regulations in Article 88 would be removed when existing regulations from other code sections would apply to cannabis under the Update.

A summary of cannabis regulations that apply to all cannabis uses (i.e., cultivation and supply chain) that would be eliminated, retained, modified, or would continue to be implemented by other existing county or state regulations is provided below:

- ▶ Property Owner Permission Section (Sec.) 26-88-250(c)(4). The existing requirement to obtain written permission from the property owner or landlord will continue to be implemented through the proposed cannabis license under Chapter 4 Sec. 4-303.
- ▶ Prohibition on Tasting and Events Sec. 26-88-250(c)(5). The prohibition on tasting, promotional activities, and events related to cannabis would be eliminated. Limited consumption would be allowed at storefront retailers and events only, consistent with the County health ordinance and revisions to Chapter 14 and/or Chapter 32 and in compliance with event standards in Chapter 26 of the Sonoma County Code in addition to any specific permit requirements. Events would be allowed in the Agricultural and Resource zones subject to a Use Permit consistent with proposed event standards (Sec. 26-18-270). Periodic special events would also be allowed in all zones subject to a Zoning Permit in compliance with existing County Code Section 26-22-120.
- ▶ Term Limits (Sec. 26-88-250[e]). The existing 1-year and 5-year term limits on permits would be eliminated and permits would instead run with the land without a term limit. However, all cannabis uses would require issuance of an annual County Cannabis License (Chapter 4, Article IX).
- ▶ Health and Safety (Sec. 26-88-250(f)). The Cannabis Program Update would remove existing ordinance provision Sec. 26-88-250(f) requiring that commercial cannabis activities not create a public nuisance or adversely affect and health or safety because it is redundant of and less specific than proposed and existing regulations. The existing provision lists potential issue areas that are more effectively addressed through regulations and performance standards contained in the Cannabis Program Update and existing provisions of County Code and state law as discussed throughout this section.
- ▶ Taxes (Sec. 26-88-250(g)). The existing cannabis tax regulations would continue to be regulated by Sonoma County Code Chapter 35, the Sonoma County Cannabis Business Tax Ordinance, and any additional taxes that may be enacted by the voters or any additional regulations that may be promulgated. Additionally, tax compliance would be regulated through the proposed County Cannabis License Program which requires compliance with Sonoma County Code Chapter 35 (Chapter 4, Article IX).

- ▶ Operator Qualifications (Sec. 26-88-250(h)). Existing County-imposed operator qualifications would be addressed through the Medical and Adult Use Cannabis Regulation and Safety Act (MAUCRSA) and DCC regulations to remove overlapping requirements.
- ▶ Track and Trace (Sec. 26-88-250(j)). Existing County-imposed track and trace product requirements would be addressed through MAUCRSA and DCC regulations to remove overlapping requirements.
- ▶ Inspection Requirements (Sec. 26-88-250(k)). The existing cannabis inspection regulations would be regulated through the proposed County Cannabis License program which requires consent to inspections (Chapter 4, Article IX). Additionally, inspection requirements would continue to be addressed by existing state licensing and DCC inspection and enforcement requirements (CCR Title 4, Division 19, Sections 17800-17817).
- ▶ Volatile Solvents Sec. 26-88-250(c)(6). The existing regulation prohibiting the use of volatile solvents would be modified. In the Agricultural and Resource zones accessory manufacturing would be limited to chemical extraction using only carbon dioxide or extraction by physical means (e.g., ice and water). In the Industrial zones, cannabis manufacturing would be allowed to utilize volatile and non-volatile solvents. Use of solvents, would continue to be implemented through existing County standards for development in Chapter 13 of the Sonoma County Code and certified unified program agency (CUPA) permit requirements.
- ▶ Hazardous Material Sites (Sec. 26-88-254(f)(18)). The existing development criterium referencing Government Code Section 65962.5, which contains a list of hazardous waste facilities complied by the California Department of Toxic Substances Control (commonly known as the Cortese List) would be eliminated.

A summary of cannabis cultivation regulations that would be eliminated from Article 88 (Sec. 26-88-250 through 26-88-258), but would continue to be implemented by other existing county or state regulations is provided below:

- ▶ Multiple Permits (Sec. 26-88-254(e)). The existing limit on canopy area per operator would be eliminated.
- ▶ Multi-Tenant Operations (Sec. 26-88-254(f)(2)). The existing provision allowing multiple cultivation zoning permits on a single parcel would be eliminated.
- ▶ Airport Compatibility (Sec. 26-88-254(f)(9)). The existing development criterium referencing the compliance with the comprehensive airport land use plan would continue to be implemented through existing County standards for development within an airport referral boundary in compliance with existing General Plan Air Transportation Element Policies, including AT-1a, AT-1b, AT-1c, AT-1e, AT-1g, and AT-2a.
- ▶ Building Requirements (sec. 26-88-254(f)(10)). The existing development criterium referencing compliance with building code would continue to be implemented through existing state and county standards for development in Chapter 7 of the Sonoma County Code.
- ▶ Conversion of Timberland (Sec. 26-88-254(f)(12)). The existing development criterium prohibiting tree removal or timber conversion unless a use permit is obtained would continue to be implemented through existing tree protection regulations in Sonoma County Code Sections 26-88-015, 26-88-140 and 26-88-150.
- ▶ Riparian Corridors (Sec. 26-88-254(f)(13)). The existing development criterium which requires compliance with the Riparian Corridor combining zone would continue to apply on those sites which contain a combining district for Riparian Corridor (RC) and would continue to be implemented through existing regulations in Article 65 of the Sonoma County Code.
- ▶ Historic Resource Requirements (Sec. 26-88-254(f)(14)). The existing development criterium referencing historic resource compliance would continue to apply on those sites containing a Historic District combining zone for a Historic District and/or a County-designated landmark in compliance with existing regulations in Article 68 of the Sonoma County Code.
- ▶ Williamson Act Compliance (Sec. 26-88-254(f)(15)). The existing development criterium requiring compliance with the Sonoma County Uniform Rules for Agricultural Preserves and Farmland Security Zones (Uniform Rules) for sites subject to a Williamson Act Land Conservation Act Contract would continue to be implemented through

existing County development permitting processes in compliance with Policy and Procedure 8-1-8 (Procedure for Permits on Parcels under Williamson Act Contracts).

- ▶ Fire Code Requirements (Sec. 26-88-254(f)(16)). The existing development criterium requiring a fire prevention plan and compliance with the Fire Code would continue to be implemented through existing state and County standards for development in Chapter 13 of the Sonoma County Code.
- ▶ Grading and Access (Sec. 26-88-254(f)(17)). The existing development criterium requiring compliance with the Grading Ordinance would continue to be implemented through existing County standards for development in Chapter 11 and Chapter 36 of the Sonoma County Code.
- ▶ Stormwater Control (Sec. 26-88-254(f)(20)). The existing development criterium referencing stormwater management and erosion control requirements from the Sonoma County Grading Ordinance (Chapter 11) and compliance with AWM Best Management Practices would continue to apply and be implemented through existing county standards for construction grading in Chapter 11 and agricultural grading in Chapter 36 of the Sonoma County Code. In addition, compliance with AWM Best Management Practices for Cannabis Cultivation would be retained in compliance with proposed County Code Section 26-18-115(C)(4)(d).
- ▶ Security (Sec. 26-88-254(f)(21)). The existing development criterium requiring security measures, including fences, would continue to be implemented through compliance with state licensing and DCC security requirements (CCR, Title 4, Division 19, Sections 15036, 15042, 15042.1, 15043, 15045, 15046, 15047, and 15601).
- ▶ Energy Use (Sec. 26-88-254(g)(3)). The existing operating standard requiring renewable energy use for indoor and mixed light cultivation and processing would be eliminated. However, renewable energy requirements would continue to be implemented through Chapter 7 of the Sonoma County Code. The use of generators for cultivation would continue to be prohibited, except for emergency backup, in compliance with proposed County Code Section 26-18-115(C)(1)(d).
- ▶ Hazardous Materials (Sec. 26-88-254(g)(4)). The existing operating standard referencing use of hazardous materials, including agricultural chemicals, would continue to be implemented through existing County standards for development in Chapter 13 of the Sonoma County Code and certified unified program agency (CUPA) permit requirements. Use of agricultural chemicals would continue to be regulated through existing state Department of Pesticide Regulation licensing and certification and Sonoma County Department of Agriculture/Weights and Measures (AWM) Pesticide Use Enforcement (PUE) program and through compliance with AWM Best Management Practices for Cannabis Cultivation.
- ▶ Hours of Operation (Sec. 26-88-254(g)(5)). The existing hours of operation operating standard for cultivation would be eliminated. Hours of operation would not be categorically limited for cannabis cultivation operations. However, operations requiring a use permit could include conditional limitations based on site-specific analysis.
- ▶ Noise Limits (Sec. 26-88-254(g)(6)). The existing operating standard referencing compliance with General Plan Noise Standards would continue to be implemented through compliance with existing General Plan Noise Element Policies, including NE-1c, NE-1d, NE-1e, and NE-1f.
- ▶ Occupational safety requirements (Sec. 26-88-254(g)(7)). The existing operating standard referencing applicable occupational safety laws would continue to be implemented through applicable occupational safety regulations, including but not limited to: federal, state, and local laws and regulations governing California Agricultural Employers, federal and state wage and hour laws, California Division of Occupational Safety and Health (CAL/OSHA) regulations, the federal Occupational Safety and Health Administration (OSHA) regulations, and the California Agricultural Labor Relations Act.
- ▶ Waste Management (Sec. 26-88-254(g)(8)). The existing operating standard requiring a waste management plan would be eliminated. However, cannabis waste management requirements would continue to be implemented through compliance with state licensing and DCC security requirements (CCR, Title 4, Division 19, Sections 15006, 15010 and 15049.1). Non-cannabis waste (i.e., solid waste) requirements would continue to be regulated through existing County development standards in Chapter 7 and Chapter 22 of the Sonoma County Code.

- ▶ Waste Water Discharge (Sec. 26-88-254(g)(9)). The existing operating standard requiring a wastewater management plan would be eliminated. However, cannabis wastewater management requirements would continue to be regulated through existing County development standards in Chapter 7 and Chapter 24 of the Sonoma County Code.
- ▶ Groundwater Monitoring (Sec. 26-88-254(g)(11) & (12)). The existing operating standards requiring groundwater monitoring of wells used for cultivation and a groundwater monitoring easement conveyed to the County would continue to be implemented through existing County development permitting processes in compliance with Policy and Procedure 8-1-3 (Groundwater Monitoring Guidelines for Water Wells) and through compliance with General Plan Water Resources Element Policies, including WR-2d.

A summary of cannabis cultivation regulations that would be retained, but which may include modifications or additions to the original Article 88 language, is provided below:

- ▶ Permit Type (Sec. 26-88-250 Table 1A and 1C). Cannabis cultivation uses would require a use permit in agricultural and resource zones, unless specific standards to qualify for a crop swap zoning permit can be met in compliance with proposed County Code Sections 26-18-115(B) and 26-15-115(C)(4)(h). Cultivation uses in industrial zones would require a use permit where urban services (water and sewer) are not available, but where services are available would be allowed by right.
- ▶ Enforcement (Sec. 26-88-252). The existing cannabis code enforcement regulations would be eliminated, and instead would be governed by Section 1-7 et seq. of the Sonoma County Code for violations and civil penalties (which is already referenced in the existing enforcement section), Chapter 26 Article 92 for modification or revocation of a land use permit, and the proposed County Cannabis License program (Chapter 4, Article IX), which includes administrative procedures for suspension or revocation of licenses and appeals of enforcement actions.
- ▶ Minimum Lot Size (Sec. 26-88-254(f)(1)). The existing development criterium requiring a 10-acre minimum lot size would be modified to require a 5-acre minimum lot size in agricultural and resource zones in compliance with proposed County Code Section 26-18-115(C)(4)(a).
- ▶ Square Footage Limitations (Sec. 26-88-254(f)(3)). The existing development criterium referencing allowed cultivation square footage shown in Tables 1A, 1B and 1C, in addition to the tables themselves, would be modified. Instead, cultivation square footage per parcel would be modified to limit canopy to 10% of the parcel in agricultural and resource zones in compliance with proposed County Code Section 26-18-115(C)(4)(b) and limited by building lot coverage in the industrial zones in compliance with existing development standards in County Code Section 26-12-040.
- ▶ Propagation and Vegetative Production Area (Sec. 26-88-254(f)(4)). The existing development criterium allowing additional propagation and vegetative production area not exceeding 25% of permitted cultivation area with a use permit would be modified. Instead, propagation would be regulated as an accessory use to cultivation zones in compliance with proposed County Code Sections 26-18-115(C)(1)(c) and 26-18-115(C)(1)(e), which does not include a specific size limitation.
- ▶ Biotic Resources (Sec. 26-88-254(f)(11)). The existing development criterium requiring a biotic resource assessment that 1) demonstrates that a cannabis operation will not impact sensitive or special status species habitat unless a use permit is obtained, and 2) requires that a cultivation operation located within adopted federal critical habitat must have either all appropriate permits from the applicable state and federal agencies, or a biotic assessment concluding that the project will not result in "take" of a protected wildlife species would be modified. Article 66 of the Sonoma County Code would continue to apply on those sites with a combining zone for Biotic Habitat (BH), as would compliance with General Plan Open Space and Resource Conservation element policies to protect biotic resources, including policies OSRC-7b and OSRC-7c. In addition, the proposed program update would require use permits for all cultivation and accessory uses in agricultural and resource zones, except for crop swaps. Under the proposed ministerial crop swap, a focused species assessment would continue to be required for a cultivation operation located within adopted federal critical habitat demonstrating that take of a listed species is not reasonably foreseeable in compliance with proposed County Code Section 26-18-115(C)(4)(h)(7).

- ▶ Cultural Resource Requirements (Sec. 26-88-254(f)(14)). The existing development criterium referencing cultural resource protection regulations for cultivation operations which include ground disturbance would continue to be implemented through existing county standards for development, including the “accidental discovery” provision, in Chapter 11 and Chapter 36 of the Sonoma County Code. In addition, the proposed program update would require use permits for all cultivation and accessory uses in agricultural and resource zones, except for crop swaps. The use permit process would continue to implement existing referral procedures, including to the Northwest Information Center and local tribes. Under the proposed ministerial crop swap, deep ripping would be prohibited, and a tribal monitor would be required in compliance with proposed County Code Sections 26-18-115(C)(4)(h)(4) and 26-18-115(C)(4)(h)(5).
- ▶ Farmland Protection (Sec. 26-88-254(f)(15)). The existing development criterium requiring protection of important farmlands and compliance with General Plan Agricultural Resources Element Policy AR-4a within an agricultural zone would be modified. The Cannabis Program Update would define cannabis as “controlled agriculture” and cannabis cultivation would be considered agricultural production. Therefore, cultivation would, by definition, comply with Policy AR-4a. A new General Plan policy is proposed (AR-4d) to limit the size of permanent structures used for cannabis production and minimize loss of agricultural soils and important farmlands. In addition, new cultivation standards would be applied to ministerial crop swaps in proposed County Code Section 26-18-115(C)(4)(h)(2)-(3), which encourage outdoor production and place limits on the use of permanent structures.
- ▶ Lighting (Sec. 26-88-254(f)(19)). The existing development criterium regulating light pollution would be retained for all cultivation and accessory uses in compliance with proposed County Code Section 26-18-115(C)(1)(b).
- ▶ Air Quality and Odor (Sec. 26-88-254(g)(2)). The existing operating standard requiring odor control filtration for indoor and mixed light cultivation and processing facilities would be retained and expanded to require any structure containing cannabis to be equipped with a filtration and ventilation system to control odors (except for structures containing only packaged goods) in compliance with proposed County Code Section 26-18-115(C)(1)(a).
- ▶ Water Source (Sec. 26-88-254(g)(10)). The existing operating standard requiring documentation of an adequate on-site water supply would be modified. Water supply requirements for cultivation would continue to be implemented through existing County development permitting processes in compliance with Policy and Procedures 8-1-14 (Procedures for Groundwater Analysis and Hydrogeologic Reports) and 8-2-2 (Guidelines for Net Zero Groundwater Use), and through compliance with General Plan Water Resources Element Policies, including WR-2e and WR-2f, which require groundwater studies in Class 3 and 4 water areas and groundwater recharge in urban service areas (similar to the existing operating standard). In addition, a new water supply standard would be applied to ministerial crop swaps in proposed County Code Section 26-18-115(C)(4)(h)(8), which retains and modifies the existing Article 88 provisions.
- ▶ Personal Cultivation (Sec 26-88-258). The existing personal cannabis cultivation development criteria and operating standards would be modified to limit personal cultivation to 6 plants per dwelling in compliance with proposed County Code Sections 26-18-115(B)(5) and 26-18-115(C)(5). Proposed standards do not require odor control systems for personal cultivation.
- ▶ Hoop Houses. The use of temporary hoop houses would continue to be allowed for outdoor cultivation in agricultural and resource zones in compliance with proposed County Code Sections 26-18-020(B)(2) and 26-18-115(C)(4)(f).
- ▶ Accessory Retail. Retail sales of cannabis and cannabis products accessory to a cultivation operation would be allowed in agricultural and resource zones in compliance with existing standards for Farm Retail Sales (Sec. 26-18-140 and Sec. 26-88-215), except that food sampling, on-site cannabis consumption, and sales of cannabis and cannabis products grown offsite would be excluded, in compliance with proposed County Code Section 26-18-115(C)(4)(g)(2).

- ▶ Parking. Existing parking requirements for storefront retailers (i.e., dispensaries) in County Code Section 26-86-010 would be retained but modified to require 1 space per 200 feet of retail area but in no case less than 5 off-street parking spaces. A new parking standard is proposed in Section 26-18-115(C)(4)(c)(e) for cultivation operations in agricultural and resource zones to require that all parking be located on the cultivation parcel and not on driveways shared with another parcel. Cannabis event parking would be regulated by new operating standards in Section 26-18-270(D)(3).

In addition, the proposed Cannabis Program Update would retain and modify setback requirements for cultivation and accessory uses, as detailed below:

- ▶ Outdoor Cultivation. Existing setback requirements for outdoor cultivation (Sec. 26-88-254(f)(6)) would be retained and modified in proposed County Code Section 26-18-115(C)(4)(c) as follows:
 - The existing 100-foot property line setback would be retained and modified to be measured from the cannabis premises instead of the cultivation area.
 - The existing 300-foot setback from individual off-site residences would be replaced with a new 600-foot residential land use setback, measured from the cannabis premises to the property line of any residentially zoned parcel.
- ▶ A new 600-foot incorporated city boundary setback would be applied, measured from the cannabis premises.
 - The existing 1,000-foot sensitive use setback would be retained and modified to be measured from the cannabis premises to the property line of the sensitive use rather than property line to property line.
 - The existing park setback waiver would be eliminated.
- ▶ Indoor Cultivation. Existing setback requirements for indoor cultivation (Sec 26-88-254(f)(7)) would be retained and modified in proposed County Code Section 26-18-115(C)(4)(c) as follows:
 - In the Agricultural and Resource zones, indoor cultivation setbacks in proposed County Code Section 26-18-115(C)(4)(c) are as follows:
 - The existing setback for structures would be increased to a 100-foot property line setback measured from the cannabis premises, rather than conforming to the requirements of the base zoning district.
 - The existing 600-foot school setback would be eliminated and replaced by a 1,000-foot sensitive use setback, which includes schools, measured from the cannabis premises to the property line of the sensitive use.
 - A new 600-foot residential land use setback would be applied, measured from the cannabis premises to the property line of any residentially zoned parcel.
 - A new 600-foot incorporated city boundary setback would be applied, measured from the cannabis premises.
 - In the Industrial zones, indoor cultivation setbacks would retain the existing requirement of conformance to the base zoning district development standards.
- ▶ Mixed Light Cultivation. Existing setback requirements for mixed light cultivation (Sec 26-88-254(f)(8)) would be retained and modified in proposed County Code Section 26-18-115(C)(4)(c) as follows:
 - In the Agricultural and Resource zones, mixed light cultivation setbacks in proposed County Code Section 26-18-115(C)(4)(c) are as follows:
 - The existing 100-foot property line setback would be retained and modified to be measured from the cannabis premises instead of the cultivation area.
 - The existing 300-foot setback from individual off-site residences would be eliminated.
 - A new 600-foot residential land use setback would be applied, measured from the cannabis premises.

- A new 600-foot incorporated city boundary setback would be applied, measured from the cannabis premises.
- The existing 1,000-foot sensitive use setback would be retained and modified to be measured from the cannabis premises to the property line of the sensitive use rather than property line to property line.
- The existing park setback waiver would be eliminated.
- In the Industrial zones, mixed light cultivation setbacks would be modified to require conformance to the base zoning district development standards. The existing 100-foot property line setback, 300-foot setback from individual off-site residences, and 1,000-foot sensitive use setback would all be eliminated.

Under the proposed Cannabis Program Update, supply chain standards would be eliminated, retained, and modified as follows:

- ▶ Permit Type (Sec. 26-88-250). Permit requirements contained in existing Tables 1B through 1C would be modified. In agricultural and resource zones, centralized processing would require a use permit in compliance with proposed County Code Section 26-20-025. In industrial zones, cannabis supply chain uses, including testing laboratories, non-storefront retail, distribution, manufacturing, and centralized processing would be allowed by right. In commercial zones, storefront retail, non-storefront retail, distribution, manufacturing, and centralized processing would be allowed by right; testing laboratories in General Commercial (C3) would require a use permit. Refer to Table 2-3 below for details on which zoning districts allow which uses. All cannabis uses would require a cannabis license in compliance with proposed cannabis license program in County Code Chapter 4, Article IX.
- ▶ Cannabis Processing (Sec. 26-88-254(f)(5)). The existing 9-facility cap on the number of centralized cannabis processing facilities in the Agricultural zones would be eliminated.
- ▶ Storefront Retail (Dispensary) Cap (Sec. 26-88-256(d)). The existing 9-facility cap on the number of storefront retail operations in the unincorporated County would be eliminated.
- ▶ Storefront Retail (Dispensary) Operating Requirements (Sec. 26-88-256(e)). Operating requirements would continue to be implemented through state licensing and DCC retailer requirements ((CCR, Title 4, Division 19, Section 15400-15427).
- ▶ Storefront Retail (Dispensary) Setback (Sec. 26-88-256(f)). The existing location requirements for storefront retail would be eliminated. Storefront retail would be required to comply with the development standards of the base zoning district.
- ▶ Design Review (Sec. 26-88-256(g)(3)). The existing operating standard requiring Design Review for storefront retailers would be eliminated, but would continue to be implemented through Sonoma County Zoning Code requirements. Article 82 of the Zoning Code would continue to apply and requires Design Review for new commercial and industrial structures and external changes to existing structures.
- ▶ Storefront Retail (Dispensary) Signage (Sec 26-88-256(g)(4)). Prohibition on signage at storefront retailers (dispensaries) would be eliminated. Signage would be required to comply with Article 84 of the Sonoma County Zoning Code and with state licensing and DCC retailer requirements (CCR, Title 4, Division 19, Section 15400-15427).
- ▶ Storefront Retail (Dispensary) Access Requirements (Sec 26-88-256(g)(5)). Customer access requirements would continue to be implemented through state licensing and DCC retailer requirements ((CCR, Title 4, Division 19, Section 15400-15427).
- ▶ Storefront Retail (Dispensary) Alcoholic Beverage Control (Sec 26-88-256(g)(6)). The prohibition on dispensaries holding a license from the State Department of Alcoholic Beverage Control would be implemented through compliance with state licensing and DCC retailer requirements (CCR, Title 4, Division 19, Section 15400-15427).
- ▶ Storefront Retail (Dispensary) Odor Control (Sec. 26-88-256(g)(7)). Ventilation requirements to control odors at storefront retailers (dispensaries) would be eliminated.

- ▶ Storefront Retail (Dispensary) Sales of Clones and Non-cannabis Items. (Sec 26-88-256(g)(8)). Prohibition on retail sale of immature plants and accessory goods or promotional items would be removed. Retail requirements would be implemented through compliance with state licensing and DCC retailer requirements (CCR Title 4, Section 15400-15427)
- ▶ Storefront Retail (Dispensary) Consumption Prohibition (Sec 26-88-256(g)(9)). The consumption prohibition at dispensaries would be eliminated, and on-site consumption at storefront retailers would be allowed (consistent with the County health ordinance and revisions to Chapter 14 and/or Chapter 32 of the Sonoma County Code).
- ▶ Storefront Retail (Dispensary) Hours of Operation (Sec 26-88-256(g)(12)). Hours of operation requirements specific to storefront retailers (dispensary) would continue to be implemented through compliance with state licensing and DCC retailer requirements (CCR, Title 4, Division 19, Section 15400-15427).
- ▶ Retail Delivery (Sec 26-88-256(g)(13)). The existing operating standard which allows delivery at storefront retailers only would be eliminated. Delivery would continue to be allowed by storefront retailers and would be allowed by non-store front retailers consistent with proposed Sec. 26-20-165 of Sonoma County Code.

2.5.3 Summary of New Regulations to the Sonoma County Code

The proposed Cannabis Program Update would include a new Cannabis License registration requirement for all cannabis uses, new and existing. The purpose of a Cannabis License allows the County to provide local authorization to the DCC. Due to the proposal to remove term limits and allow cannabis uses by right in the Industrial and Commercial Zone districts, a cannabis license would allow the County to establish a mechanism for registration of cannabis businesses. As shown in Table 2-3, commercial cannabis uses would be allowed in zoning districts: Land Intensive Agriculture (LIA), Land Extensive Agriculture (LEA), Diverse Agriculture (DA), Resources and Rural Development (RRD), Industrial Park (MP), Limited Urban Industrial (M1), Heavy Industrial (M2), and Limited Rural Industrial (M3).

Cannabis cultivation may include accessory uses, in zoning districts LIA, LEA, DA, and RRD, which that directly support the on-site cultivation operations, such as: propagation, research and development of new plant cultivars, processing, manufacturing, packaging and labeling, distribution, and other similar support uses as determined by the Director.

All cannabis cultivation would be required to meet performance standards:

- ▶ Odor control. All structures containing cannabis must be equipped with a filtration and ventilation system to control odors, humidity, and mold, except for structures containing only packaged cannabis products.
- ▶ Lighting. All lighting is to be fully shielded and downward casting so that it does not spillover onto neighboring properties. For operations cultivating within structures, all light is to be fully contained so that little to no light escapes at a level that is visible from neighboring parcels.
- ▶ Generators. Generator use is prohibited, except for emergency backup.
- ▶ Plant propagation, research, and development. Propagative and research and development plant material that is not located within the cannabis canopy cannot be distributed, manufactured or sold.

The County regulates land use through the zoning code by zoning district. Each district includes two general use category types: permitted uses ("P" in Zoning Code Land Use Tables) and conditional uses ("C" in Zoning Code Land Use Tables). Permitted uses have been determined to be consistent with the purpose of the zoning district and are generally less intensive in nature. Permitted uses can either be allowed by right or subject to a ministerial zoning permit. Where no permit is required, uses are still required to comply with ministerial code standards.

Where a ministerial zoning permit is required, the permit is approved or denied based on compliance with fixed measurable standards including but not limited to development standards like setbacks, building heights, and lot coverage. Conditionally permitted uses are generally more intensive in nature and may have environmental or neighborhood impacts if not designed and operated appropriately. Conditionally permitted uses may be compatible with the intent of the zoning district but still require a site-specific analysis which allows for conditions of approval to

be imposed on the project to further ensure compatibility and protection of environmental resources. A conditional use permit is a discretionary approval, meaning the County decision makers exercise judgment in determining whether a specific proposed use is appropriate in that location. Use permits are subject to public notice and environmental review as required under CEQA.

Table 2-3 provides a summary of the proposed allowed cannabis uses within County Zoning District (refer to Appendix B for the text to the Cannabis Program Update).

Table 2-3 Proposed Allowed Cannabis Uses within County Zoning Districts

Zone	LEA	LIA	DA	RRD	MP	M1	M2	M3	C1	C2	C3	LC
Cannabis Cultivation	P*/C	P*/C	P*/C	P*/C	P/C	P/C	P/C	P/C	—	—	—	—
Cannabis Wholesale Nursery	C	C	C	C	P	P	P	P	—	—	—	—
Cannabis Testing Laboratories	—	—	—	—	P	P	P	P	—	—	C	—
Cannabis Storefront Retail (Dispensary)	—	—	—	—	—	—	—	—	P	P	P	P
Cannabis Non-storefront Retail (Delivery Only)	—	—	—	—	P	P	P	P	—	—	P	—
Cannabis Distribution	—	—	—	—	P	P	P	P	—	—	P	—
Cannabis Centralized Processing	C	C	C	—	P	P	P	P	—	—	P	—
Cannabis Manufacturing	—	—	—	—	P	P	P	P	—	—	P	—
Cannabis Events	C	C	C	C	—	—	—	—	—	—	—	—

Notes: P = Permitted Use; P* = Permitted Use, subject to discretionary approval criteria; C = Conditional Use; --Prohibited Use; LIA=Land Intensive Agriculture; LEA=Land Extensive Agriculture; DA=Diverse Agriculture; RRD=Resources and Rural Development; MP=Industrial Park, M1=Limited Urban Industrial, M2=Heavy Industrial; M3=Limited Rural Industrial; C1=Neighborhood Commercial; C2=Retail and Business Service; C3=General Commercial; and LC=Limited Commercial Zones

The following discussion provides an overview of how cannabis cultivation would be implemented under the proposed Cannabis Program Update for agricultural zoning districts (Land Intensive Agriculture [LIA], Land Extensive Agriculture [LEA], Diverse Agriculture [DA]), Resources and Rural Development (RRD), and industrial zoning districts (Industrial Park [MP], Limited Urban Industrial [M1], Heavy Industrial [M2], and Limited Rural Industrial [M3]).

CANNABIS CULTIVATION

Agricultural and Resources and Rural Development Zoning Districts

Within zoning districts LIA, LEA, DA, and RRD, a use permit would be required for cannabis cultivation that does not meet the standards for a crop swap. To support cannabis cultivation, a minimum parcel size of 5 acres would be required. The canopy within these areas would be limited to 10 percent of the total parcel size. Setback requirements include a minimum setback of 100 feet from each property line and 600 feet from incorporated city boundaries and all properties within residential zoning districts including Low, Medium, and High Density Residential (R1, R2, and R3), Rural Residential (RR), Agriculture and Residential (AR), and Planned Community (PC). A setback of at least 1,000 feet would be required for parcels located adjacent to sensitive uses. Per proposed County Code Section 26-18-115(C)(4)(c), sensitive uses include, K-12 schools, public parks, day care centers, and alcohol or drug treatment facilities. In this section, a public park includes existing federal recreation areas, state parks, regional parks, community parks, neighborhood parks, and class I bikeways as designated in the Sonoma County General Plan, but not proposed public parks that have not yet been constructed

Outdoor cultivation must comply with best management practices for cannabis cultivation issued by the Sonoma County Department of Agriculture for erosion and sediment control and management of wastes, water, fertilizers, and pesticides. All parking would be located within the facility site and not on shared drives. Outdoor cultivation may use temporary membrane covered frame structures (i.e., hoop houses), which may only be erected for less than 180 days per 12-month period and cannot include ventilation, heating, artificial light, or any other electrical components, including electrical conduit or use of portable generators. Hoop houses are permitted to use light deprivation during cultivation activities. Plastic used for hoop houses must be removed and securely stored immediately after harvest and while not in use.

Crop Swap

A zoning permit would be required for cultivation within areas zoned as LIA, LEA, DA, and RRD for a crop swap or the reuse of existing nonresidential structures. A crop swap may be allowed where active cultivation of perennial or row crops have occurred for 5 years at the time of permit application. The cultivation footprint would not be expanded beyond the cultivated land area being replaced, and could not be converted to permanent structures. A permanent structure used in the operation could not be expanded or modified beyond its existing footprint. A crop swap operation allows for up to two additional employees and a total of 10 additional average daily trips.

Removal of existing crops may not be accomplished using deep ripping (i.e., the mechanical manipulation of the soil at depths greater than 16 inches to break up or pierce a highly compacted, impermeable, or slowly permeable subsurface soil layer or other similar restrictive soil layers) and removal of existing crops must be implemented with a tribal monitor present. Unless state and federal permits, approvals, or authorizations to incidentally take listed species have been obtained, a focused species assessment is required if the cannabis premises is within a federally designated critical habitat area. In addition, water supply must be adequate to support the new use and verified by proof of connection to municipal water or municipal recycled water, groundwater well with supporting groundwater study demonstrating no net increase in groundwater use, surface water diversion with valid appropriate water right and a Lake and Streambed Alteration Agreement from California Department of Fish and Wildlife (riparian water rights are prohibited), or water supply assessment to support rainwater and sheet flow collection. A maximum of 100,000 gallons of new tank storage is allowed.

Industrial Zoning Districts

For parcels zoned as MP, M1, M2, and M3, cannabis cultivation could occur by right if municipal (or public) water and sewer are available and with a use permit where water and sewer are not available. No minimum parcel size requirement is associated with cannabis cultivation in industrial zoning districts. Within industrial zoning districts MP, M1, M2, and M3, outdoor cultivation and accessory retail would be prohibited. All other accessory uses allowed with cannabis cultivation would be allowed in support of the on-site cultivation, such as propagation, research and development, processing, manufacturing, packaging and labeling, and self-distribution. Setback requirements would be consistent with the base zoning district, and there would not be applicable sensitive use setbacks.

Personal Cultivation

Personal cultivation is limited to six plants as accessory to a residential dwelling unit in all zones. Personal outdoor cultivation would be required to comply with best management practices for cannabis cultivation issued by the Sonoma County Department of Agriculture for erosion and sediment control and management of wastes, water, fertilizers, and pesticides. Cultivation of cannabis cannot be located within the front- and side-yard setback areas as required by the base zoning district and cannot be visible from a public right-of-way. Personal cultivation is allowed either outdoors or within structures. Lighting requirements would limit lighting to fully shielded, downward casted, such that spillover onto neighboring properties would not occur. Within structures, lighting would be required to be fully contained, to ensure that little to no light escapes at a level that is visible from neighboring parcels. Outdoor cultivation for personal use within multifamily units or in medium and high-density residential zones (R2 and R3) is prohibited. The use of generators is prohibited, except as emergency backup systems.

CANNABIS EVENTS AND PERIODIC CANNABIS EVENTS

Under the Program Update, the sale and consumption of cannabis would be allowed at a periodic special event under Zoning Code Section 26-22-120. Consistent with the existing zoning code, periodic special events under this section are allowed in the following zoning districts: Agriculture and Residential (AR), Agricultural Services (AS), Administrative and Professional Office (CO), Neighborhood Commercial (C1), Retail Business and Service (C2), General Commercial (C3), Diverse Agriculture (DA), Recreation and Visitor Serving Commercial (K), Limited Commercial (LC), Land Extensive Agriculture (LEA), Land Intensive Agriculture (LIA), Limited Urban Industrial (M1), Heavy Industrial (M2), Limited Rural Industrial (M3), Industrial Park (MP), Planned Community (PC), Low Density Residential (R1), Medium Density Residential (R2), High Density Residential (R3), Rural Residential (RR), Resources and Rural Development (RRD), and Timber Production (TP).

The Program Update would also add Zoning Code Section 26-18-270, cannabis events, which would allow for issuance of a use permit for cannabis events to be held more frequently than periodic special events in the Agricultural and Resource Zoning Districts (LIA, LEA, DA, and RRD). Cannabis events would also require a cannabis license subsequent to the use permit process and may include onsite cannabis consumption, food service, and amplified music. Cannabis events could be large-scale (more than 25 attendees, up to two events with up to two event days each) or small scale (25 or fewer attendees, or up to 50 attendees with a shuttle service, and up to 104 event days per year). Cannabis events would be allowed to operate from 10:00 a.m. to 10:00 p.m., any day of the week, unless further specified in the use permit. A traffic management and parking plan is required to address the maximum number of attendees visiting during a cannabis event. Parking would not be allowed along public or private roads and would need to be provided on the site at a ratio of 1 space per 2.5 attendees and 1 space per employee. For an event exceeding 100 attendees and for an event that uses overflow parking, approval of a traffic management plan would be required. All events would be subject to standards included in the Sonoma County noise standards set forth in the General Plan (see Section 3.12, "Noise" for more information).

SUPPLY CHAIN USES

The proposed Cannabis Program Update would permit cannabis uses in Industrial and Commercial zoning districts consistent with similar non-cannabis uses. For example, the currently adopted cannabis ordinance allows storefront retail (i.e., dispensaries) in the Neighborhood Commercial (C1), Retail and Business Service (C2), and Limited Commercial (LC) Zoning Districts, but does not allow it in General Commercial (C3). The proposed ordinance would regulate storefront retail uses in a new Section 26-18-025 and would continue to allow storefront retail in Neighborhood Commercial (C1), Retail and Business Service (C2), and Limited Commercial Zones (LC), and add it as an allowed use in General Commercial (C3), consistent with other non-cannabis general retail uses, which are allowed by right in all four of these commercial zoning districts. The Cannabis Program Update would allow most supply chain uses to operate by right, without a land use permit (see Table 2-3). Supply chain use permit holders in industrial and commercial zones would be able to continue to operate as a by right land use without a land use permit in conformance with all applicable County Code, including the following Zoning Code sections (see Appendix B for the proposed Zoning Code amendments).

- ▶ Testing laboratories: Sec. 26-20-040 (Note that testing labs would be allowed by right in Industrial Zones, but require a use permit in General Commercial [C3])
- ▶ Cannabis Storefront Retail (Dispensary): new Sec. 26-26-025
- ▶ Cannabis Non-storefront Retail (Delivery Only): new Sec. 26-20-165
- ▶ Distribution: new Sec. 26-20-165
- ▶ Cannabis Centralized Processing: new Sec. 26-20-025
- ▶ Manufacturing: Sec. 26-20-080

Conditions of approval would continue to apply to a permitted operation until such time as the use permit expires, after which the operation would be subject to any applicable ministerial standards and permits, including a cannabis

license, but would no longer require a land use permit. There are no supply chain uses allowed by zoning permit. A summary of supply chain uses is provided below.

Centralized Processing

The Cannabis Program Update would allow for centralized processing within the following Zoning Districts: Industrial Park (MP), Limited Urban Industrial (M1), Heavy Industrial (M2), Limited Rural Industrial (M3), Heavy Commercial (C3), and Agricultural Zoning Districts (LEA, LIA, DA). Centralized processing would be allowed in Industrial (MP, M1, M2, M3) and General Commercial (C3) zoning districts by right. Within agricultural zoning districts (LIA, LEA, DA), centralized processing be allowed with a use permit and the premises would be subject to 100-foot property line setback, 600-foot residential zoning setback, 600-foot setback from incorporated city boundaries, and 1,000-foot setback from sensitive uses.

Testing Laboratories

The Cannabis Program Update would align cannabis testing laboratories with the existing code section for laboratories and amend Zoning Code Section 26-20-040 to include cannabis testing laboratories. Cannabis testing laboratories would be permitted within the following zoning districts: Industrial Park (MP), Limited Urban Industrial (M1), Heavy Industrial (M2), Limited Rural Industrial (M3), and Heavy Commercial (C3). Within the Industrial Zoning Districts (MP, M1, M2, M3), a testing laboratory is permitted by right; within the Heavy Commercial (C3) Zoning District, a use permit is required.

Manufacturing

The Cannabis Program Update would align cannabis manufacturing with the existing code section for Manufacturing/Processing, Medium and amend Zoning Code Section 26-20-080 to include the manufacturing of cannabis products. Manufacturing would be permitted by right within the Industrial Park (MP), Limited Urban Industrial (M1), Heavy Industrial (M2), Limited Rural Industrial (M3), and Heavy Commercial (C3) zone districts.

Distribution Facilities (including non-storefront retail)

The Cannabis Program Update would align cannabis distribution facilities with the existing code section for Storage: Wholesale and Distribution and amend Zoning Code Section 26-20-160 to include cannabis distribution facilities and non-storefront retail. Distribution facilities would be permitted by right within the Industrial Park (MP), Limited Urban Industrial (M1) Heavy Industrial (M2), Limited Rural Industrial (M3), and Heavy Commercial (C3) zone districts.

Storefront Retailer (Dispensaries)

The Cannabis Program Update would add Zoning Code Section 26-26-025, which would allow for Cannabis Storefront Retail (Dispensaries) within all Commercial zoning districts (C1, C2, C3, LC) by right. Within these storefront retailer businesses, accessory packaging and labeling of cannabis products sold by the retailer would be allowed as well as on-site consumption.

SETBACKS FOR EXISTING USES

The Cannabis Program Update would include different setback requirements for all approved cannabis uses, whether operating or not, and all complete land use applications as of the effective date of the Cannabis Program Update. Under proposed Zoning Code Section 26-18-115(C)(4)(c)(5), existing permits and applications would be subject to the setbacks that applied at the time of permit approval or when the application was deemed complete if those setbacks were less restrictive than the proposed setbacks for new applications. Thus, existing uses would not need to modify their sites to conform to the new setbacks. If existing permits or applications are modified, new uses would be subject to the same setbacks as new applications, except that most new uses would only need to be setback 300 feet from residences on residentially zoned parcel instead of 600 feet from the residential property line.

2.5.4 Refinements to the Sonoma County Uniform Rules for Agricultural Preserves and Farmland Security Zones

As part of the Cannabis Program Update, cannabis would be considered an agricultural use. In addition, it would be redefined in the Uniform Rules (Appendix B) to reflect the Zoning Code definition (Section 26-04-020) to read as:

“Cannabis” All parts of the plant *Cannabis sativa* Linnaeus, *Cannabis indica*, or *Cannabis ruderalis*, or any other strain or varietal of the genus *Cannabis* whether growing or not; “Cannabis” does not include “industrial hemp” as defined by Section 81000 of the California Food and Agriculture Code.

Sites subject to a Williamson Act contract would continue to be implemented through existing County development permitting processes in compliance with Policy and Procedure 8-1-8 (Procedure for Permits on Parcels under Williamson Act Contracts). Under the proposed Cannabis Program Update, Williamson Act would apply to cannabis operations, including cultivation and accessory uses that support onsite cannabis cultivation (e.g., propagation, research and development, self-distribution, and processing). Additionally, Uniform Rule Section 8.3-B Compatible Uses would be modified to include facilities for cannabis manufacturing and centralized processing of cannabis grown off-site as compatible agricultural support uses.

2.6 PROJECTED FUTURE COMMERCIAL CANNABIS USES UNDER THE CANNABIS PROGRAM UPDATE

The Cannabis Program Update would update the existing County requirements related to cannabis cultivation and supply chain uses that would provide an approval process for a range of future cannabis activities not currently allowed under the existing County Code. The projected extent of cannabis uses in the unincorporated area of the County in 2044 are summarized below. The reader is referred to Section 3.0, “Approach to the Environmental Analysis,” for a detailed description of assumptions for cannabis uses and activities. It should be noted that the assumed cannabis uses identified below could be located on the same parcel or as an accessory use to another cannabis use or both. The future of commercial cannabis operations in the county may vary from what is set forth here because the cannabis business is market-driven and guided by unpredictable economic and regulatory forces.

- ▶ Total cannabis cultivation: 208 acres
 - Outdoor cultivation: 188 acres
 - Mixed-light cultivation: seven acres
 - Indoor cultivation: 13 acres
- ▶ Distribution: 84 sites
- ▶ Nursery: 40 sites
- ▶ Processing Facilities: nine sites
- ▶ Retail: 56 sites
- ▶ Testing: nine sites
- ▶ Manufacturing: 37 sites

2.7 PROJECT APPROVALS

The following approvals are needed by the County for implementation of this project:

- ▶ certification of the programmatic EIR for the Cannabis Program Update;
- ▶ adoption of a General Plan Amendment;
 - to modify the text of the following objectives and policies: Objective AR-1.2, Policy AR-4d, Policy AR-5e, Policy AR-6a, Policy AR-6d, Policy AR-6g;
 - to add the following policies: Policy AR-4g and Policy AR-4h.
- ▶ adoption of amendments to County Code Ordinance:
 - Amendment to Chapter 4 of the Sonoma County Code to add Article IX, Cannabis Licenses;

- Repeal and replace Sec 26-88-250 through 258 Cannabis Uses, with the following amendments to Chapter 26, Sonoma County Zoning Regulations:
 - Amendment to Chapter 26, Article 4, Section 26-04-020, to add and modify definitions that relate to cannabis uses.
 - Amendment to Chapter 26, Article 06, Agricultural and Resource zones, Section 26-060-030 Allowed Land Uses, to include cannabis uses.
 - Amendment to Chapter 26, Article 10, Commercial zones, Section 26-010-040 Allowed Land Uses, to include cannabis uses.
 - Amendment to Chapter 26, Article 10, Industrial zones, Section 26-120-030 Allowed Land Uses, to include cannabis uses.
 - Amendment to Chapter 26, Article 18, Section 26-18-020, Agricultural Crop Production and Cultivation to include cannabis.
 - Amendment to Chapter 26, Article 18, to add Section 26-18-115, Cannabis Cultivation.
 - Amendment to Chapter 26, Article 18, to add Section 26-18-270, Cannabis Events.
 - Amendment to Chapter 26, Article 20, Industrial Manufacturing and Processing Use Standards to include cannabis.
 - Amendment to Chapter 26, Article 22, Section 26-22-120, Periodic Special Events to include cannabis.
 - Amendment to Chapter 26, Article 26, Retail Use Standards to include cannabis.
 - Amendment to Chapter 26, Article 86, Parking Standards, to revise the Dispensary parking standards.

3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

APPROACH TO THE ENVIRONMENTAL ANALYSIS

This Draft EIR evaluates and discloses the environmental impacts associated with the Cannabis Program Update, in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000, et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Section 1500 et seq.). Sections 3.1 through 3.17 of this Draft EIR present a discussion of existing conditions, regulatory frameworks, environmental impacts associated with implementation of the Cannabis Program Update, mitigation measures to reduce the level of impacts, and residual levels of significance (i.e., after application of mitigation, including impacts that would remain significant and unavoidable after application of all feasible mitigation measures). Issues evaluated in these sections consist of the environmental topics identified for review in the notice of preparation (NOP) prepared for the project (see Appendix A of this Draft EIR). Chapter 4, "Cumulative Impacts," presents an analysis of impacts considered together with those of other past, present, and probable future projects producing related impacts, as required by Section 15130 of the State CEQA Guidelines. Chapter 6, "Other CEQA Sections," includes an analysis of the project's growth inducing impacts, as required by Section 21100(b)(5) of CEQA. Chapter 5, "Alternatives," presents a summary analysis of the environmental effects of the alternatives to Proposed Cannabis Program, as required by Section 15126.6 of the State CEQA Guidelines.

Sections 3.1 through 3.17 of this Draft EIR each include the following components:

Regulatory Setting: This subsection presents information on the laws, regulations, plans, and policies that relate to the issue area being discussed. Regulations originating from the federal, state, and local levels are each discussed as appropriate.

Environmental Setting: This subsection presents the existing environmental conditions in the program area (unincorporated area of the County under Sonoma County's jurisdiction where cultivation and noncultivation activities may be permitted), in accordance with State CEQA Guidelines Section 15125. The discussions of the environmental setting focus on information relevant to the issue under evaluation. The extent of the environmental setting area evaluated differs among resources, depending on the locations where impacts would be expected to occur. For the purposes of this Draft EIR, the description of the baseline conditions includes commercial cannabis cultivation and noncultivation operations that are locally authorized by Sonoma County and operate under licenses from California Department of Cannabis Control (DCC) at time of publication of the Notice of Preparation, February 6, 2023.

It is acknowledged that there are unlicensed cannabis cultivation sites located in the County, including cannabis cultivation sites located on state and federal lands. As identified in Section 2.2.7 of Chapter 2, "Project Description," Enforcement Division began tracking illegal cannabis sites after July 1, 2018, when the County began to issue civil penalties for illegal cultivation. As shown in Table 2-1, 27 unpermitted sites were identified in 2023. Cultivation operations that do not obtain licenses and permitting from the DCC and Sonoma County are considered illegal. Enforcement activities targeting unlicensed cultivation operations are taken by the County in coordination with other agencies, including DCC, with the intent that such cultivation operations would be brought into compliance with County and state standards or closed. However, it is acknowledged that unlicensed cannabis cultivation sites would likely continue to occur in the County.

Although this Draft EIR acknowledges the adverse environmental effects of continued illegal cannabis operations as part of the environmental baseline condition described in EIR sections 3.1 through 3.17, because they are existing (and illegal), they are not considered part of the project; in this context, they would not result in environmental effects associated with the project that would need to be mitigated. This is consistent with the requirements of CEQA, which is to consider the proposed project and existing case law, as further discussed below.

Section 15125(a) of the State CEQA Guidelines provides that the baseline physical conditions are the basis by which a lead agency determines whether an impact of a project is significant. The baseline physical conditions must reflect the “physical conditions existing at the time [the] environmental analysis begins,” even if the current condition includes unauthorized or illegal activities that never received prior environmental review (*Center for Biological Diversity v. Dept. of Fish and Wildlife* (2015) 234 Cal.App.4th 214, 248 (citing *Communities for a Better Environment v. South Coast Air Quality Management District* (2010) 48 Cal.4th 310, 323); see also *Citizens for East Shore Parks v. State Lands Commission* (2011) 202 Cal.App.4th 549 (upholding a the use of a baseline which reflected the then-current conditions of a terminal project), *Fat v. County of Sacramento* (2002) 97 Cal.App.4th 1270 (holding that existing long-term unauthorized land use should be considered part of the baseline), *Riverwatch v. County of San Diego* (1999) 76 Cal.App.4th 1428 (holding that existing conditions was the proper baseline, despite prior illegal discing and habitat removal)). To that end, existing illegal cannabis cultivation operations are disclosed as part of the baseline condition in this Draft EIR, consistent with CEQA.

Environmental Impacts and Mitigation Measures: This subsection presents thresholds of significance and discusses significant and potentially significant effects of the Cannabis Program Update on the existing environment, including the environment beyond the project study area, in accordance with State CEQA Guidelines Section 15126.2. The methodology for impact analysis is described, including technical studies upon which the analyses rely. The thresholds of significance are defined and thresholds for which the project would have no impact are disclosed and dismissed from further evaluation. Project impacts and mitigation measures are numbered sequentially in each subsection (Impact 3.2-1, Impact 3.2-2, Impact 3.2-3, etc.). A summary impact statement precedes a more detailed discussion of each environmental impact. The discussion includes the analysis, rationale, and substantial evidence on which conclusions are based. The determination of level of significance of the impact is presented in bold text. A “less-than-significant” impact is one that would not result in a substantial adverse change in the physical environment. A “potentially significant” impact or “significant” impact is one that would result in a substantial adverse change in the physical environment; both are treated the same under CEQA in terms of procedural requirements and the need to identify feasible mitigation. Mitigation measures are identified, as feasible, to avoid, minimize, rectify, reduce, or compensate for significant or potentially significant impacts, in accordance with the State CEQA Guidelines Section 15126.4. Unless otherwise noted, the mitigation measures presented are recommended in the EIR for consideration by the state to adopt as conditions of approval.

Where an existing law, regulation, or permit specifies mandatory and prescriptive actions about how to fulfill the regulatory requirement as part of the project definition, leaving little discretion in its implementation, and would avoid an impact or maintain it at a less-than-significant level, the environmental protection afforded by the regulation is considered before determining impact significance. Where existing laws or regulations specify a mandatory permit process for future projects, performance standards without prescriptive actions to accomplish them, or other requirements that allow substantial discretion in how they are accomplished, or have a substantial compensatory component, the level of significance is determined before applying the influence of the regulatory requirements. In this circumstance, the impact would be potentially significant or significant, and the regulatory requirements would be included as a mitigation measure.

This subsection also describes whether mitigation measures would reduce project impacts to less- than-significant levels. Significant-and-unavoidable impacts are identified as appropriate in accordance with State CEQA Guidelines Section 15126.2(b). Significant-and-unavoidable impacts are also summarized in Chapter 6, “Other CEQA Sections.”

References: The full references associated with the references cited in Sections 3.1 through 3.17 are presented in Chapter 8, “References,” organized by chapter or section number.

Cannabis Site Assumptions

This Draft EIR has been prepared to determine the overall environmental effects of future development in the unincorporated county that would be allowed under the proposed Cannabis Program Update. On a programmatic level, the Draft EIR does not, and cannot, speculate on the individual environmental impacts of specific future cannabis projects in the county. However, implementation of all components of the Cannabis Program Update

described above were considered during preparation of the EIR, including future cannabis uses anticipated for the next 20 years. Technical analyses, such as air quality and greenhouse gas modeling, are based on the estimated future commercial cannabis uses identified in Table 3-1 below.

The environmental impacts in this Draft EIR are also based on a series of assumptions for how cannabis uses would operate. These assumptions are listed below.

- ▶ Assumed cultivation site operation activities:
 - Preparation, planting, maintenance, and harvesting of cannabis (outdoors and in structures) through the use of staff, equipment, and vehicles.
 - Operation of greenhouses and interior lighting for the growing of cannabis plants in nurseries for outdoor planting or as part of mixed-light or indoor cultivation.
 - Operation of buildings that include energy use, wastewater generation, water demand, and stormwater management.
 - Use of carbon dioxide gas for plant growth enhancement when cannabis cultivation occurs within a building.
 - Employee vehicle trips to and from the site.
 - Consumer trips to and from retail facilities and visitor-serving uses/events.
 - Seasonal employee vehicle trips to and from the site during harvest of outdoor cultivation and processing.
 - Truck trips to and from the site to deliver supplies (e.g., soil amendments, fertilizers, pesticides, and carbon dioxide gas tanks) and/or transport cannabis plants, cannabis waste, and non-cannabis waste.
 - Operation of well/water storage, septic, and drainage facilities.
 - Potential inclusion of accessory supply chain uses that support cannabis cultivation (e.g., retail, manufacturing, self-distribution, nurseries) that are operated in buildings onsite of the cultivation operation. These accessory uses would also generate additional energy use, wastewater generation, water demand, and employee and customer vehicle trips to the cultivation site.
- ▶ Assumed supply chain (noncultivation) activities:
 - Operation of buildings that include energy use, wastewater generation, water demand, and stormwater management.
 - Employee and customer vehicle trips to and from the site.
 - Truck trips to and from the site to deliver supplies (e.g., chemicals, gases, containers, equipment) and/or transport cannabis plants, cannabis products, cannabis or cannabis product waste, and non-cannabis waste.
- ▶ Assumptions for events:
 - Small Events
 - Each event would allow for up to 50 attendees
 - This analysis assumes small events would occur twice per week (104 days per year), per site.
 - Construction of facilities may be necessary to support events.
 - Amplified sound and food trucks may be present during events
 - Large Events
 - Each event would allow for more than 50 attendees.
 - This analysis assumes large events would occur 8 days per year, per site.
 - Construction of facilities may be necessary to support events.
 - Amplified sound and food trucks may be present during events

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed.

Assumptions and calculations use to evaluate development of cannabis uses is based on assumptions displayed in Table 3-1. These development assumptions reflect the projected total cannabis development in 2044.

Table 3-1 Cannabis Program Update Development Assumptions (Total Existing and New)

Feature	Development Assumption
Cultivation Uses¹	
Outdoor Cultivation	
Total Cultivation Canopy (acres) ²	188
Total Land Area for Assumed Activity Footprint (acres) ³	682
Total Building Area (square footage) ⁴	2,379,704
Mixed-Light Cultivation	
Total Cultivation Canopy (acres) ²	7
Total Land Area for Assumed Activity Footprint (acres) ³	45
Total Building Area (square footage) ⁴	100,124
Indoor Cultivation	
Total Cultivation Canopy (acres) ²	13
Total Land Area for Assumed Activity Footprint (acres) ³	26
Total Building Area (square footage) ⁴	1,887,600
Cultivation Totals	
Total Cultivation Canopy (acres)	208
Total Land Area for Assumed Activity Footprint (acres)	753
Total Building Area (square footage)	4,367,428
Total Number of Employees ⁵	1,778
Supply Chain Uses⁶	
Nurseries	
Total Number of Nurseries	40
Total Building Area (square footage) ⁷	164,000
Total Land Area for Assumed Activity Footprint for Nursery Operation (acres) ⁷	10
Total Number of Employees ⁷	480
Processing	
Total Number of Processing Facilities	9
Total Building Area (square footage) ⁸	58,500
Total Land Area for Assumed Activity Footprint for Processing Facilities (acres) ⁸	5
Number of Employees ⁸	23
Manufacturing	
Total Number of Manufacturing Facilities	37
Building Area (square footage) ⁹	99,900
Total Land Area for Assumed Activity Footprint for Manufacturing Facilities (acres) ⁹	19
Number of Employees ⁹	370

Feature	Development Assumption
Testing	
Total Number of Testing Facilities	9
Building Area (square footage) ¹⁰	25,200
Total Land Area for Assumed Activity Footprint for Testing Facilities (acres) ¹⁰	5
Number of Employees ¹⁰	54
Distribution	
Number of Distribution Facilities	84
Building Area (square footage) ¹¹	252,000
Total Land Area for Assumed Activity Footprint for Distribution Facilities (acres) ¹¹	42
Number of Employees ¹¹	1,008
Retail	
Number of Retail Facilities	56
Building Area (square footage) ¹²	134,400
Total Land Area for Assumed Activity Footprint for Retail Facilities (acres) ¹²	28
Number of Employees ¹²	896
Supply Chain Totals	
<i>Total Number of Sites</i>	235
<i>Total Building Area (square footage)</i>	734,000
<i>Total Land Area for Assumed Activity Footprint (acres)</i>	109
<i>Total Number of Employees</i>	2,831
Grand Totals	
<i>Combined Total Number of Sites</i>	235 supply chain sites and 208 acres of cultivation
<i>Combined Total Land Area for Assumed Activity Footprint (acres)</i>	862
<i>Combined Total Building Area (square footage)</i>	5,101,428
<i>Combined Total Employees</i>	4,609

Notes: The totals above do not assume the combination of cannabis uses on a single site or buildings that could provide efficiencies/reductions in space use, such as accessory supply chain uses on cultivation sites. Supply chain uses assumes above are inclusive of operations approved as accessory uses. While there are estimates for supply chain cannabis uses building square footage and land area, it is anticipated that the majority of the uses would locate into existing industrial and retail buildings in the unincorporated area. Based on the countywide (unincorporated and incorporated) data, it is assumed that there is an approximately 9 percent vacancy rate for available retail space and 7 percent (Keegan & Coppin 2024).

¹ Cited values are rounded. Cannabis demand estimates as based on a market demand study prepared by EPS in 2024 (EPS 2024). This estimate of cannabis demand was doubled to factor potential future growth of the commercial cannabis market. Total cannabis cultivation assumed to be generated from 90 percent outdoor cultivation, 4 percent mixed-light cultivation, and 6 percent indoor cultivation based on the existing generation rates (EPS 2024). Cannabis cultivation production totals on a per acre basis were assumed as follows: outdoor cannabis production is assumed at 1,000 pounds per acre, mixed-light cannabis production is assumed at 1,700 pounds per acre, and indoor-light cannabis production is assumed at 7,000 pounds per acre (EPS 2024). Outdoor cultivation assumes one harvest per year; mixed-light cultivation assumes three times per year and indoor harvests are assumed to be continuous throughout the year.

² The "cultivation canopy" is the footprint of the cannabis plant area calculated in square feet and measured using physical boundaries of all area(s) that will contain mature plants at any point in time.

³ The "land area for assumed activity footprint" is the land area that consists of cannabis cultivation and noncultivation supporting uses. This includes caretaker housing, storage buildings, on-site nurseries, hoop houses, water tanks, ponds, parking, cannabis operation buildings, and other associated improvements. The following factors were used: 1 acre of outdoor cannabis canopy – 3.63 acres for support activities; 1 acre of mixed-light cannabis canopy – 6.36 acres for supporting activities, and 1 acre of indoor cannabis cultivation – 2 acres for support activities. These factors are based on satellite review of California Department of Cannabis Control (DCC) licensed cannabis cultivation sites in Mendocino County (DCC 2024a: Table 3-1).

- ⁴ Building square footage for outdoor cultivation was assumed to average 6,329 square feet per site, assuming 0.5-acre of canopy per site (Trinity County 2020: Table 2-3). Mixed-light cultivation building square footage was assumed to average 10,124 per site, assuming 0.7-acre of canopy per site (Trinity County 2020: Table 2-3). Indoor cultivation building square footage was assumed to average 20,000 square feet per site to accommodate an average of 6,000 square feet of cannabis canopy.
- ⁵ Cultivation employment factors: 8.5 employees per acre of outdoor and mixed-light cultivation and 9.3 employees per acre of indoor cultivation (Trinity County 2020).
- ⁶ Current ratios of supply chain uses that are operating in Sonoma County relative to the currently authorized cultivation acreage in the County were used to estimate future supply chain uses (ratio of cultivation uses to supply chain uses). With this ratio, the County projected supply chain establishments for 208 acres of cultivation identified in the table with the exception of nurseries (Sonoma County 2024).
- ⁷ Total nursery sites are based on the ratio of existing state cannabis cultivation licenses to nursery licenses as of November 18, 2024 (15 cultivation licenses to each nursery license) (DCC 2024b). The projected 208 acres of cultivation uses are assumed to result in up to 594 licenses (based on 15,000-sq-ft average cultivation size per license) and an associated 40 nursery sites. Nursery assumptions are based on information collected on the operations of cannabis nurseries and application information collected by Yolo County and Mendocino County. Building square footage is assumed at 4,100 square feet per site, 0.24 acres of activity footprint area per site, and 12 employees per site (Yolo County 2019: Table 2-4 and DCC 2024a).
- ⁸ Stand-alone (not located on-site with cultivation) processing use assumptions consist of 6,500 square feet of buildings per site, 0.5 acres of activity footprint area, and 2.5 employees per site (Yolo County 2019: Table 2-3).
- ⁹ It is assumed that each manufacturing operation would be contained within a 2,700-square-foot building with 0.50 acres of activity footprint area and have 10 employees each. These assumptions are based on review of applications and staff reports for manufacturing operations in Humboldt County and the City of Needles (Yolo County 2019: Table 2-3).
- ¹⁰ The testing facilities were assumed to be contained within a 2,800-square-foot building with 0.50 acres of activity footprint area and have 6 employees per site (Yolo County 2019: Table 2-3).
- ¹¹ Stand-alone (not located on-site with cultivation) distribution use assumptions consist of 3,000 square feet of buildings per site, 0.5 acres of activity footprint area, and 12 employees per site (Sonoma County 2019).
- ¹² It is assumed that each retail site (store front and non-store front) would be contained within a 2,400-square-foot building with 0.50 acres of activity footprint area and have 16 employees each. (Yolo County 2019: Table 2-3).

Source: Prepared by Ascent in 2024.

EFFECTS FOUND NOT TO BE SIGNIFICANT

CEQA allows a lead agency to limit the detail of discussion of environmental effects that are not potentially significant (PRC Section 21100, CCR Section 15128). Based on research and analysis of technical studies and data, and review of the Cannabis Program Update, it was determined that the program would not result in significant impacts to population and housing or recreation because it would not involve the generation of substantial new employment or a need for housing that could generate additional demand on recreation resources.

STANDARD TERMINOLOGY

This Draft EIR uses the following standard terminology:

- ▶ “No impact” means no change from existing conditions (no mitigation is needed).
- ▶ “Less-than-significant impact” means no substantial adverse change in the physical environment (no mitigation is needed).
- ▶ “Potentially significant impact” means a substantial adverse change in the environment that might occur (mitigation is recommended because potentially significant impacts are treated as significant).
- ▶ “Significant impact” means a substantial adverse change in the physical environment that would occur (mitigation is recommended).
- ▶ “Significant and unavoidable impact” means a substantial adverse change in the physical environment.

APPROVAL PROCESS FOR SUBSEQUENT PROJECTS

If the Cannabis Program Update is approved, this EIR would be used as a program “first-tier” level of environmental review consistent with the requirements of California Environmental Quality Act (CEQA) Sections 15152 and 15168. The program-level analysis considers the broad environmental impacts of the overall Cannabis Program Update, based on an understanding that subsequent projects/actions that fall under the program would occur in multiple years and locations. As future individual projects/actions are proposed, they would be evaluated to determine whether the entitlements/actions fall within the scope of the certified EIR and incorporate all applicable performance standards and mitigation measures identified therein. Should the subsequent projects/actions not be consistent with the approved Cannabis Program Update, additional environmental review through the subsequent review provisions of CEQA may be warranted (CEQA Guidelines Sections 15162 through 15164).

Generally, subsequent approval would fall within two categories: ministerial review or discretionary review. Ministerial review would involve approval through a staff action, wherein the standards set forth in the Cannabis Program Update have been found to be met. If a ministerial permit is granted, it would be assumed that the environmental impacts have been sufficiently addressed in this EIR and no further CEQA review is needed. Ministerial permits would be limited to projects meeting the crop swap requirements as codified in Section 26-18-115 (C)(4)(h). A project would be approved through a ministerial review by issuance of a zoning permit or a certificate of occupancy. A project must meet a list of requirements to obtain a zoning permit or certificate of occupancy.

Discretionary review involves issuance of a use permit or design review with hearing. A project subject to a use permit or design review with hearing would be reviewed for consistency with this EIR. Review for consistency with this EIR would ensure that the significant environmental effects of the project have been identified and that mitigation measures would be adopted, consistent with the findings prepared for this EIR. If it is determined that the individual project could result in a new significant environmental impact or an impact of greater severity, compared to that disclosed in this EIR, further CEQA documentation would be required (e.g., a mitigated negative declaration, addendum, or supplemental EIR). Please note that this document is a Draft EIR and the Final EIR will address comment on the draft EIR and may include modification to this Draft EIR.

A summary of the permit type, approval process, or applicable cannabis use is presented in Table 3-2.

Table 3-2 Permit Type and Approval Process for Allowable Cannabis Uses

Permit	Use Permit for Cannabis	Design Review Hearing	Zoning Permit for Cannabis	Certificate of Occupancy
Abbreviation	UPC	DRH	ZPC	C of O
Permit Type	Discretionary	Discretionary	Ministerial	Ministerial
Hearing	Yes	Yes	No	No
Environmental Review	Yes	Yes	Exempt	Exempt
Referral	Yes	Yes	No	No
Approval Body	Board of Zoning Adjustments	Design Review Committee	Administrative	Administrative
Appeal Body	Board of Supervisors	Planning Commission	Planning Commission	Planning Commission
Applicable Cannabis Use under the Cannabis Program Update	<ul style="list-style-type: none"> ▶ Development in LEA, LIA, DA, and RRD zones ▶ Cultivation, Wholesale nursery, and events in LEA, LIA, DA, and RRD zones ▶ Centralized processing in LEA, LIA, and DA zones ▶ Cultivation operations in MP, M1, M2, and M3 zones where urban services are not available 	<ul style="list-style-type: none"> ▶ New development in Industrial and Commercial Zones ▶ Cultivation operations in MP, M1, M2, and M3 zones where urban services are available 	<ul style="list-style-type: none"> ▶ Crop swap in LEA, LIA, DA, and RRD 	<ul style="list-style-type: none"> ▶ Wholesale nursery, testing laboratory, non-storefront retail, distribution, centralized processing, manufacturing in MP, M1, M2, M3 and C3 zones ▶ Industrial and Commercial zones

This page is intentionally left blank.

3.1 AESTHETICS

This section evaluates the aesthetic effects from the adoption and implementation of the proposed Cannabis Program Update, as well as identifies the applicable policies and regulations related to aesthetics and scenic resources. The analysis considers the quality and character of existing scenic resources and the potential visibility of new cannabis facilities from surrounding areas, including physical changes, lighting, and glare. Given the programmatic level of analysis of countywide aesthetic resources and impacts, this section characterizes the visual character of the county using analysis provided in Section 4.11, "Visual Resources," of the Sonoma County General Plan 2020 Draft EIR.

Several aesthetics-related comments were received in response to the notice of preparation (NOP). These comments identified concerns regarding aesthetics, neighborhood compatibility, visual character, visual permitting, and lighting. These issues are addressed in the impact analysis below. All comments received in response to the NOP are presented in Appendix A of this EIR.

3.1.1 Regulatory Setting

FEDERAL

There are no federal regulations related to visual resources relevant to the analysis of the Cannabis Program Update.

STATE

California Scenic Highway Program

California's Scenic Highway Program was created by the California Legislature in 1963 and is managed by the California Department of Transportation (Caltrans). The goal of this program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to highways. Caltrans defines a scenic highway as any freeway, highway, road, or other public right-of-way that traverses an area of exceptional scenic quality. For example, a highway may be designated "scenic" depending on how much of the natural landscape travelers can see, the scenic quality of the landscape, and the extent to which development intrudes on travelers' enjoyment of the view. Caltrans has mapped two designated and five eligible state scenic highways within the Program area. Refer to the "State Scenic Highways" discussion under Section 3.1.2, "Environmental Setting," for a full description of the state scenic highways within the Program Area.

California Energy Commission's Building Energy Efficiency Standards for Outdoor Lighting

Title 24, Parts 1 and 6, Building Energy Efficiency Standards, adopted by the California Energy Commission (CEC) on November 5, 2003, includes requirements for outdoor lighting. These standards are updated periodically, and the last update took effect on January 1, 2023 (referred to as the 2022 Building Energy Efficiency Standards).

The requirements of the outdoor lighting standards vary according to "lighting zone." The allowed lighting power is based on the brightness of existing lighting in the surrounding area. This is because the eyes adapt to darker surrounding conditions, and less light is needed to properly see. Providing greater power than is needed potentially leads to unwanted glare and to an increasing spiral of brightness as over-bright projects become the surrounding conditions for future projects, causing future projects to unnecessarily consume energy and contribute to light pollution.

CEC defines the boundaries of lighting zones based on US Census Bureau boundaries for urban and rural areas, as well as the legal boundaries of wilderness and park areas. The smallest amount of power is allowed in Lighting Zone 0, and increasingly more power is gradually allowed in Lighting Zones 1 through 4. By default, government-designated parks, recreation areas, and wildlife preserves are Lighting Zone 0; rural areas, developed portions of government-designated parks, recreation areas, and wildlife preserves are Lighting Zone 1; urban areas defined by

the 2010 US Census Bureau are Lighting Zones 2 and 3. Lighting Zone 4 is a special use district that may be adopted by a local government (CEC 2024).

California Code of Regulations

CCR, Title 4, Division 19 ("Cultivation Site Requirements"), includes the following requirements for light sources at cultivation premises:

- ▶ Section 16304(a)(6): Outdoor lights used for safety or security purposes are shielded and downward facing.
- ▶ Section 16304(a)(7): Lights used for indoor or mixed-light cultivation are shielded from sunset to sunrise to reduce nighttime glare.

LOCAL

Sonoma County 2020 General Plan

The Land Use and Open Space and Resource Conservation Elements include goals, objectives, and policies related to aesthetics and scenic resources within the County. The following objectives and policies related to aesthetics and scenic resources are applicable to the Cannabis Program Update.

Land Use Element

- ▶ **Policy LU-10a:** Establish maximum densities and/or siting standards for development in designated Community Separators, Scenic Landscape Units, Scenic Corridors, Biotic Habitat Areas, Habitat Connectivity Corridors, and Riparian Corridors.
- ▶ **Policy LU-10b:** Use incentives to encourage voluntary easements when considering development on lands with important biotic or scenic resources.

Sebastopol and Environs Planning Area

- ▶ **Policy LU-17f:** Avoid discretionary projects on "Limited Commercial" or "Limited Industrial" lands unless the use:
 - (1) Serves the commercial, service, employment or agricultural processing needs of the planning area;
 - (2) Is compatible with adjacent residential or agricultural uses;
 - (3) Would not adversely affect the level of service on public roadways or interfere with the movement of farm vehicles;
 - (4) Provides mitigation for visual impacts within a designated Scenic Corridor through appropriate setbacks, landscaping, and/or screening; and
 - (5) Is in keeping with the scale and character of the community.

Rohnert Park - Cotati Planning Area

- ▶ **Policy LU-18b:** Use the following criteria for approving discretionary projects in the "Limited Commercial" or "Limited Industrial" category.
 - (1) The use specifically serves the service, employment or agricultural processing needs of planning area residents;
 - (2) The use is compatible with adjacent residential or agricultural uses;
 - (3) The use does not adversely affect the level of service on public roadways and would not interfere with the movement of farm vehicles; and
 - (4) If the use would be located within a designated Scenic Corridor, visual impacts can be mitigated by appropriate setbacks, landscaping, or screening.

- **Policy LU-18d:** Place conditions on discretionary projects to minimize potential adverse impacts on soil and biotic resources, wildlife, designated scenic resources, Crane Creek Park and the Fairfield Osborn Preserve.

Petaluma and Environs Planning Area

- **Policy LU-19d:** Use the following criteria for approval of discretionary projects in the "Limited Commercial" and "Limited Industrial" category:
 - (1) The use specifically serves the service, employment, or agricultural processing needs of local area residents or the local agricultural community;
 - (2) The use is compatible with adjacent residential or agricultural uses;
 - (3) The use won't adversely affect the level of service on public roadways and will not interfere with the movement of farm vehicles; and
 - (4) If the use is located within a designated scenic corridor, mitigate visual impacts by appropriate setbacks, landscaping, and/or screening.

Open Space and Resources Conservation Element

- **Objective OSRC-1.2:** Retain a rural character and promote low intensities of development in Community Separators. Avoid their inclusion in City Urban Growth Boundaries or Spheres of Influence. Avoid their inclusion within Urbans Service Areas for unincorporated communities.
- **Policy OSRC-1b:** Avoid commercial or industrial uses in Community Separators other than those that are permitted by the agricultural or resource land use categories.
- **Policy OSRC-1c:** Require development within Community Separators to be clustered and limited in scale and intensity.
- **Objective OSRC-3.2:** Provide guidelines so future land uses, development and roadway construction are compatible with the preservation of scenic values along designated Scenic Corridors.
- **Policy OSRC-3c:** Establish a rural Scenic Corridor setback of 30 percent of the depth of the lot to a maximum of 200 feet from the centerline of the road unless a different setback is provided in the Land Use Policies for the Planning Areas. Prohibit development within the setback with the following exceptions:
 - (1) New barns and similar agricultural support structures added to existing farm complexes on parcels in the Diverse Agriculture, Land Extensive Agriculture, Land Intensive Agriculture, and Resources and Rural Development land use categories, and on parcels in the Rural Residential land use category with Agriculture and Residential (AR) Zoning, provided that such structures proposed within a State Scenic Highway or where local design review exists by community choice in an adopted specific or area plan are subject to administrative design review.
 - (2) New barns and similar agricultural support structures that do not require a use permit in the Development Code on parcels in the Diverse Agriculture, Land Extensive Agriculture, Land Intensive Agriculture, and Resources and Rural Development land use categories, and on parcels in the Rural Residential land use category with Agriculture and Residential (AR) Zoning, provided that such structures proposed within a State Scenic Highway or where local design review exists by community choice in an adopted specific or area plan are subject to administrative design review.
 - (3) Maintenance, restoration, reconstruction, or minor expansion of existing structures.
 - (4) Telecommunication facilities that meet the applicable criteria established in the Development Code.
 - (5) Other new structures if they are subject to design review and (a) they are associated with existing structures, (b) there is no other reasonable location for the structure, (c) the location within the setback is necessary for the use, or (d) existing vegetation and topography screen the use.
 - (6) Compliance with the setback would render the parcel unbuildable.

- ▶ **Policy OSRC-4a:** Require that all new development projects, County projects, and signage utilize light fixtures that shield the light source so that light is cast downward and that are no more than the minimum height and power necessary to adequately light the proposed use.
- ▶ **Policy OSRC-4b:** Prohibit continuous all night exterior lighting in rural areas, unless it is demonstrated to the decision-making body that such lighting is necessary for security or operational purposes or that it is necessary for agricultural production or processing on a seasonal basis. Where lighting is necessary for the above purposes, minimize glare onto adjacent properties and into the night sky.
- ▶ **Policy OSRC-4c:** Discourage light levels that are in excess of industry and State standards.
- ▶ **Objective OSRC-6.1:** Develop Rural Character Design Guidelines to achieve the following: preservation of existing site features contributing to rural character; siting of buildings and development features to blend in with the surrounding landscape; and allowance for rural design features in rural areas.
- ▶ **Objective OSRC-6.2:** Establish Rural Character as a primary criterion for review of discretionary projects, but not including administrative design review for single family homes on existing lots outside of Urban Service Areas.
- ▶ **Policy OSRC-6a:** Develop design guidelines for discretionary projects in rural areas, but not including administrative design review for single family homes on existing lots, that protect and reflect the rural character of Sonoma County. Use the following general design principles until these Design Guidelines are adopted, while assuring that Design Guidelines for agricultural support uses on agricultural lands are consistent with Policy AR-9h of the Agricultural Resources Element.
 - (1) New structures blend into the surrounding landscape, rather than stand out.
 - (2) Landscaping is included and is designed to blend in with the character of the area.
 - (3) Paved areas are minimized and allow for informal parking areas.
 - (4) Adequate space is provided for natural site amenities.
 - (5) Exterior lighting and signage is minimized.

Sonoma County Airport Industrial Area Specific Plan

The Sonoma County Airport Industrial Area Specific Plan was initially adopted by the County in 1984, and constitutes the master program for development of the 770-acre specific plan area located between the Sonoma County Airport and United States Highway 101 (US 101). The plan designates specific land uses that include heavy industrial, industrial park, commercial, residential, and agriculture/open space.

The Land Use and Open Space Element establish development standards for all land uses that address aesthetics in the following areas:

- ▶ Lot coverage and setback standards that generally address compatibility with adjoining land uses and building massing in relation to the lot.
- ▶ Height and building design standards to ensure that development is harmonious with the local setting and with neighboring developments.
- ▶ Landscaping standards to screen parking and other site features from public views as well as retain existing vegetation.
- ▶ Lighting design standards to avoid offsite glare.

Bennett Valley Area Plan

The Bennett Valley Area Plan was initially adopted by the County in 1979 and has been amended multiple times through 2011. It is guided by the policy provisions of the Sonoma County General Plan, and is intended to achieve the desired balance of residential and agricultural use within the plan area that is located south of the City of Santa Rosa and northeast of the City of Rohnert Park. The plan area consists of approximately 15,500 acres.

Policies and mitigation measures of the Bennett Valley Area Plan that address aesthetics include the following:

I. Land Use

Low density is important to maintain the rural character of Bennett Valley.

- (1) Residential densities shall reflect the extent of constraints, suitabilities and sensitivities of the area.
- (2) Commercial development is not considered appropriate to the rural character of Bennett Valley.
- (4) To minimize environmental disruption, the County Subdivision Ordinance shall be the minimum standards applied for grading, road construction, drainage, driveway construction, siting, landscaping and energy. Where development standards included in Bennett Valley Plan exceed County Subdivision Standards, the Bennett Valley Standards shall apply.
- (5) New development throughout Bennett Valley shall be reviewed for site design and consistency with Bennett Valley development guidelines.
- (6) Cluster development should be encouraged.

III. Conservation (Resources)

- (1) Agriculture is a vital component of the rural character and shall be encouraged and protected.
- (2) Unique scenic, visually and environmentally sensitive, and historic resources are important to the character of Bennett Valley and shall be protected.

IV. Open Space

A feeling of Open Space is a vital component of rural character in Bennett Valley. Where the standards below are less restrictive than the General Plan standards, compliance with the General Plan standards is required.

- (1) Open vistas shall be protected.
- (2) Development patterns and specific development shall be in harmony with natural surroundings, including, but not limited to topography and vegetation.
 - a. Skyline development shall be prohibited.
 - b. Planting of native vegetation should be encouraged to screen existing development from the road.
- (3) A scenic corridor shall be established to protect views from the road and the community should be encouraged to undertake tree-planting programs where appropriate along scenic corridors.

VII. Scenic Corridors

The scenic quality of all transportation routes within Bennett Valley is a vital component of the rural character, and shall be protected.

Mitigation Measures

E. To Maintain Visual Quality

The Critical Open Space Plan Map shows designated open space areas. Where the following standards are less restrictive than General Plan standards, compliance with General Plan standards is required.

Bennett Valley

- (1) Avoid skyline development.
- (2) Site and design structures in harmony with natural surroundings.
- (3) Prohibit structures in visual/scenic corridors as mapped on the Critical Open Space Plan.
- (4) Prohibit structures in visual corridors as mapped on the Critical Open Space Plan.

- (5) Apply the Bennett Valley Design Guidelines.
- (6) Development in scenic landscape units shall comply with the General Plan and Zoning Ordinance.

Franz Valley Area Plan

The Franz Valley Area Plan was initially adopted by the County in 1979 and has been amended multiple times through 2012. It is guided by the policy provisions of the Sonoma County General Plan. The plan area consists of approximately 91,500 acres and is along the eastern county boundary with Napa and Lake counties.

Policies of the Franz Valley Area Plan that address aesthetics include the following:

- (1) Along scenic routes, a building setback of 30% of the depth of the lot (a maximum of 200 feet from the centerline of the road) is required to preserve the open rural character of the route. If development is proposed within the setback an administrative procedure is hereby established that can authorize exceptions according to design and siting criteria appropriate to rural areas.
- (2) In the vicinity of vista points, a 400 foot building setback is required to prevent disturbing or blocking long views from the road. Administrative permits to build within the setback may be approved.
- (3) Within the plan area, new transmission routes are not consistent with the long term preservation of open space.
- (4) Ridgelines should be protected from development, and utilities for new construction installed underground along scenic routes and near vista points.

Penngrove Area Plan

The Penngrove Area Plan was initially adopted by the County in 1984 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan. The plan area is located between the City of Petaluma and the City of Rohnert Park.

The following implementation measures of the Penngrove Area Plan address aesthetics:

- (1) These areas are presently farm lands and preservation of agriculture is a high priority of the plan. Low density zoning will aid in the retention of the character of the area.
- (2) A visual analysis is required for all subdivisions in areas designated "community form land" and "community separator." Building envelopes which locate building sites below ridgelines and utilize existing vegetation to screen residential development shall be established for all subdivisions within this area.
- (3) Development in "Scenic Landscape Units" is subject to the policies of the Open Space Element of the General Plan, as implemented by the SR (Scenic Resources) district.

Petaluma Dairy Belt Area Plan

The Petaluma Dairy Belt Area Plan was initially adopted by the County in 1985 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan, and its primary priority shall be to preserve and enhance the agricultural resources and protect the agricultural industry. The plan area is located west of the City of Petaluma along the county's western boundary.

Policies of the Petaluma Dairy Belt Area Plan that address aesthetics include the following:

Land Use

A. Community Form

- (1) Preserve the identities of present communities.

Natural Resources

N. Scenic Resources

- (1) Protect the visual quality of unique scenic resources.
- (2) Protect and maintain scenic areas essential for defining community separation and community form.
- (3) Protect visually vulnerable landscapes, such as ridgelines.
- (4) Maintain scenic resources as an attraction for tourism and recreation.
- (5) Review new developments to minimize their impact on scenic quality.

Transportation

E. Scenic Highways

- (4) Encourage the use of native plants for screening and landscaping in proposed development along designated scenic highway corridor.

Sonoma Mountain Area Plan

The Sonoma Mountain Area Plan was initially adopted by the County in 1978 and has been amended through 2012. It is guided by the policy provisions of the Sonoma County General Plan.

Policies of the Sonoma Mountain Area Plan that address aesthetics include the following:

Land Use

- (1) Preserve the identities of present communities.

Scenic Corridors

- (1) Structures should be set back from scenic highways to protect uninterrupted views from the road and to maintain the impression of openness in Sonoma Mountains.
- (2) Structure design should be in keeping with the rural character of the area.
- (3) Structures should not be sited in visually vulnerable locations such as on ridgelines and in prominent foregrounds.
- (4) Proposals for structures in potentially vulnerable locations should be reviewed by the Design Review Committee.
- (5) Utilities should be installed underground for new construction when feasible.

South Santa Rosa Area Plan

The South Santa Rosa Area Plan was initially adopted by the County in 1982 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan and consists of approximately 18,000 acres. The plan area is bisected by US Highway 101 and is located east of State Route 116 and south of State Route 12. is located west of the US Highway 101 in the southern portion of the county.

Policies of the South Santa Rosa Area Plan that address aesthetics include the following:

Scenic Resources

- (1) Protect and maintain open scenic areas essential for defining the urban form of Santa Rosa through use of scenic conservation easements.
- (2) Protect the scenic areas within the study district which one is important for visual and psychological relief from Santa Rosa urban environment.
- (3) Protect visually vulnerable landscapes, such as ridgelines and foothills.
- (4) Use the established Design Review process for development of all lands east of Petaluma Hill Road.

- (5) Require building and grading setbacks from riparian corridors to preserve ecological, agricultural and aesthetic values.

Scenic Highways

- (5) Encourage the use of native plants for screening and landscaping in proposed development along designated scenic corridors.
- (6) Discourage the location of new manufacturing and commercial facilities within designated scenic corridors, except in urban areas or where they are otherwise consistent with the character of scenic areas.

Urban Scenic Highways

- (1) Development standards including building setbacks and landscaping for Hwy 101 and Hwy 12 are contained in the section entitled "Urban Design." Application of these standards is required to mitigate the impacts of development along these scenic corridor routes. Where such standards are less restrictive than those of the General Plan, compliance with the General Plan standards is required.

Rural Scenic Highways

- (1) Along rural scenic corridors, a 100 foot building setback (from centerline of the road) is required to preserve the open and scenic quality of the route. If development is proposed within the setback area, an administrative permit procedure is recommended that can authorize exceptions according to design criteria appropriate to the scenic area.
- (2) In the vicinity of scenic points a 200 foot setback is recommended to prevent blocking or disrupting these areas' importance. Administrative permits may be approved to allow building within the setback.

West Petaluma Area Plan

The West Petaluma Area Plan was initially adopted by the County in 1981 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan and consists of approximately 11,000 acres. The plan area is located west of US Highway 101 and the City of Petaluma.

Policies of the West Petaluma Area Plan that address aesthetics include the following:

C. Open Space

Goal 2.3: Maintain or Enhance Existing Views

- (1) Protect visually vulnerable landscapes, such as ridgelines, unique scenic areas, and areas essential for defining the form of development in Petaluma.
- (2) Review new developments to minimize the impact on scenic quality and to insure landscape integrity is maintained.

Open Space Plan

Scenic Routes, Vista Points, Bicycle Routes

- (1) Along scenic routes, a 200 foot building setback (from the centerline of the road) is required to preserve the open rural character of the route. If development is proposed within the setback, an administrative permit procedure is recommended that can authorize exceptions according to design and siting criteria appropriate to rural areas. Where such setback is less restrictive than required for General Plan designated scenic corridors compliance with the General Plan standards is required.
- (2) In the vicinity of view sheds, a 400 foot building setback is recommended to prevent disturbing or blocking long views from the road. Administrative permits to build within the setback may be approved as with scenic routes.
- (3) Ridgelines and hillcrests should be protected from development and utilities for new construction installed underground near view sheds.

Sonoma County Code

Scenic Resources Combining District

Article 64, "Scenic Resources (SR) Combining District," is an overlay zoning, which does not affect the base zoning, aimed to preserve the visual character and scenic resources of lands in the County and to implement the provisions of Sections 2.1, 2.2, and 2.3 of the Open Space and Resources Conservation Element. Article 64 includes various criteria for development within designated scenic landscapes, scenic corridors, and community separators.

Section 26-64-050 lays out the design review approval process within the SR Combining District, defines development in these areas as construction, alteration, or modification of a residential, commercial, or industrial structure or appurtenant structure. However, the Article 64 design standards exempt U occupancy-type structures, such as storage barns and water towers. Agricultural processing and visitor-servicing uses (e.g., wineries, dairies, cannabis other than crop swaps) would require a use permit. Note that the classification of agricultural structures as U occupancy is limited to structures designed and constructed to house farm implements, hay, grain, poultry, livestock, or other horticultural products. This structure may not be a place of human habitation or a place of employment where agricultural products are processed, treated, or packaged, and it may not be a place used by the public.

Community Separators and Scenic Landscape Units

Section 26-64-020, Community Separators and Scenic Landscape Units, establishes the following provisions to development of properties in community separators and scenic landscape units:

- a. All structures, except certain telecommunications facilities as provided for in Section 26-64-040, located within community separators and scenic landscape units illustrated on Figures OS-5a through OS-5i, inclusive, of the general plan open space element and included within the SR district shall be subject to the following criteria:
 1. Structures shall be sited below exposed ridgelines;
 2. Structures shall use natural landforms and existing vegetation to screen them from view from public roads. On exposed sites, screening with native, fire resistant plants may be required;
 3. Cuts and fills are discouraged, and where practical, driveways are screened from public view;
 4. Utilities are placed underground where economically practical;

The above criteria shall not apply to agricultural accessory structures which do not require a use permit in the district with which this district is combined.

Scenic Corridors

Section 26-64-030, Scenic Corridors, establishes the following provisions to development of properties along Scenic Corridors:

- (a). All structures located within scenic corridors established outside of the urban service area boundaries shown on Figures LU-5a through LU-5i, inclusive, of the general plan land use element shall be subject to the setbacks of thirty percent (30 percent) of the depth of the lot to a maximum of two hundred feet (200') from the centerline of the road. Development within the setback shall be prohibited with the following exceptions, where such uses are allowed by the base district with which this district is combined:
 1. New barns and similar agricultural support structures which are added to existing farm complexes provided that such structures proposed within a state scenic highway or where local design review exists by community choice in an adopted specific or area plan are subject to design review;
 2. New barns and similar agricultural support structures which do not require a use permit in this chapter; provided, however, that such structures proposed within a State Scenic Highway or where local design review exists by community choice in an adopted specific or area plan are subject to design review;
 3. Maintenance, restoration, reconstruction or minor expansion of existing structures;
 4. Certain telecommunication facilities as provided in Section 26-64-040;

5. Other new structures provided they are subject to design review and
 - i. They are associated with existing structures,
 - ii. There is no other reasonable location for the structure,
 - iii. The location within the setback is necessary for the use, or
 - iv. Existing vegetation and topography screen the use;
 6. Compliance with the setback would render the parcel unbuildable;
 7. Satellite dishes which are not visible from the roadway.
- (b) Where the scenic corridor setback provided for in Section 26-64-030(a), conflicts with the scenic corridor setback along Highway 12 established by Ordinance 1810, the latter shall apply.
- (c) A building setback of twenty feet (20') shall be applied along the Highway 101 scenic corridor to properties which are within the urban service area boundaries shown on Figures LU-5b, -5c, -5e, -5g, and -5h of the general plan land use element, to be reserved for landscaping.
- (d) Where development occurs on parcels located both within scenic landscape units and adjacent to scenic corridors, the more restrictive provisions set forth in this article shall apply.
- (e) Building permits within the setback established in Section 26-64-030(a) along Bohemian Highway between Occidental and Freestone and Bodega Highway between Bodega and Freestone shall be referred to the county landmarks commission for review and recommendation.

Sonoma County Visual Assessment Guidelines

The Sonoma County Visual Assessment Guidelines (VA Guidelines) provide guidance in determining a project's effects on visual resources. The visual sensitivity of the project site and the project's visual dominance are combined to determine significance for the visual impact analysis. The tables below show the criteria provided in the VA Guidelines for determining visual sensitivity and visual dominance, and how these factors are used to determine thresholds of significance for the visual impact analysis.

Criteria for determining visual sensitivity of a project site are shown in Table 3.1-1.

Table 3.1-1 Site Sensitivity

Sensitivity	Characteristics
Low	The site is within an urban land use designation and has no land use or zoning designations protecting scenic resources. The project vicinity is characterized by urban development or the site is surrounded by urban zoning designations and has no historic character and is not a gateway to a community. The project site terrain has visible slopes less than 20 percent and is not on a prominent ridgeline and has no significant natural vegetation of aesthetic value to the surrounding community.
Moderate	The site or portion thereof is within a rural land use designation or an urban designation that does not meet the criteria above for low sensitivity, but the site has no land use or zoning designations protecting scenic resources. The project vicinity is characterized by rural or urban development but may include historic resources or be considered a gateway to a community. This category includes building or construction sites with visible slopes less than 30 percent or where there is significant natural features of aesthetic value that is visible from public roads or public use areas (i.e. parks, trails etc.).
High	The site or any portion thereof is within a land use or zoning designation protecting scenic or natural resources, such as General Plan designated scenic landscape units, coastal zone, community separators, or scenic corridors. The site vicinity is generally characterized by the natural setting and forms a scenic backdrop for the community or scenic corridor. This category includes building and construction areas within the SR designation located on prominent hilltops, visible slopes less than 40 percent or where there are significant natural features of aesthetic value that are visible from public roads or public use areas (i.e. parks, trails etc.). This category also includes building or construction sites on prominent ridgelines that may not be designated as scenic resources but are visible from a designated scenic corridor.

Sensitivity	Characteristics
Maximum	The site or any portion thereof is within a land use or zoning designation protecting scenic resources, such as General Plan designated scenic landscape units, coastal zone, community separators, or scenic corridors. The site vicinity is generally characterized by the natural setting and forms a scenic backdrop for a designated scenic corridor. This category includes building or construction sites within the scenic resource designation on or near prominent ridgelines, visible slopes greater than 40 percent or where there are significant natural features of aesthetic value that are visible from a designated scenic corridor.

Source: Sonoma County 2019.

The visual dominance of a project is determined by comparing the contrast of the project's characteristics related to form, line, color and texture with its surroundings. Ratings are inevident, subordinate, co-dominant, or dominant (Table 3.1-2).

Table 3.1-2 Visual Dominance

Dominance	Characteristics
Dominant	Project elements are strong – they stand out against the setting and attract attention away from the surrounding landscape. Form, line, color, texture, and night lighting contrast with existing elements in the surrounding landscape.
Co-Dominant	Project elements are moderate – they can be prominent within the setting but attract attention equally with other landscape features. Form, line, color, texture, and night lighting are compatible with their surroundings.
Subordinate	Project is minimally visible from public view. Element contrasts are weak – they can be seen but do not attract attention. Project generally repeats the form, line, color, texture, and night lighting of its surroundings.
Inevident	Project is generally not visible from public view because of intervening natural land forms or vegetation.

Source: Sonoma County 2019.

The determination of visual impact significance is made by:

- Establishing the level of visual sensitivity of the site using the criteria discussed Table 3.1-1.
- Characterizing the visual dominance of the project by comparing the project's form, line, color, texture, and lighting against that of the surrounding area as described in Table 3.1-2.
- Determining significance of the visual impact by comparing site sensitivity with visual dominance of the project in accordance with Table 3.1-3.

Table 3.1-3 Thresholds of Significance for Visual Impact Analysis

Sensitivity	Dominant	Co-Dominant	Subordinate	Inevident
Maximum	Significant	Significant	Significant	Less than significant
High	Significant	Significant	Less than significant	Less than significant
Moderate	Significant	Less than significant	Less than significant	Less than significant
Low	Less than significant	Less than significant	Less than significant	Less than significant

Source: Sonoma County 2019.

Sonoma County Tree Protection Ordinances

The County has adopted various tree protection ordinances within the Sonoma County Code, consisting of the Tree Protection Ordinance (Section 26-88-015), Oak Woodland Combining District and Valley Oak Habitat Combining District (Chapter 26, Article 67), Heritage and Landmark Tree Ordinance (Chapter 26D), and Riparian Corridor Combining Zone (Chapter 26, Article 65). In accordance with these tree protection ordinances, a permit is required for the removal of protected trees per the specifications established in each ordinance.

3.1.2 Environmental Setting

REGIONAL SETTING

Sonoma County is located along the Pacific coastline approximately 40 miles north of the City of San Francisco and is the most northern of the nine counties within the San Francisco Bay Area region. The County is just over 1,500 square miles, or approximately 960,000 acres, making it the largest of the nine Bay Area counties. Sonoma County is bordered by the Pacific Ocean on the west; Marin County and San Pablo Bay to the south; Solano, Napa, and Lake Counties to the east; and Mendocino County to the north. Major roadways providing access through Sonoma County include US 101, US 1, State Route (SR) 12, SR 116, and SR 128.

The County includes a diverse range of landforms, environments, and scenic resources. The County is divided into roughly three main geographic areas: the coastal area, including the low coastal hills, in the west; the Santa Rosa Plain in the middle; and the Mayacamas and Sonoma mountain ranges in the east. The coastal area is sparsely settled in the north and includes the redwood and mixed conifer forests of the Mendocino Highlands; however, in the south, the County is more populated and includes rolling oak-studded hills, dairy lands, and coastal prairies. The broad, flat Santa Rosa Plain, which lies between the Sonoma Mountains on the east and low coastal hills on the west, contains the cities of Santa Rosa, Rohnert Park, and Cotati. The Mayacamas range forms the eastern boundary of the County along with the Sonoma Mountain range, which encloses the "Valley of the Moon." The Valley of the Moon is a scenic valley that extends from near the City of Santa Rosa southeastward to the marshlands of San Pablo Bay. In the north, the Mayacamas Range and Mendocino Highlands enclose the farming regions of Alexander and Dry Creek Valleys. In the far northeast, the remote interior of the Mayacamas Mountains contains the Geysers geothermal steam field (Sonoma County 2016).

VISUAL CHARACTER OF COUNTY

The visual character of the County contains diverse features in each of its areas and communities. This character includes natural habitat conditions and waterways; rural and agricultural land uses, such as vineyards, orchards, field crops, rangeland, supporting agricultural buildings; and rural communities within the unincorporated areas of the County (e.g., Annapolis, Mark West, Monte Rio, Sea Ranch, Guerneville, Kenwood, and Duncans Mills). Figures 3.1-1a and 3.1-1b shows the typical rural character of the unincorporated area of the County, including open viewsheds across agricultural fields that provide distant views of other agricultural uses, buildings, forested areas, and the distant hills and mountains. Areas of the county also contain developed uses, including industrial areas and commercial areas, as depicted in Figure 3.1-1c. As depicted in Figures 3.1-b and 3.1-1d, from roadways, agricultural areas contain visible agricultural buildings and temporary membrane-covered frame structures (i.e., hoop houses). As shown in Figure 3.1-1e, row crops including vegetables and flower production is cultivation both in outdoor open settings and within enclosures (i.e., hoop houses). For a discussion pertaining to cannabis uses in the county, please see below under subheading, "Visual Characteristics of Existing Cannabis Cultivation Operations in the County."



Source: Sonoma County 2025

Photograph contains undeveloped lands within the foreground, and forested hills in the background. Note the rural nature of the landscape and lack of developed uses other than a roadway.



Source: Sonoma County 2025

Photograph provides a view along Westside Road. Note the vineyard that line the roadway and forested lands on the hillside in the background.

Figure 3.1-1a Existing Visual Character of Sonoma County



Source: Photograph taken by Ascent 2016.

View of rural agricultural land. Note barn in middle ground and rolling hills in the background.



Source: Photograph taken by Ascent 2016.

View of agricultural uses along Valley Ford Road. Note the various structures developed within the otherwise undeveloped ranch lands.

Figure 3.1-1b Existing Visual Character of Sonoma County



Source: Google Earth 2025.

View of industrial uses along Regional Parkway.



Source: Google Earth 2025.

View of commercial uses in Guerneville.

Figure 3.1-1c Existing Visual Character of Sonoma County



Source: Photograph taken by Ascent 2025.

View of agricultural land with a vineyard in the background.



Source: Photograph taken by Ascent 2019.

View of setback agricultural structures along River Road east of US Highway 101.

Figure 3.1-1d Existing Visual Character of Sonoma County



Source: Sonoma County 2025

View of row crop cultivation in Sonoma County. Note hoop houses present in the left background of the photo.



Source: Sonoma County 2025

View of row crop cultivation in Sonoma County. Note hoop houses present in the right background of the photo.

Figure 3.1-1e Existing Visual Character of Sonoma County

STATE SCENIC HIGHWAYS

Caltrans has mapped two designated and five eligible state scenic highways within the Program Area. Figure 3.1-2 shows the locations of the designated and eligible state scenic highways within the Program Area. The designated and eligible scenic highways in the program area are (Caltrans 2024):

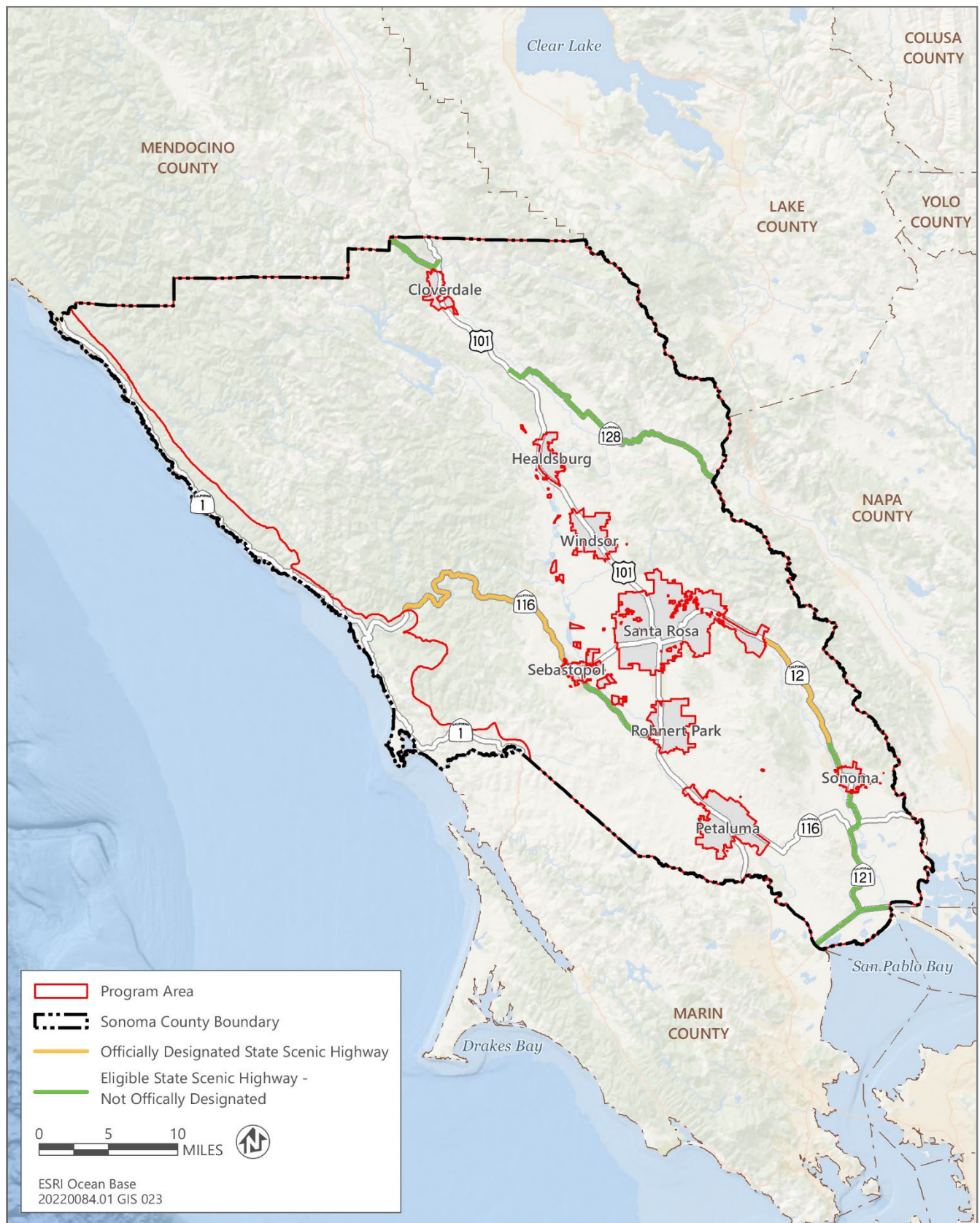
- ▶ SR 116 from SR 1 on the Pacific Coast near Jenner to the city limits of Sebastopol (designated scenic highway),
- ▶ SR 12 from Santa Rosa to London Way (Near Agua Caliente) (designated scenic highway).
- ▶ SR 12 from London Way (Near Agua Caliente) to the city limits of Sonoma (eligible for scenic designation),
- ▶ SR 116 south of Sebastopol to US 101 (eligible for scenic designation),
- ▶ SR 12 between SR 121 until its connection with SR 37 (eligible for scenic designation),
- ▶ SR 128 between the county line north of Calistoga to Geyserville (eligible for scenic designation), and
- ▶ SR 128 between the county line with Mendocino County to the city limits of Cloverdale (eligible for scenic designation).

SCENIC RESOURCES IN THE COUNTY

The Open Space and Resource Conservation Element of the County's General Plan designates various scenic resources within the County, including scenic landscapes, scenic corridors, and community separators. Figure 3.1-3 shows the County-designated scenic resources within the Program Area. Each of these scenic resources is described in greater detail below.

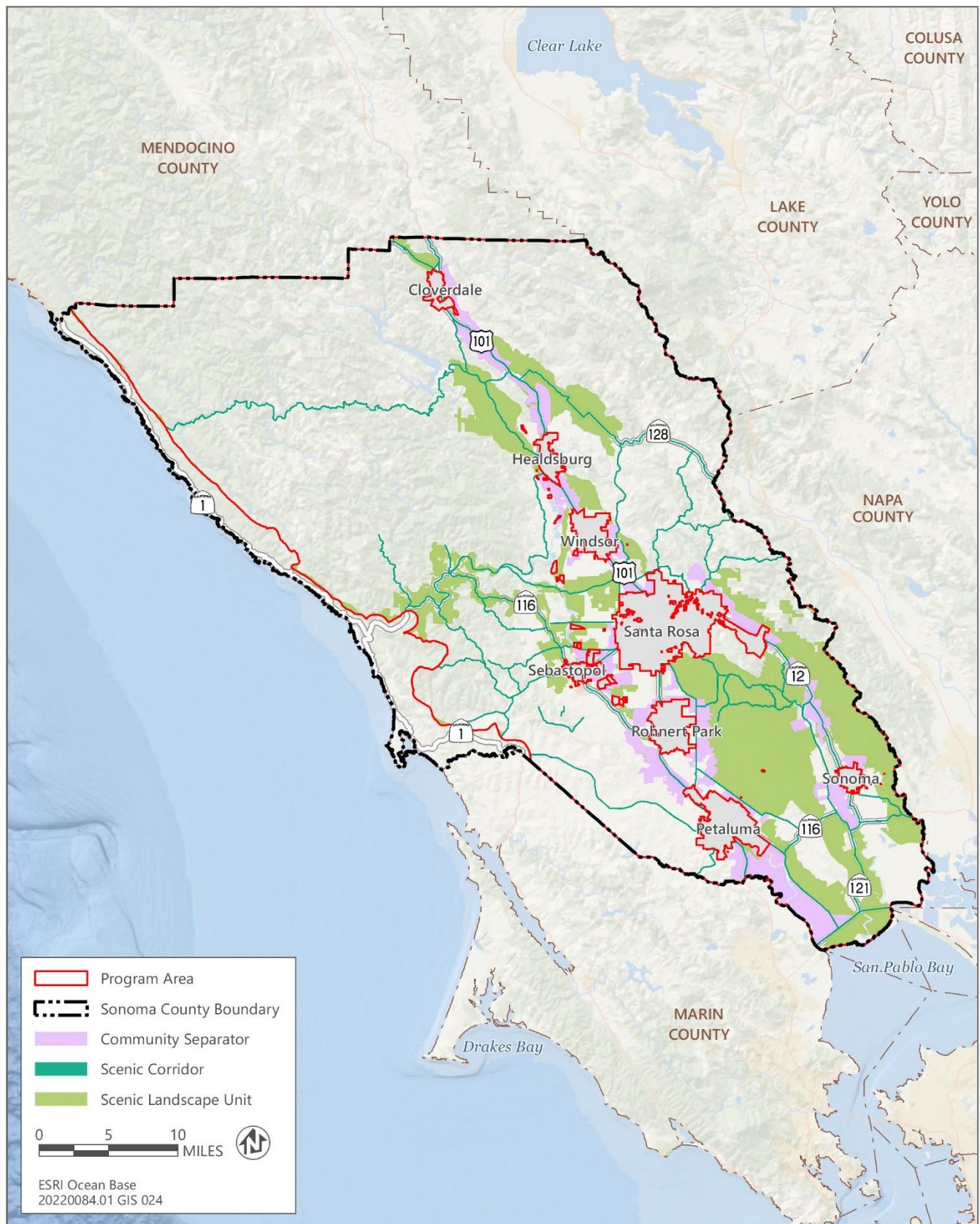
Scenic Landscapes

The Open Space and Resource Conservation Element identifies scenic landscape areas as those that offer relief from urban densities and have open, rural qualities that provide scenic backdrops. In addition, scenic landscapes have little capacity to absorb large amounts development without substantial visual impact. Examples of scenic landscapes include areas that have views of vineyards, San Pablo Bay, Laguna de Santa Rosa, or the Mayacamas and Sonoma Mountains. (Note: While the Coastal Zone is also a designated scenic landscape, this evaluation will not include characterization or analysis of changes to the coastal region since adoption and implementation of the Cannabis Program Update would not allow cannabis uses in the Coastal Zone.) The designated scenic landscapes within the Program Area are described in Table 3.1-4 below.



Source: Data downloaded from Caltrans in 2024; adapted by Ascent in 2024.

Figure 3.1-2 State Scenic Highways within the Program Area



Source: Data downloaded from Sonoma County in 2024; adapted by Ascent in 2024.

Figure 3.1-3 Sonoma County–Designated Scenic Resources within the Program Area

Table 3.1-4 Sonoma County–Designated Scenic Landscapes

Scenic Landscape	Description
Oat Valley	As the most northern scenic landscape, Oat Valley and its surrounding hillsides provide a scenic entrance into the County for vehicles traveling along SR 128. This scenic area is located along the northern border of the County, south of Alderglen Springs before SR 128's junction with US 101.
Alexander and Dry Creek Valleys	While both Alexander Valley and Dry Creek Valley are important agricultural centers within the unincorporated County, these valleys are also closely tied to the area's scenic image, particularly for their vineyards and rural characteristics. The hills along US 101 and above the valley floor are particularly sensitive scenic resources. Protection of these agricultural valleys' scenic beauty is not only important from an aesthetic standpoint but also for agricultural marketing within the County.
Hills East of Windsor	The hills east of the unincorporated community of Windsor provide a scenic backdrop to the Santa Rosa Plain. North of Windsor, the area extends into the plain and adjoins the low, rolling hills that form part of the Windsor-Healdsburg Community Separator, which is discussed in greater detail under "Community Separators" below.
Eastside Road	The scenic view corridor along Eastside Road consists of rolling hills and agricultural uses and is an important scenic transition between the unincorporated community of Windsor and the rich agricultural and mineral resource areas of the Russian River Valley.
River Road	The scenic view corridor along River Road provides a variety of landscapes, including valleys planted in vineyards, orchard-covered hillsides, and redwood groves adjacent to the Russian River.
Laguna de Santa Rosa	This scenic area consists primarily of the scenic lowlands and floodplain around the Laguna de Santa Rosa marsh, swamp, and riparian forest. It also includes hills between Forestville, Sebastopol, and Meacham Hill. It defines the eastern boundary of Sebastopol and associated rural residential development.
Bennett Valley	Bennett Mountain forms a scenic backdrop from Bennett Valley Road. This area defines Santa Rosa's southeastern boundary and also abuts Annadel State Park.
SR 116	The scenic view corridor along SR 116 contains unique views of orchards, redwood groves, and the Russian River. This area also defines the community boundaries of Forestville, Guerneville, and Monte Rio and their adjacent rural residential development.
Atascadero Creek	This area consists primarily of the lowlands and floodplains along Atascadero Creek and the hills along Occidental Road. The area defines the western boundary of Sebastopol, and its adjacent rural residential development separates Sebastopol and Graton and creates a visual connection to the Laguna de Santa Rosa.
Coleman Valley	The Coleman Valley area contains unique views of forests, canyons, grazing lands, and long-distance views of the ocean.
Sonoma Mountains	The Sonoma Mountains are highly valuable scenic lands, clearly defining the eastern edge of the Santa Rosa Plain between the cities of Petaluma and Sonoma. They provide an important backdrop to the urban plains and Sonoma Valley.
Hills South of Petaluma	The open grassy hillsides and ridgelines south of Petaluma are extremely sensitive scenic resources. Located at the Marin County border, this area serves as the southern gateway to the County.
Sonoma Valley/Mayacamas Mountains	Included in this area are the Sonoma-Napa Mountains that provide a backdrop to the valley and agricultural areas bordering the valley. These areas define the boundaries of the urban and rural communities and are very sensitive because of their small size and the unobstructed view of them from roads and adjoining urban areas.
South Sonoma Mountains	The south Sonoma Mountains and hillsides are an important part of the landscape within the southern portion of the County, which consists of a simple landform, minimal vegetation, and a clear widespread viewing area. Pasture and forage lands along the SR 37 corridor are included to preserve views of the San Pablo Bay.

Source: Sonoma County 2016.

Scenic Corridors

The County's General Plan designates scenic corridors as roadways that contain scenic views of rural landscapes, including orchards and forest-covered hills; rolling dairy lands; and scenic valleys planted with vineyards. Preserving scenic corridors is important due to the scenic quality they provide both residents and visitors. As shown in Figure 3.1-3, many roads within the County have been designated as scenic corridors, with the exception of roadways that traverse urban development, such as SR 12 through the City of Santa Rosa and SR 128 through the City of Cloverdale (Sonoma County 2024).

Community Separators

The General Plan also designates community separators as scenic resources within the County. Community Separators are rural open space and agricultural and resource lands that separate incorporated cities and other unincorporated, rural communities; prevent sprawl; protect natural resources; and provide city and community identity by providing visual relief from continuous urbanization. Because community separators are rural areas that have open space characteristics, many of these areas are also scenic resources. The community separators within the Program Area are described in Table 3.1-5.

Table 3.1-5 Sonoma County–Designated Community Separators

Community Separator	Description
Petaluma/Novato	These lands are designated to retain open space between Petaluma and the Marin County line. Dominant features include rolling hills with trees and farms located along the valley floor. Additional commercial development would detract from this rural atmosphere.
Petaluma/Cotati	This community separator between Petaluma, Penngrove, and Rohnert Park/Cotati includes Liberty Valley, one of the outstanding views in the County.
Rohnert Park/Santa Rosa	Large parcels along Stony Point Road and Petaluma Hill Road create relief from the urban area and provide views of fields and hills. Rural development now limits the visual separation, but urban development along this corridor would block views of the mountains and create a more intense urban form. Most of this land lies within the Santa Rosa Plain groundwater basin and contains important farmlands.
Santa Rosa/Sebastopol	While some "strip development" exists along the SR 12 corridor between Santa Rosa and Sebastopol, scenic views of the Laguna de Santa Rosa, oak-studded pastures, and Mount St. Helena are available. Retention of the existing oak woodlands and riparian vegetation is critical to the scenic value of this area.
Windsor/Larkfield/Santa Rosa	Significant views are available to the west across fields and vineyards to the Mendocino Highlands and to the east over the Mark West Springs Hills to Mount St. Helena. Most of this land lies within the Santa Rosa Valley groundwater basin and contains important farmlands.
Windsor/Healdsburg	These lands are characterized by permanent crops that take advantage of the prime soils and Santa Rosa Plain groundwater basin. Screening of future development in the rolling hills to the east of the freeway would maintain scenic quality in this area.
Healdsburg/Geyserville/Cloverdale	These lands are characterized by expansive views of the Alexander Valley and the hills to the east and west, interrupted only by the small unincorporated community of Geyserville. Most of this area is located within the Alexander Valley groundwater basin and planted in vineyard.
Northeast Santa Rosa	Included in this area are scattered rural residential developments and open oak woodlands. Urban encroachment in the hillside areas and valley floor would detract from the visual quality. The valley floor lies within the Kenwood Valley groundwater subbasin and contains important farmlands.
Glen Ellen/Agua Caliente	SR 12, extending through the Valley of the Moon, provides expansive views of the Sonoma-Napa mountains and vineyard-covered hillsides. Intense development along the valley floor and mountainsides would lessen the scenic quality in this area.

Source: Sonoma County 2016.

VISUAL CHARACTERISTICS OF EXISTING CANNABIS CULTIVATION OPERATIONS IN THE COUNTY

Although cannabis operations are located countywide, the majority of existing cannabis operations are located in the southern and central portions of the county. Existing operations in the county, are generally located in agricultural land areas that are exposed (i.e., clear of trees and other vegetation that would obstruct sunlight and harvest operations). Visual characteristics and features of cannabis cultivation sites in the county generally consists of greenhouse(s), hoop houses, water storage tanks and ponds, storage buildings for equipment and materials, and solar panels. Features such as hoop houses are typically only present during late spring through late summer and are removed in the fall and stored through the winter. Additionally, privacy fences, generally used for security purposes, are often visible from public viewpoint. Often parcels that support cannabis uses are equipped with other structures, such as residential structures or smaller structures (i.e., less than 120 sf) used to support processing, equipment storage, or other associated use. These types of structures tend to be metal sided, approximately 120 sf sheds of 8-9 feet tall, lacking windows or shipping containers. In addition to outdoor and mixed-light cannabis cultivation in agricultural areas, the County's current cannabis regulations permit mixed-light and indoor cannabis cultivation, cannabis testing, retail, distribution, processing, and manufacturing operations within industrial and commercial zones. Indoor cannabis cultivation is generally located within agricultural structures without windows or within industrial buildings. Consistent with the County's current cannabis regulations, most permitted cannabis cultivation in the County are located on parcels that are minimum 10 acres in size within LIA, LEA, DA, and RRD zones, while a few are on parcels between 5 and 10 acres.

Figures 3.1-4a and 3.1-4b provide examples of the visual character of outdoor and indoor cannabis cultivation and supply chain uses in the County (Figure 3.1-4c). Notably, the lower photograph in Figure 3.1-4b shows nearly indistinguishable row crop uses of cannabis in the foreground and vineyards in the middle ground. Similarly, temporary membrane-covered frame structures (i.e., hoop houses) are essentially identical for cannabis and non-cannabis cultivation (e.g., Figure 3.1-1e, lower and Figure 3.1-4a, lower). Figure 3.1-4c depicts an indoor facility that also contains supply chain uses (upper photograph), as well as a cannabis processing facilities associated with an outdoor cultivation site (lower photograph). The visual appearance is consistent with other uses in the county (e.g., Figure 3.1-1b, lower, which depicts similar agricultural structures and Figure 3.1-1c, upper, which depict industrial uses).

As shown, and consistent with the existing cannabis ordinance, outdoor cannabis cultivation sites in Sonoma County are required to be screened by non-invasive fire-resistant vegetation and fenced with locking gates (Section 26-88-254[f][21]). In addition, per the existing county cannabis ordinance, existing outdoor cultivation areas are subject to setback requirements which consist of 100 feet from property lines; 300 feet from residences and business structures on surrounding properties; and 1,000 feet from K-12 schools, public parks, childcare centers, or alcohol and drug treatment facilities. Indoor cannabis uses are typically unrecognizable as a cannabis use from public views because these buildings are similar to other industrial structures and do not provide views of ongoing cannabis operations. As required under the existing cannabis ordinance, outdoor and mixed-light facilities are required to be setback 100 feet from property lines; 300 feet from residences and business structures on surrounding properties; and 1,000 feet from K-12 schools, public parks, childcare centers, or alcohol and drug treatment facilities (note that exceptions may be made for facilities located near parks). As required under the existing cannabis ordinance, indoor facilities are required to comply with the base zone property line setbacks and 600 feet from K-12 schools, public parks, childcare centers, or alcohol and drug treatment facilities (note that exceptions may be made for facilities located near parks). For context, 100 feet is a similar length to two average urban residential frontages, 600 feet is similar to the length of an urban block, and 1,000 feet is similar in length to two urban blocks. Regardless of these distances, views of specific features of any landscape are generally more dependent on physical conditions of the area, such as vegetation and topography.



Source: Photograph taken by Ascent Environmental in 2023.

View of outdoor cannabis cultivation activities with security fencing.



Source: Photograph taken by Ascent Environmental in 2023.

View of outdoor cannabis including a hoop house structure.

Figure 3.1-4a Existing Outdoor Cannabis Cultivation Activities in Sonoma County



Source: Sonoma County 2025

Rows of outdoor cannabis grows. Note barn in the background.



Source: Sonoma County 2025

The photo contains rows of outdoor cannabis cultivation in the foreground and vineyards in the background. Note the similarity in appearance between the plant types.

Figure 3.1-4b. Representative Photographs of Outdoor Cannabis Cultivation



Source: Photograph taken by Ascent Environmental in 2023.

View of indoor cannabis cultivation facility in industrial zoning.



Source: Photograph taken by Ascent Environmental in 2023.

View of cannabis processing facility located in a rural agricultural area of Sonoma County.

Figure 3.1-4c Existing Indoor Cannabis Uses in Sonoma County

LIGHT AND GLARE

Light pollution is an adverse effect of human-made light and can include urban sky glow, glare, and light trespass. Excessive lighting of this type can significantly change the character of rural and natural areas by making the built environment more prominent at night and creating visual clutter (Dark Sky International Association 2024).

As noted above, the county is a predominantly rural, agricultural region with various rural communities and incorporated cities located along US 101 and SR 116. Because of its rural character, night lighting and glare mostly occur within and around these developed communities, although individual areas supporting agriculture and other industries also produce some nighttime lighting. Existing sources of ambient nighttime lighting generally include neon and fluorescent signs in developed areas; exterior security lighting along buildings for safety, for architectural accent, or to illuminate nighttime operations; lights within buildings that illuminate the exteriors of buildings through windows; landscape and wayfinding signage lighting; street and parking lot lighting; and vehicle headlights. Existing sources of lighting in rural areas could also include agricultural lighting. This can include outdoor security lighting over fields and buildings, lights from within operational and production buildings, and lights coming from greenhouses.

Areas zoned as commercial and industrial consist of clusters of development, such as small industrial parks that support several businesses to strip mall type development containing a large anchor store and smaller commercial facilities. These areas tend to include high-mast lighting, within parking areas and near business entry points, for safety and security reasons. Lighting may also be associated with architectural accents, illumination through windows, and wayfinding signage lighting. Glare is defined as focused, intense light emanated directly from a source or indirectly when light reflects from a surface. Daytime glare is caused in large part by sunlight shining on highly reflective surfaces at or above eye level. Reflective surfaces are associated with structures that have expanses of polished or glass surfaces, light-colored pavement, and the windshields of parked cars. While glare occurs on a site-specific or building-by-building basis, applicable design guidelines in the General Plan regulate the character of new development, including limiting large or expansive parking lots, which also limits glare.

3.1.3 Environmental Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, "Project Description," and Section 3.0, "Approach to the Environmental Analysis," regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

As addressed in this analysis, aesthetics refers to visual impacts to the environment, both natural and built, and includes adverse changes that reduce visual quality along with potential increases in glare or light in a project area. Aesthetics, or visual resource, analysis assesses the visible change and anticipated viewer response to that change.

The County published its *Visual Assessment Guidelines* (VA Guidelines) to provide specific steps and criteria for evaluating aesthetic impacts of development throughout the County (Sonoma County 2019). In brief, the procedure involves determining public viewing points and describing the existing setting for each site, reviewing photographs of the site to understand potential impacts, characterizing the site's sensitivity based on the corresponding matrix included in the VA Guidelines, and determining the potential visual dominance of the project based on established criteria described in the VA Guidelines. Using the results of this evaluation, a potential impact is determined. While this approach is suitable for visual assessments of specific projects, it cannot be applied to identify potential impacts at a programmatic level.

The following aesthetic impact analysis qualitatively evaluates whether adoption and implementation of the Cannabis Program Update could create adverse visual effects using the thresholds of significance identified below and the County policies and regulations listed in Section 3.1.1, "Regulatory Setting." This analysis qualitatively evaluates whether the development of cannabis uses (cultivation and supply chain uses) under the Cannabis Program Update would adversely affect the existing visual character of unincorporated Sonoma County or result in the alteration of existing scenic views, landscapes, or other scenic resources. As shown in Section 3.1.2, "Environmental Setting," photographs of existing cannabis cultivation sites in the County, as well as the updated regulations and requirements of the Cannabis Program Update, were used to evaluate the extent of potential change in visual conditions.

The following proposed Code requirements apply to aesthetics:

Section 26-18-115(C)(4)

- a. Minimum Lot Size of 5 acres.
- b. Canopy.
 1. Maximum Canopy. Canopy is limited to 10% of the parcel. All structures including those used for canopy remain subject to the applicable development standards in Sec. 26-06-040 and Sec. 26-16-010.
 2. Canopy Measurement. Canopy is the total area within the cannabis premises that will contain mature plants and is measured based on clearly identifiable boundaries, such as trellis netting, walls or other partitions, shelves, hedgerows, garden beds, or fencing. If mature plants are cultivated using a shelving system, the surface area of each level is included in the total canopy calculation. Canopy may be noncontiguous if each canopy area has an identifiable boundary.
- c. Setbacks.
 1. Property Line Setback. The cannabis premises must be setback at least 100 feet from each property line.
 2. Residential Land Use Setback. The cannabis premises must be setback at least 600 feet from all properties within Residential Zoning Districts including Low, Medium, and High Density Residential (R1, R2 & R3), Rural Residential (RR), Agriculture and Residential (AR), and Planned Community (PC).
 3. Incorporated City Boundaries. The cannabis premises must be setback at least 600 feet from incorporated city boundaries.
 4. Sensitive Use Setback.
 - a. Distance. The cannabis premises must be setback at least 1,000 feet from each property line of a parcel with a sensitive use that exists at the time the application to initiate the cannabis use is deemed complete.
 - b. Definition of Sensitive Use. Sensitive uses are K-12 schools, public parks, day care centers, and alcohol or drug treatment facilities. In this section, a public park means existing Federal Recreation Areas, State Parks, Regional Parks, Community Parks, Neighborhood Parks, and Class I Bikeways as designated in the Sonoma County General Plan, but not proposed public parks that have not yet been constructed.

The following standards apply to cultivation within hoop houses;

Section 26-18-115(C)(4)(f)

- f. Hoop Houses. Outdoor cultivation may use temporary membrane-covered frame structures (i.e., hoop houses) in accordance with Section 26-18-020. Plastic used for hoop houses must be removed and securely stored immediately after harvest and when not in use.

Section 26-18-020 (B)(2)

2. Temporary membrane-covered frame structures (i.e., hoop houses) may only be erected for less than 180 days per twelve-month period and cannot include ventilation, heating, artificial light, or any other electrical components, including electrical conduit or use of portable generators.

The following setbacks apply to an application that was approved or deemed complete prior to the effective date of this Ordinance and any amendment to such permit or application;

5. Existing Permits and Applications.
 - a. Property Line Setback. New structures, the reuse of existing structures not currently used for the cannabis operation, outdoor event areas, and outdoor canopy must be setback at least 100 feet from each property line.
 - b. Offsite Residential Setback. Outdoor canopy, mixed-light cultivation structures, and outdoor event areas must be setback at least 300 feet from offsite residences on residentially zoned parcels.
 - c. Sensitive Use Setback. Approved permits and any amendments thereto are only subject to the sensitive use setbacks that were applied to the original approval.

THRESHOLDS OF SIGNIFICANCE

Thresholds of significance are based on Appendix G of the State CEQA Guidelines. These thresholds address known visual resources in the County (scenic highways, natural landscape conditions, rural and agricultural land use conditions), as well as potential effects associated with cannabis operations (land disturbance, building construction, and use of lighting).

The Cannabis Program Update would result in a significant impact on visual resources if it would:

- ▶ have a substantial adverse effect on a scenic vista or viewshed;
- ▶ substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway or County-designated scenic roadway;
- ▶ substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage points); or
- ▶ create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

ISSUES NOT DISCUSSED FURTHER

The proposed Cannabis Program Update does not include changes to personal cultivation standards and would not be substantially different from existing requirements that would create significant impact on aesthetic resources. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

IMPACT ANALYSIS

Impact 3.1-1: Have a Substantial Adverse Effect on a Scenic Vista or Viewshed

Adoption and implementation of the proposed Cannabis Program Update could result in new or modified cannabis cultivation sites and supply chain uses within the County, which may be visible from designated scenic vistas or resources, including scenic landscapes, community separators, and scenic corridors and could adversely alter the character of these features. New cannabis uses would be subject to the County's design standards, which would minimize adverse visual effects. However, depending on the color and materials used, tarps and security fencing may be visible from a distance and could be considered a dominant and intrusive feature of a scenic vista or viewshed. Therefore, this impact would be **potentially significant**.

As discussed in Section 3.1.1, "Regulatory Setting," and 3.1.2, "Environmental Setting," the County General Plan and area plans identify scenic landscape areas as those that offer relief from urban densities and have open, rural qualities that provide scenic backdrops. In addition, scenic landscapes have little capacity to absorb large amounts of development without substantial visual impact. Within the County, scenic resources are identified as scenic landscapes, scenic corridors, and community separators (see Figure 3.1-3). Table 3.1-6 provides an overview of scenic designations that exist within zoning districts where there would be allowable cannabis land uses under the proposed Cannabis Program Update. Note that the scenic designations are limited to only a portion of the land within each zoning district. This table indicates how different cannabis land use types could be allowed within areas where scenic designations have been identified.

Table 3.1-6 Scenic Designations within Proposed Allowed Cannabis Land Uses

Cannabis Land Use	Zoning District	Scenic Designations ¹
Cannabis Cultivation Cannabis Wholesale Nursery Cannabis Accessory Uses to Cultivation, including Events Cannabis Centralized Processing Periodic Event	LEA LIA DA	Community Separator Scenic Corridor Scenic Landscape Unit
Cannabis Cultivation Accessory Uses to Cultivation, including events, Cannabis Wholesale Nursery Periodic Event	RRD	Community Separator Scenic Corridor Scenic Landscape Unit
Cannabis Cultivation (Indoor and Mixed-Light) Accessory Uses to Cultivation (Retail Prohibited) Cannabis Wholesale Nursery Testing Laboratories Cannabis Non-Storefront Retail Cannabis Distribution Cannabis Centralized Processing Manufacturing Periodic Event	MP M1 M2 M3	Scenic Landscape Unit (M3, MP) Community Separator (M2, M3) Scenic Corridor (M1, M3, MP)
Cannabis Storefront Retail (Dispensary) Periodic Event	C1 C2 LC	Scenic Landscape Unit (C1, LC) Community Separator (C1, LC) Scenic Corridor (C1, C2, LC)
Testing, Cannabis Storefront Retail (Dispensary) Cannabis Non-storefront Retail (Delivery Only) Distribution Centralized Processing Manufacturing Periodic Event	C3	Scenic Corridor

Notes: C1=Neighborhood Commercial; C2=Retail Business and Services; C3=General Commercial; LC=Limited Commercial; LEA=Land Extensive Agriculture; LIA=Land Intensive Agriculture; DA=Diverse Agriculture; RRD=Resources and Rural Development; M1=Limited Urban Industrial; M2=Heavy Industrial; M3=Limited Rural Industrial; MP=Industrial Park

¹ This column indicates if lands within these zoning districts contain at least 0.05 acres countywide designated as scenic resources.

Source: Compiled by Ascent in 2024.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program Update, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program Update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Under the proposed Cannabis Program Update, the 100-foot setback would apply to the entire cannabis premise, including all accessory uses, rather than measuring the setback from the cultivation area, which would effectively require future cannabis premises to be located further from property lines than under the existing cannabis regulations. In addition, setbacks would increase to 600 feet from residential zones and incorporated city boundaries, while removing the setback requirement from individual offsite neighboring residences. The proposed Cannabis Program Update would also include a 1,000 foot setback from K-12 schools, public parks, day care centers, and alcohol and drug treatment (i.e., sensitive uses). These sensitive use setbacks would be measured from the cannabis premises to the parcel line, rather than from parcel line to parcel line. In further contrast to the existing cannabis ordinance, the proposed Cannabis Program Update would limit canopy to 10 percent of the parcel and would no longer impose a 1-acre cap per operator or parcel (see proposed Code Section 26-18-115[C][4]). Under the proposed specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval. These setback requirements would likely make differentiating cannabis uses from other agricultural uses difficult.

Potential visual effects associated with future cannabis cultivation facilities allowed under the Cannabis Program Update could include cultivation activities, introduction of agricultural structures and equipment, and development of supply chain and accessory structures and uses within existing scenic viewsheds. Cultivation activities under the Cannabis Program Update may include hoop houses or greenhouses to support outdoor or mixed-light operations or more permanent structures, such as completely enclosed facilities for indoor cultivation, driveways, water tanks, and storage facilities that are generally similar in appearance to other agricultural uses in the county. As discussed in Section 3.1.2, "Environmental Setting," agricultural uses dominate much of the county. Generally, agricultural lands used to support cannabis uses are substantially similar in appearance to other types of cultivation - that is, rural areas of the county that contain rows of crops, open spaces, and agricultural buildings (see Figures 3.1-1e compared to Figures 3.1-4a and 3.1-4b). Similarly, structures that may be developed to support mixed-light, indoor, or accessory uses would not be substantially different in style or scale than other developed agricultural uses within the county (Figure 3.1-1b, lower compared to Figure 3.1-4c, lower). Cannabis cultivation differs from other agricultural uses in two major ways: the use of opaque tarps and security fencing. Depending on the color and material used, tarps laid on the ground and over hoop houses, and the presence of fencing may be visible from a distance.

With respect to developed uses, including cannabis facilities, located within a scenic landscape unit, community separator, or scenic corridor, the design standards set forth under Article 64 of the Sonoma County Code would apply, with exceptions for existing structures and structures within Urban Service Areas. Section 26-64-020 consists of criteria for development of structures in Community Separators and Scenic Landscape Units, including avoidance of ridgelines, use of natural landforms and existing vegetation to screen structures from public roads, including

requiring exposed sites to screen with native, fire resistant plants; screening of driveways, as practical; and undergrounding utilities when economically feasible. Section 26-64-030 requires all structures located within scenic corridors established outside of the urban service area boundaries to comply with setbacks of 30 percent of the depth of the lot to a maximum of two hundred feet (200') from the centerline of the road. Compliance with Sections 26-64-020 and 26-64-030 would ensure future cannabis structures located within scenic corridors, scenic landscapes, and community separators are consistent with the development criteria established in the County's General Plan and area plans and as such, would not result in adverse effects on scenic vistas or viewsheds.

In addition, as discussed in Section 3.1.1, "Regulatory Setting," the County has established VA Guidelines to determine if a project's effects on visual resources would be significant. Given these guidelines, areas designated as a scenic landscape unit, community separator, or scenic corridor would be considered to have either high or maximum visual site sensitivity. As described in Table 3.1-1, maximum and high sensitivity characteristics are generally defined as a land use or zoning designation protecting scenic or natural resources, such as General Plan and area plan designated scenic landscape units, coastal zone, community separators, or scenic corridors. Such areas are typically found in non-urban portions of the county with less structural development. In these sensitivity areas, there would be significant visual impacts associated with projects that introduce dominate, co-dominate, or subordinate features into the viewshed (note that only dominant and co-dominant features would result in significant visual impacts in high sensitivity areas).

As discussed above, agricultural uses are prevalent throughout the county; and, cannabis uses are similar in appearance to other agricultural uses. Because agricultural uses – both crop cultivation and developed uses – are defined features of the scenic landscapes within the county, future agricultural or cannabis uses would therefore be consistent with the rural nature of the county rather than dominant or intrusive features. Additionally, cannabis uses would be subject to the same County requirements for scenic landscape unit, community separator, or scenic corridor, the design standards, as set forth under Article 64 of the Code. However, depending on the color and materials used, tarps and security fencing may be visible from a distance and could be considered a dominant and intrusive feature of a scenic vista or viewshed. Therefore, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. As discussed above, under "Proposed Allowable Uses in Agricultural and Resources Districts," while cannabis and other agriculture have similar physical features, the use of tarps laid on the ground, opaque tarps used on hoop houses, and security fencing may be visible from a distance and could be considered a dominant and intrusive feature of a scenic vista or viewshed. Therefore, with the addition of these features, a scenic vista or viewshed could be substantially affected. Thus, this impact would be potentially significant.

Construction of Event Facilities and Event Operations

Construction and operation of event facilities would be subject to state and County design standards, as described above, that would minimize adverse effects on scenic vistas or viewsheds. As discussed above, under "Proposed Allowable Uses in Agricultural and Resources Districts," developed agricultural uses would appear similarly for cannabis as other agricultural types. Additionally, cannabis uses would be subject to the same County requirements for scenic landscape unit, community separator, or scenic corridor, the design standards, as set forth under Article 64 of the Code. For these reasons, this impact would be less than significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. Implementation of the proposed Cannabis Program Update would allow for indoor and mixed-light cultivation to be located in the industrial zoning district and testing, storefront retail, distribution, centralized processing and manufacturing to be allowed in the C3 district. New cannabis uses within industrial and commercial districts would be required to comply with setbacks established in the base zone district.

As noted above (see Table 3.1-6), County-designated scenic resources have been identified within all of the zoning districts where cannabis land uses would be allowed under the proposed Cannabis Program update. Figure 3.1-4c depicts an indoor facilities that also contains supply chain uses (upper photograph), as well as a cannabis processing facilities associated with an outdoor cultivation site (lower photograph). The visual appearance is consistent with other uses in the county (e.g., Figure 3.1-1c, upper photograph, which depict industrial uses). New cannabis uses would be subject to the County's design standards, which would minimize adverse visual effects. Specifically, compliance with Sections 26-64-020 and 26-64-030 of the County Code would ensure future cannabis structures located within scenic corridors, scenic landscape units, and community separators are consistent with the development criteria established in the County's General Plan and applicable area plans and as such, would not create visual conflicts within scenic viewsheds. Additionally, testing laboratories, retail facilities, distribution facilities, and manufacturing uses would be limited to industrial and commercial zoning districts, where other businesses with similar appearances exist. Thus, development within industrial and commercial districts would not result in adverse effects on scenic vistas or viewsheds. This impact would be less than significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on scenic vistas or viewsheds.

Conclusion

As discussed above, implementation of the proposed Cannabis Program Update would allow for the development of new or modified cannabis uses that may be visible from designated scenic vistas or viewsheds, and could adversely alter the character of these features. New cannabis uses would be subject to the County's design standards, which would minimize adverse visual effects. However, depending on the color and materials used, tarps and security fencing may be visible from a distance and could be considered a dominant and intrusive feature of a scenic vista or viewshed. Therefore, this impact would be **potentially significant**.

Mitigation Measures

The following mitigation measures would be implemented through zoning permit for cannabis (ZPC), the design review with hearing (DRH) or use permit for cannabis (UPC) process for individual projects.

Mitigation Measure 3.1-1 (ZPC, DRH, UPC): Implement Additional Measures to Protect Scenic Resources

The following mitigation measures would be included as new standards in proposed Section 26-18-115(C):

- ▶ If a hoop house is visible from a public vantage point, any covering must be non-reflective.
- ▶ Weed block materials shall be made of non-reflective and non-plastic materials.
- ▶ Installation of solid fencing, such as wood, masonry, and chain link covered with privacy cloth, is prohibited within County-designated scenic landscapes, scenic corridors, and community separators.

Significance after Mitigation

Implementation of Mitigation Measure 3.1-1 would require that coverings for hoop houses which are visible from a public vantage point must be non-reflective and that weed block materials be non-reflective and not plastic, which would ensure that they would limit their visibility such that they would no longer be intrusive or dominant features within a scenic vista or viewshed. This mitigation measure would also prohibit the installation of solid fencing, which may be visible from great distances, within scenic landscapes, scenic corridors, and community separators. With implementation of this mitigation measure, cannabis operations would appear substantially similar to other

agricultural uses in the county, which are a defined feature of the scenic resources identified in the county. Thus, upon implementation of Mitigation Measure 3.1-1, this impact would be **less than significant**.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to aesthetics and would be consistent with Sonoma County General Plan Policies LU-10a and LU-10b, which require the County to establish maximum densities and/or siting standards for development in designated Community Separators, Scenic Landscape Units, and Scenic Corridors; and encourage voluntary easements when considering development on lands with important scenic resources. Additionally, Policies LU-17f, LU-18b, LU-18d, LU-19d require the County to consider whether discretionary projects provide mitigation for visual impacts within a designated Scenic Corridor and whether projects are consistent with the scale and character of the community. Policies OSRC-1b and OSRC-1c establish requirements for development within Community Separators. Finally, Policy OSRC-3c establishes a rural Scenic Corridor setback and Policy OSRC-6a requires the County to develop design guidelines for discretionary projects in rural areas that protect and reflect the rural character of Sonoma County. Similar to the consistency with General Plan policy provisions, the proposed Cannabis Program Update would be generally consistent with the aesthetic policy provisions and standards in the Sonoma County Airport Industrial Area Specific Plan and the area plans for Bennett Valley, Franz Valley, Penngrove, Petaluma Dairy Belt, Sonoma Mountain, South Santa Rosa, and West Petaluma. Implementation of Mitigation Measure 3.1-1 would ensure that cannabis operations would appear substantially similar to other agricultural uses in the County, which would be consistent with the policies discussed above.

Impact 3.1-2: Damage Scenic Resources Including, but Not Limited to, Trees, Rock Outcroppings, and Historical Buildings within a State Scenic Highway or County-Designated Scenic Roadway

Within the Program area, there are two designated and five eligible state scenic highways. Adoption and implementation of the proposed Cannabis Program Update may result in new or modified cannabis uses that could adversely alter the character of scenic resources associated with these designated and eligible State scenic highways and County designated scenic corridors. This impact would be **potentially significant**.

As discussed in Section 3.1.2, "Environmental Setting," Caltrans has mapped two designated and five eligible state scenic highways within the Program Area:

- ▶ SR 116 from SR 1 on the Pacific Coast near Jenner to the city limits of Sebastopol (designated scenic highway),
- ▶ SR 12 from Santa Rosa to London Way (Near Agua Caliente) (designated scenic highway),
- ▶ SR 12 from London Way (Near Agua Caliente) to city limits of Sonoma (eligible for scenic designation),
- ▶ SR 116 south of Sebastopol to US 101 (eligible for scenic designation),
- ▶ SR 12, between SR 121 until its connection with SR 37 (eligible for scenic designation),
- ▶ SR 128 between the county line north of Calistoga to Geyserville (eligible for scenic designation), and
- ▶ SR 128 between the county line with Mendocino County to the city limits of Cloverdale (eligible for scenic designation).

Figure 3.1-3 identifies County designated scenic resources in the Program Area.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from

each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Development of future cannabis operations under the proposed Cannabis Program Update could include new structures associated with cannabis cultivation and supply chain operations, which have the potential to be visible from scenic highways or located within a State Scenic Highway or County-designated Scenic Corridor. As such, future cannabis cultivation and supply chain uses along these roadway corridors have the potential to adversely affect scenic resources, including views of trees, rock outcroppings, natural resources, and historic buildings.

As discussed under Impact 3.1-1 above, cannabis cultivation, accessory, and supply chain uses would generally have a similar visual appearance to other agricultural uses in the County, and thus would not create adverse visual impacts on long distance views that are generally associated with vistas or viewsheds. Additionally, within the State-designated scenic highways are also County-designated scenic corridors, which are subject to County Code Section 26-64-030. County Code Section 26-64-030 places setback requirements on development located within County-designated scenic corridors, of 30 percent of the depth of the lot to a maximum of two hundred feet (200') from the centerline of the road. This would limit the visibility of cannabis sites from public views, in a consistent manner to other developed agricultural uses along scenic highways and corridors. However, as discussed above under Impact 3.1-1, while cannabis uses are substantially similar to other agricultural uses in the county, tarps and solid fencing could alter scenic qualities of the county's vistas and viewshed, including those from State Scenic Highways and County-designated scenic corridors. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. As discussed above, under "Proposed Allowable Uses in Agricultural and Resources Districts," while cannabis and other agriculture have similar physical features, the use of tarps and security fencing may be visible from a distance and could be considered a dominant and intrusive feature of a scenic vista or viewshed. Therefore, with the addition of these features, a scenic vista or viewshed could be substantially affected. Thus, this impact would be potentially significant.

Construction of Event Facilities and Event Operations

Construction and operation of event facilities would be subject to state and County design standards, as described above, that would minimize impacts to State scenic highways and County-designated scenic corridors. This impact would be less than significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses. As discussed above, development within the State-designated scenic highways are also County-designated scenic corridors are subject to County Code Section 26-64-030. County Code Section 26-64-030 places setback requirements on development located within County-designated scenic corridors, of 30 percent of the depth of the lot to a maximum of two hundred feet (200') from the centerline of the road. This would limit the visibility of cannabis sites from public views, in a consistent manner to other developed industrial and commercial uses along scenic highways and corridors. Because new development in industrial and commercial districts would be subject to design review and required to comply with setback requirements under the Code, new cannabis uses would appear substantially similar to other uses within industrial and commercial districts. This impact would be less than significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new

construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on scenic resources.

Conclusion

As discussed above, implementation of the proposed Cannabis Program Update would allow for the development of new or modified cannabis uses that could adversely alter the character of scenic resources associated with State scenic highways and County-designated scenic corridors. Outdoor cannabis cultivation would generally have a similar visual appearance to other agricultural uses in the County and, thus, would not create adverse visual impacts. However, depending on the color and materials used, tarps and security fencing may be visible from a distance and could be considered a dominant and intrusive feature of a scenic vista or viewshed. Therefore, this impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.1-1 (ZPC, DRH, UPC): Implement Additional Measures to Protect Scenic Resources

Significance after Mitigation

Implementation of Mitigation Measure 3.1-1 would require that coverings for hoop houses be non-reflective and that weed block materials be non-reflective and not plastic, which would ensure that they would limit their visibility such that they would no longer be intrusive or dominant features within a scenic vista or viewshed. This mitigation measure would also prohibit the installation of solid fencing within scenic corridors, which are also identified as State scenic highways. With implementation of this mitigation measure, cannabis operations would appear substantially similar to other agricultural uses in the County, which are a defined feature of the scenery. Thus, upon implementation of Mitigation Measure 3.1-1, this impact would be **less than significant**.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to aesthetics and would be consistent with Sonoma County General Plan Policies LU-10a and LU-10b, which require the County to establish maximum densities and/or siting standards for development in designated Community Separators, Scenic Landscape Units, and Scenic Corridors; and encourage voluntary easements when considering development on lands with important scenic resources. Additionally, Policies LU-17f, LU-18b, LU-18d, LU-19d require the County to consider whether discretionary projects provide mitigation for visual impacts within a designated Scenic Corridor and whether projects are consistent with the scale and character of the community. Policies OSRC-1b and OSRC-1c establish requirements for development within Community Separators. Finally, Policy OSRC-3c establishes a rural Scenic Corridor setback and Policy OSRC-6a requires the County to develop design guidelines for discretionary projects in rural areas that protect and reflect the rural character of Sonoma County. Similar to the consistency with General Plan policy provisions, the proposed Cannabis Program Update would be generally consistent with the aesthetic policy provisions and standards in the Sonoma County Airport Industrial Area Specific Plan and the area plans for Bennett Valley, Franz Valley, Penngrove, Petaluma Dairy Belt, Sonoma Mountain, South Santa Rosa, and West Petaluma. Implementation of Mitigation Measure 3.1-1 and MM 3.1-2 would apply the standards of County Code Section 26-64-030 to all structures to address scenic corridors.

Impact 3.1-3: Substantially Degrade the Existing Visual Character or Quality

Adoption and implementation of the proposed Cannabis Program Update would allow for the development of new or modified cannabis uses that would alter the rural and agricultural character of the County, especially in areas currently not developed with cannabis uses. While future cannabis uses would be required to comply with the development criteria established in the General Plan and County Code along with the performance standards proposed in the Cannabis Program Update, the potential for significant adverse changes to the existing rural character remains. This impact would be **potentially significant**.

As discussed in Section 3.1.2, "Environmental Setting," the visual character of the County contains diverse features throughout its different areas and communities. Overall, the agricultural visual character includes natural habitat conditions and waterways; rural and agricultural land uses, such as vineyards, orchards, field crops, rangeland, and supporting agricultural buildings (barns, buildings used for equipment storage and processing of agricultural products, offices, hoop houses, and shipping containers); and rural communities consisting of residential, commercial, office, and light industrial uses. Figures 3.1-1a through 3.1-1c provide an overview of the rural and agricultural visual character of the County.

With adoption and implementation of the proposed Cannabis Program Update, cannabis cultivation and noncultivation activities would be defined as a controlled agricultural use within the County. Because cannabis uses already exist within the County, the expansion of cannabis uses under the Cannabis Program Update would not introduce a new type of agricultural use within the County. However, as discussed above in Impact 3.1-1, cannabis uses would be allowed to expand in size and within new areas (e.g., the maximum parcel size would be 5 acres rather than 10 acres).

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

For indoor cannabis cultivation and noncultivation activities, future cannabis operations would generally be located within buildings and structures that may be similar to other existing agricultural buildings and would be compatible with the existing visual landscape of agricultural and resources districts. Approval of new cultivation sites would continue to require a use permit under the County Code, which requires discretionary review of potential impacts to scenic resources.

Indoor and mixed-light structures, cannabis wholesale nursery, cannabis centralized processing, and accessory uses would generally appear typical of agricultural buildings in the County. That is, they tend to be metal-sided, approximately 25-feet tall (i.e., similar to the height of traditional barns), and contain no windows. Structures that appear similarly are depicted in Figure 3.1-1c and Figure 3.1-4b.

While outdoor cannabis cultivation uses overall are not substantively different from other allowed agricultural uses in terms of size, there are visual characteristics unique to outdoor cannabis cultivation that are different aesthetically from other agricultural and rural land uses. For example, outdoor cannabis cultivation activities are often organized on a small portion of a larger site, as differentiated from other County agricultural operations such as row crops, orchards and vineyards, and pastureland that more commonly use the entire parcel area for a range of operations and activities. Also, for security purposes, cannabis cultivation often includes solid fencing that obstructs views of the site and may block open public views across agricultural fields from some vantage points. (Note that fencing for security reasons and to comply with security requirements [i.e., access requirements to limit access, per CCR, Title 4, Section 15042] is reasonably foreseeable at outdoor cultivation operations.) Other features that may differ from non-cannabis agricultural operations include security features (e.g., fencing and gates, security night lighting, cameras and other security systems) and tarp placement over large areas of ground to limit weeds. These features may be considered visually dissimilar, which could create a significant adverse impact to the existing visual character of these areas.

Furthermore, the proposed Cannabis Program would amend Section 26-18-020, Agricultural Crop Production and Cultivation, of the County Code to expand the definition of the commercial agricultural crops to include the growing of plants in hoop houses (temporary membrane-covered frame structures) and to include cannabis cultivation, subject to the use standards defined in Section 26-18-115. Similar to existing policy, hoop houses used for outdoor cannabis cultivation would be required to comply with the updated requirements of County Code Section 26-18-020, which allows hoop houses to be erected for only 180 days or fewer per 12-month period and prohibits the use of

ventilation, heating. Although hoop houses are already allowed for both cannabis and other agricultural crops, the Cannabis Program Update would remove the prohibition on light deprivation tarps. This would allow for the use of transparent, white, or black/dark colors. Other agricultural crops in the County commonly use white, black and transparent coverings for various uses.

Therefore, because tarps and fencing may be visually dissimilar to other uses in agricultural and resources districts, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. As discussed above, under "Proposed Allowable Uses in Agricultural and Resources Districts," while cannabis and other agriculture have similar physical features, the use of tarps laid on the ground, the use of non-reflective coverings for hoop houses, and security fencing may be visible from a distance and could be considered a dominant and intrusive feature and alter the visual character of an area. Thus, this impact would be potentially significant.

Construction of Event Facilities and Event Operations

Construction and operation of event facilities would be subject to state and County design standards, as described above, that would minimize adverse changes to the existing rural character of the County. Because facilities developed to support cannabis events would appear substantially similar to other agricultural buildings in the county and would be subject to the same design standards, this impact would be less than significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses. For indoor cannabis cultivation and noncultivation activities, future cannabis operations would generally be located within buildings and structures that are visually similar to other existing industrial buildings and would be compatible with the existing visual landscape of industrial and commercial districts. Future cannabis operations would be visually similar to other commercial and industrial business facilities and would not be substantially different than other uses within the allowable zoning districts (i.e., MP, M1, M2, M3, C1, C2, C3, and LC). However, review and approval by the County's design review committee would continue to be required for new industrial and commercial development and for substantial exterior modification to existing industrial and commercial buildings, including storefront retail. Therefore, new development would be consistent with other surrounding uses in industrial and commercial districts and would result in less-than-significant effects on visual character and quality.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on the visual character of the county.

Conclusion

As discussed above, implementation of the proposed Cannabis Program Update would allow for the development of new or modified cannabis uses that could adversely alter the character of scenic resources associated with State scenic highways and County-designated scenic corridors. Outdoor cannabis cultivation would generally have a similar visual appearance to other agricultural uses in the County and, thus, would not create adverse visual impacts. However, depending on the color and materials used, tarps and security fencing may be visible from a distance and could be considered a dominant and intrusive feature of a scenic vista or viewshed. Therefore, this impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.1-1 (ZPC, DRH, UPC): Implement Additional Measures to Protect Scenic Resources

Significance After Mitigation

The proposed Cannabis Program Update contains requirements, summarized herein, that would regulate the overall visual quality of cannabis operations including the appearance of buildings and structures, and setbacks from property lines and sensitive land uses. Implementation of Mitigation Measure 3.1-3 would require that tarps for hoop houses be non-reflective and that weed block materials be non-reflective and not plastic, which would ensure that they would limit their visibility such that they would no longer be intrusive or dominant features within a scenic vista or viewshed. With implementation of this mitigation measure, cannabis operations would appear substantially similar to other agricultural uses in the County, which are a defined feature of the visual character of the county. Thus, upon implementation of Mitigation Measure 3.1-1, this impact would be **less than significant**.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to aesthetics and would be consistent with Sonoma County General Plan Policies LU-10a and LU-10b, which require the County to establish maximum densities and/or siting standards for development in designated Community Separators, Scenic Landscape Units, and Scenic Corridors; and encourage voluntary easements when considering development on lands with important scenic resources. Additionally, Policies LU-17f, LU-18b, LU-18d, LU-19d require the County to consider whether discretionary projects provide mitigation for visual impacts within a designated Scenic Corridor and whether projects are consistent with the scale and character of the community. Policies OSRC-1b and OSRC-1c establish requirements for development within Community Separators. Finally, Policy OSRC-3c establishes a rural Scenic Corridor setback and Policy OSRC-6a requires the County to develop design guidelines for discretionary projects in rural areas that protect and reflect the rural character of Sonoma County. Similar to the consistency with General Plan policy provisions, the proposed Cannabis Program Update would be generally consistent with the aesthetic policy provisions and standards in the Sonoma County Airport Industrial Area Specific Plan and the area plans for Bennett Valley, Franz Valley, Penngrove, Petaluma Dairy Belt, Sonoma Mountain, South Santa Rosa, and West Petaluma. Implementation of Mitigation Measure 3.1-1 and MM 3.1-2 would apply the standards of County Code Section 26-64-030 to all structures to address visual character.

Impact 3.1-4: Create a New Source of Substantial Light or Glare that Would Adversely Affect Day or Nighttime Views

Adoption and implementation of the proposed Cannabis Program Update would allow for the development of new cannabis uses that would include the potential for glare and nighttime light that could adversely impact adjoining land areas. While state licensing requirements would ensure that light and glare sources from outdoor cannabis cultivation is fully shielded and downward casting, County standards for lighting associated with uses other than outdoor cultivation may be insufficient. Therefore, this impact would be **potentially significant**.

As discussed in Section 3.1.2, "Environmental Setting," night lighting and glare in the County mostly occur within and around developed communities, although individual areas supporting agriculture and other industries also produce some nighttime lighting. Daytime glare occurs on a site or use-specific, building-by-building basis, and there are no general trends related to glare in the County. However, all development within the County must comply with the County's General Plan, County Code, and design standards to minimize light and glare effects.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to

come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Cannabis cultivation sites are known to use light sources for cultivation of cannabis plants, in addition to nighttime lighting associated with operation and security. If not adequately controlled, these light sources can create substantial light and glare impacts, adversely affecting neighboring land uses and wildlife. Wildlife impacts associated with the addition of substantial light and glare is further discussed in Section 3.4, "Biological Resources." Depending on the proximity to sensitive land uses and viewers, outdoor lighting at cannabis sites could create additional ambient lighting of varying degrees in the area and be intrusive to off-site locations and neighboring residents.

Tarps are used on the ground as a weed guard and as part of hoop houses. Some tarps, particularly those of light color or shiny finish may cause glare. Depending on a viewer proximity to the tarps and vantage point, glare could be substantial and affect daytime views.

The proposed Cannabis Program Update contains lighting standards for cannabis cultivation (Section 26-18-115[C][b]). These standards require all lighting to be so that it does not spill over onto neighboring properties and prohibit light escaping from cultivation within structures. As stated in Section 26-18-115 of the proposed cannabis ordinance, future cannabis uses would require building and site design to address potential glare impacts and standards that include shielding of exterior lighting and containment of mixed-light and indoor cultivation lighting within buildings to avoid off-site impacts. In addition CCR Sections 16304(a)(6) and 16304(a)(7) require that outdoor lighting be shielded and downward facing and lights used for indoor or mixed-light cultivation be shielded from sunset to sunrise to reduce nighttime glare.

Supply chain uses in agriculture and resource districts could include the installation of outdoor security lights, outdoor event lighting, or other outdoor lighting. As discussed above, the Sonoma County General Plan provides guidance on outdoor lighting, and some standards are provided in Code related to design review. However, new lighting could be substantial and affect nighttime views and existing Code standards may be insufficient to fully address this impact.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. If existing structures were converted to indoor or mixed-light cultivation, they would be subject to the standards discussed above that require all cultivation lighting be contained. If existing buildings are converted to supply chain uses, additional security lighting may be installed. Because existing and proposed standards may be insufficient to fully address the level of lighting within a site, there could be adverse effects on nighttime views. Additionally, tarps are used on the ground as a weed guard and as part of hoop houses. Some tarps, particularly those of shiny finish may cause glare. Depending on a viewer's proximity to the tarps and vantage point, glare could be substantial and affect daytime views. This impact would be potentially significant.

Construction of Event Facilities and Event Operations

As discussed above, under "Proposed Allowable Uses in Agricultural and Resources Districts," the Sonoma County General Plan provides guidance on outdoor lighting and some standards are provided in Code related to design review. However, new lighting could be substantial and affect nighttime views and existing Code standards may be insufficient. This impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses. Development of new structures would result in the same impacts as discussed above within agricultural and resources zoning districts. This impact would be potentially significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no new substantial effects on light and glare within the county.

Conclusion

As discussed above, implementation of the proposed Cannabis Program Update would allow for the development of new cannabis uses that would include the potential for glare and nighttime light that could adversely affect neighboring land uses. Compliance with Sections 16304(a)(6) and 16304(a)(7) of the CCR, the County's General Plan, and the County's Zoning Code address the effects of light and glare from individual cannabis uses developed under the proposed Cannabis Program Update. However, the requirements provided in the Code may be insufficient to limit nighttime lighting or prevent glare from use of tarps. This impact would be **potentially significant**.

Mitigation Measures

The following mitigation measures would be included as new development standards in the County Code.

Mitigation Measure 3.1-4a (ZPC, UPC, DRH): Implement Mitigation Measure 3.1-1

Mitigation Measure 3.1-4b: (ZPC, UPC, DRH): Implement New Light and Glare Requirements

The following mitigation measures would be imposed through the zoning permit, use permit, and design review with hearing processes:

- ▶ A lighting plan must be submitted for new cannabis uses that are subject to a use permit or design review with hearing. The lighting plan must demonstrate compliance with the following standards.
- ▶ Lighting Standards
 - All exterior lighting shall be "Dark-sky" compliant and fully shielded to avoid nighttime light pollution per guidance provided by the International Dark Sky Association (www.darksky.org).
 - Lighting shall be fully shielded to prevent nighttime light pollution.
 - Lighting shall be downward facing, located at the lowest possible point to the ground to prevent spill over onto adjacent properties, glare, nighttime light pollution and unnecessary glow in the night sky.
 - Light fixtures shall not be located at the periphery of the property and shall not reflect off structures. Security lighting shall be put on motion sensors.
 - Uplights are not permitted; flood lights are permitted only for temporary use in fields during harvest.
 - Signs that emit light are prohibited and lights used to illuminate signs shall be shielded to prevent light spill beyond the sign and not exceed a total light output of 1000 lumens.
 - Light fixtures emitting over 1000 lumens are prohibited except where needed for agriculture, commercial fishing, and first responders.
 - Total illuminance created by artificial lighting, shall not exceed 1.0 lux at the property line. Color temperature of exterior light sources shall be 3000 Kelvin or lower.
- ▶ Glare Standards.
 - All glass used on building exteriors must have a visible light reflectance of no more than 15%.

- Glass with a visible light reflectance greater than 10% must incorporate glare mitigation strategies, including but not limited to exterior shading devices or non-reflective coatings.
- Certification from the glass manufacturer verifying compliance with reflectance limits must be provided with the building permit application.
- Reflectance data and specifications for all exterior glass must be included in the permit documentation.

Significance After Mitigation

Implementation of Mitigation Measure 3.1-4a and Mitigation Measure 3.1-4b would apply to all future development and use within the County. These requirements would prevent excessive lighting and spillover of light onto adjacent property, limit the types of materials that may be used on buildings and at cultivation sites that could create glare. With implementation of these mitigation measures, there would not be substantial new sources of light or glare associated with the proposed Program. Therefore, this impact would be reduced to **less than significant**.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to light and glare and would be consistent with Sonoma County General Plan Policies OSRC-4a, OSRC-4b, and OSRC-4c, which require that light fixtures be shielded, cast downward, and use no more than the minimum height and power requirements; prohibit continuous all-night exterior lighting in rural areas, unless in specific circumstances, and minimize glare onto adjacent properties and into the night sky; and discourage light levels in excess of industry and State standards. Compliance with these policies would minimize impacts related to light and glare. Implementation of Mitigation Measure 3.1-4b would codify the requirements set forth in these policies. Similar to the consistency with General Plan policy provisions, the proposed Cannabis Program Update would be generally consistent with the aesthetic policy provisions and standards in the Sonoma County Airport Industrial Area Specific Plan regarding lighting.

3.2 AGRICULTURAL AND FORESTRY RESOURCES

This section evaluates the potential for impacts to agricultural and forestry resources with implementation of the Cannabis Program Update, including direct impacts associated with the conversion of agricultural land to nonagricultural use and potential indirect impacts to adjacent agricultural operations. The existing agricultural and forestry resource characteristics within Sonoma County are described, as well as the applicable policies and regulations related to agriculture and forestry resources.

Comment letters submitted in response to the notice of preparation (NOP) for this EIR identified issues pertaining to agricultural and forestry resources related to conflicts with or removal of existing agricultural uses, prohibiting distribution hubs or businesses on agricultural-zoned land, evaluating different methods of growing and producing cannabis products, water supply impacts, and including an analysis of cannabis cultivation as part of the meaning of “agriculture or agricultural use” in the proposed General Plan amendment for the Cannabis Program Update. All comments received in response to the NOP are presented in Appendix A of this EIR.

For a discussion of impacts to water supply with implementation of the project, refer to Section 3.16, “Utilities and Service Systems” and Section 3.10, “Hydrology and Water Quality.”

3.2.1 Regulatory Setting

FEDERAL

Federal Insecticide, Fungicide, and Rodenticide Act

Pesticides are regulated under the Federal Insecticide, Fungicide, and Rodenticide Act by the US Environmental Protection Agency (EPA). This includes labeling and registration of pesticides as to how they may be used. EPA delegates pesticide enforcement activities in California to the California Department of Pesticide Regulation (CDPR), under CCR, Title 3, Division 6, and the California Food and Agriculture Code. CDPR registers pesticides for use in California and licenses pesticide applicators and pilots, advisors, dealers, brokers, and businesses.

STATE

Farmland Mapping and Monitoring Program

The California Department of Conservation (DOC) has the primary responsibility for reporting statewide farmland data and trends. Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are the lands most suitable for agriculture and often are referred to collectively as Important Farmland. DOC’s Farmland Mapping and Monitoring Program (FMMP) categorizes and maps Important Farmland every 2 years based on information from local agencies. In addition, counties may, at their discretion, establish criteria for the designation of Farmland of Local Importance and consider other lands in their jurisdiction as important agricultural lands.

California Land Conservation Act of 1965

The California Land Conservation Act of 1965, better known as the Williamson Act, created a program that counties can use to prevent viable agricultural land from being converted to urban uses. It involves providing tax incentives to property owners to keep their land in agricultural production. The act provides an arrangement wherein private landowners voluntarily restrict their land to agricultural and compatible open space uses under a contract with the County, known as a land conservation contract or Williamson Act contract, in exchange for property tax relief.

The Williamson Act contract is an enforceable restriction on land and is binding on successors to both the landowner and the local government. The minimum term for a contract is 10 years, and the contract is automatically renewed annually unless one of the parties gives advanced notice of nonrenewal. Contracts may be canceled immediately,

terminating the restriction to agricultural uses, only if the local legislative body finds that termination or canceling of the contract would be consistent with the act and in the public interest.

As of August 2024, approximately 261,803 acres of land within unincorporated areas of the County are under active Williamson Act contracts, which accounts for roughly 48 percent of the farmland within the County (Sonoma County 2021).

California Public Resources Code

"Agricultural land" is defined in Public Resources Code (PRC) Section 21060.1 as:

prime farmland, farmland of statewide importance, or unique farmland, as defined by the United States Department of Agriculture land inventory and monitoring criteria, as modified for California. In those areas of the state where lands have not been surveyed for the classifications specified in subdivision (a), "agricultural land" means land that meets the requirements of "prime agricultural land" as defined in paragraph (1), (2), (3), or (4) of subdivision (c) of Section 51201 of the Government Code.

"Forest land" is defined in PRC Section 12220(g) as:

land that can support 10% native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

"Timberland" is defined in PRC Section 4526 as:

land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the board on a district basis after consultation with the district committees and others.

"Timberland Production Zone" is defined in Government Code Section 51104(g) as:

an area which has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h). With respect to the general plans of cities and counties, "timberland preserve zone" means "timberland production zone."

Cannabis as an Agricultural Product

Business and Professions Code Section 26060(a) defines medical and adult-use commercial cannabis as agricultural products.

California Department of Pesticide Regulation Guidance

Detailed implementation regulations for the CDPR pesticide regulatory program are codified in CCR, Title 3, Division 6. CDPR oversees state pesticide laws, including pesticide labeling, and is vested by the EPA to enforce federal pesticide laws in California. CDPR also oversees the activities of the county agricultural commissioners related to enforcement of pesticide regulations and related environmental laws and regulations locally. These regulations include permitting requirements and limitations on the use of "restricted" pesticides (pesticides considered to be dangerous to human health or the environment if not used correctly) and nonrestricted pesticides that may require permitting or must be handled consistent with the pesticide's specifications.

State law allows CDPR to place controls on restricted pesticides, limiting their use to trained individuals, and then only at times and places approved by the county agricultural commissioners.

CDPR assesses potential dietary (food and drinking water), workplace, residential, and ambient air exposures and considers both the exposure pathway (the course a pesticide takes from its source to the person) and the exposure route (how the pesticide enters the body). This evaluation is described in CDPR's Exposure Assessment Document (EAD).

CDPR's human health risk assessments include hazard identification, dose-response assessment, exposure assessment, and risk characterization. These components of risk assessment are then incorporated into a risk characterization document (RCD). Hazard identification determines if there are toxic effects caused by a pesticide. The dose-response assessment identifies the amount of pesticide at which these effects occur. The exposure assessment determines the amount of pesticide that people are exposed to during a specific period (short-, intermediate-, and long-term) and in what situations (work, home, and outdoor environments). The exposure assessment also identifies who is most vulnerable, such as farmworkers, children, and women of childbearing age. Risk characterization determines the exposure levels at which harmful effects will not be caused. Draft EADs and RCDs undergo external peer review by scientists at the Office of Environmental Health Hazard Assessment and EPA.

In addition, CDPR oversight includes:

- ▶ licensing of pesticide professionals,
- ▶ site-specific permits required before restricted-use pesticides may be used in agriculture,
- ▶ strict rules to protect workers and consumers,
- ▶ mandatory reporting of pesticide use by agricultural and pest control businesses,
- ▶ environmental monitoring of water and air, and
- ▶ testing of fresh produce for pesticide residues.

The regulations require that employers of pesticide workers provide protective clothing, eyewear, gloves, respirators, and any other required protection and require employers to ensure that protective wear is worn according to product labels during application. The regulations also require that employers provide field workers with adequate training in pesticide application and safety, communicate pesticide-related hazards to field workers, ensure that emergency medical services are available to field workers, and ensure adherence to restricted-entry intervals between pesticide treatments (CCR, Title 3, Section 6764). CDPR requires that the application of pesticides or other pest control in connection with the indoor or outdoor cultivation of commercial cannabis complies with Division 6 (commencing with section 11401) of the Food and Agricultural Code and its implementing regulations (CCR, Title 3, Section 6000 et seq.).

Pesticide Use in Commercial Cannabis Cultivation

Cannabis pests vary according to strain (variety), whether the plants are grown indoors or outdoors, and where the plants are grown geographically. Pesticides legal for use on commercial cannabis must have active ingredients that are exempt from residue tolerance requirements and are either exempt from registration requirements or registered for a use that is broad enough to include use on cannabis. Residue tolerance requirements are set by EPA for each pesticide on each food crop and is the amount of pesticide residue allowed to remain in or on each treated crop with "reasonable certainty of no harm." Some pesticides are exempted from the tolerance requirements when they are found to be safe. Some of these pesticides are bacterial-based insect pathogens (e.g., *Bacillus thuringiensis*) or biofungicides (e.g., *Bacillus subtilis*, *Gliocladium virens*). Active ingredients exempt from registration requirements are mostly food-grade essential oils, such as peppermint oil and rosemary oil.

California Code of Regulations - California Department of Cannabis Control Medicinal and Adult-Use Commercial Cannabis Regulations

CCR, title 4, division 19 includes standards related to the use and allowable levels of pesticides for cannabis that are summarized below.

Section 15011(a)(12)

All cultivator license types except processors, require a signed attestation that states the commercial cannabis business shall contact the appropriate county agricultural commissioner regarding requirements for legal use of pesticides on cannabis prior to using any of the active ingredients or products included in the pest management plan and shall comply with all pesticide law.

Section 15719: Residual Pesticide Testing

A licensed laboratory is required to analyze representative samples of cannabis and cannabis products to determine whether residual pesticides are present. A list of pesticides is divided into two categories and provided along with their action levels. The sample shall be deemed to have passed the residual pesticides testing if both of the following conditions are met: (1) the presence of any residual pesticide listed in Category I identified in section 15719 are not detected, and (2) the presence of any residual pesticide listed in in Category II in section 15719 does not exceed the indicated action levels.

Section 16307: Pesticide Use Requirements

Licensed cultivators are required to comply with all applicable pesticide statutes and regulations enforced by the Department of Pesticide Regulation. For all pesticides that are exempt from registration requirements, licensed cultivators are required to follow specific pesticide application and storage protocols.

Section 16310: Pest Management Plan

Licensed cultivators are required to develop a pest management plan that includes product name and active ingredient(s) of all pesticides to be applied to cannabis as well as any integrated pest management protocols, including chemical, biological, and cultural methods, that will be used to prevent and control pests on the cultivation site.

California Government Code

The following California Government Code definitions are applicable to timberland and agricultural resources:

- ▶ Government Code Section 51104(g) defines “timberland production zone” (TPZ) as an area that has been zoned pursuant to section 51112 or 51113 and that is devoted to and used for growing and harvesting timber or for growing and harvesting timber and compatible uses. Compatible uses are defined under Government Code section 51104(h) and include the construction and maintenance of electric transmission facilities.
- ▶ Government Code Section 51112 identifies situations that would warrant a decision that a parcel is not devoted to and used for growing and harvesting timber or for growing and harvesting timber and compatible uses.
- ▶ Government Code Section 51113 allows the opportunity for a landowner to petition that his or her land be zoned timberland production.
- ▶ Government Code Section 51201(c)(5) defines “prime agricultural land” as land that has returned from the production of unprocessed agricultural plant products with an annual gross value of not less than \$200 per acre for 3 of the previous 5 years.

California Timberland Productivity Act of 1982

The California Timberland Productivity Act of 1982 (California Government Code Sections 51100–51104) identifies the benefits of the State’s timberlands and acknowledges the threat of timberland loss via land use conversions. The law identifies policies intended to preserve timberland, including maintaining an optimum amount of timberland, discouraging premature conversion, discouraging expansion of urban land uses into timberlands, and encouraging investments in timberland. The law establishes TPZ on all qualifying timberland, which is devoted to and used for growing and harvesting timber or for growing and harvesting timber and compatible uses. The law also provides that timber operations conducted in a manner consistent with forest practice rules (Z’Berg-Nejedly Forest Practices Act of 1973 [FPA]) shall not be or become restricted or prohibited because of any land use in or around the locality of those operations.

California Forest Practice Rules

The California Forest Practice Rules of 2022 define the timber harvest activities that are regulated under CCR, Title 14, Chapters 4, 4.5, and 10, and under the FPA, PRC, Division 4, Chapter 8. The California Department of Forestry and Fire Protection (CAL FIRE) is the enforcing agency responsible for ensuring that logging and other forest harvesting activities are conducted in a manner that preserves and protects fish, wildlife, forests, and streams.

Before any harvesting activities occur, landowners must prepare a timber harvest plan (THP), which outlines the timber proposed for harvesting, the methods of harvesting, and the steps that will be taken to prevent damage to the environment. THPs are required to be prepared by Registered Professional Foresters. When a timberland owner proposes to carry out a project that would result in timberland being converted to a nontimber growing use, the owner must secure a Timberland Conversion Permit from CAL FIRE. Projects that would result in the conversion of less than 3 acres of timberland may qualify for an exemption from this provision.

Z'Berg-Nejedly Forest Practice Act of 1973

The FPA (California Public Resources Code, Sections 4511–4517) established the State Board of Forestry and Fire Protection, whose mandate is to protect and enhance the state's unique forest and wildland resources. This mandate is carried out through enforcement of the California Forest Practice Rules (CCR, Title 14, Chapters 4, 4.5, and 10). CAL FIRE enforces the laws that regulate logging on nonfederal lands in California. Additional rules enacted by the State Board of Forestry and Fire Protection are also enforced to protect forest and wildland resources.

Z'Berg-Warren-Keene-Collier Forest Taxation Reform Act of 1976

According to the Z'berg-Warren-Keene-Collier Forest Taxation Reform Act (California Government Code, Article 2, Sections 51110–51119.5), enacted in 1976, counties must provide for the zoning of land used for growing and harvesting timber as TPZs. A TPZ is a 10-year restriction on the use of land and replaced the use of agricultural preserves (Williamson Act contracts) on timberland. Land use under a TPZ is restricted to growing and harvesting timber and to compatible uses approved by the County. In return, taxation of timberland under a TPZ is based only on such restrictions in use.

CAL FIRE Forest Legacy Program

The Forest Legacy Program protects environmentally important forest land threatened with conversion to nonforest uses. Protection of California's forests through this program ensures that they continue to provide such benefits as sustainable timber production, wildlife habitat, recreation opportunities, watershed protection, and open space. Intact forests also contribute substantially to the storage and sequestration of carbon. Under this competitive grant program, CAL FIRE purchases or accepts donations of conservation easements or fee title of productive forest lands to encourage their long-term conservation. The primary tool that CAL FIRE uses to conserve forest lands in perpetuity is permanent Working Forest Conservation Easements (WFCEs). WFCEs do more than just restrict development and conversion of a property. They protect forest values by concentrating on sustainable forest practices that provide economic value from the land and encourage long-term land stewardship.

LOCAL

Sonoma County General Plan

The County's General Plan provides a blueprint for land use in the unincorporated areas of the County and provides the basis for development while maintaining quality of life. The Land Use and Agricultural Resources Elements of the County's General Plan include goals, objectives, and policies specific to agricultural and forestry resources, including the cultivation and marketing of cannabis, as described below.

Land Use Element

The County's Land Use Element aims at protecting agricultural land and operations while also considering the extent to which additional small residential lots should be allowed, the need for agricultural support uses in rural areas, and the extent of visitor-serving uses that may be supportive of and compatible with farming. Objectives and policies of the Land Use Element applicable to the Cannabis Program Update are as follows:

- ▶ **Objective LU-9.1:** Avoid conversion of lands currently used for agricultural production to non-agricultural use.
- ▶ **Objective LU-9.2:** Retain large parcels in agricultural production areas and avoid new parcels less than 20 acres in the "Land Intensive Agriculture" category.

- ▶ **Objective LU-9.3:** Agricultural lands not currently used for farming, but which have soils or other characteristics that make them suitable for farming shall not be developed in a way that would preclude future agricultural use.
- ▶ **Objective LU-9.4:** Discourage uses in agricultural areas that are not compatible with long-term agricultural production.
- ▶ **Objective LU-9.5:** Support farming by permitting limited small-scale farm services and visitor serving uses in agricultural areas.
 - **Policy LU-9c:** Use rezonings, easements and other methods to ensure that development on agricultural lands does not exceed the permitted density except where allowed by the policies of the Agricultural Resources Element.
- ▶ **Objective OSRC-12.1:** Identify and preserve areas with timber soils and commercial timber stands for timber production. Reduce incompatible uses and the conversion of timberlands to agriculture and other uses that effectively prevent future timber production in these areas.

Agricultural Resources Element

The purpose of the Agricultural Resources Element is to provide clear guidelines for County decisions in agricultural areas. The Agricultural Resources Element defines agriculture as “an industry which produces and processes food, fiber, plant materials, and which includes the raising and maintaining of farm animals including horses, donkeys, mules, and similar livestock” (Sonoma County 2016). The Agricultural Resources Element includes policies to ensure the stability and productivity of the County's agricultural lands and industries, as well as to promote and protect the current and future needs of the County's agricultural industry. Objectives and policies of the Agricultural Resources Element applicable to the Cannabis Program Update are as follows:

- ▶ **Objective AR-1.2:** Permit marketing of products grown and/or processed in Sonoma County in all areas designated for agricultural use.
 - **Policy AR-1g:** Support the activities of the Sonoma County Agricultural Commissioner's Office and the Farm Advisors Office in promoting sustainable and organic agricultural production and encourage the exploration of possibilities for production of other diverse agricultural products.
- ▶ **Objective AR-4.1:** Apply agricultural land use categories only to areas or parcels capable of the commercial production of food, fiber and plant material, or the raising and maintaining of farm animals including horses, donkeys, mules, and similar livestock. Establish agricultural production as the highest priority use in these areas or parcels. The following policies are intended to apply primarily to lands designated within agricultural land use categories.
 - **Policy AR-4a:** The primary use of any parcel within the three agricultural land use categories shall be agricultural production and related processing, support services, and visitor serving uses. Residential uses in these areas shall recognize that the primary use of the land may create traffic and agricultural nuisance situations, such as flies, noise, odors, and spraying of chemicals.
 - **Policy AR-4b:** Apply agricultural zoning districts only to lands in agricultural land use categories to implement the policies and provisions of the Agricultural Resources Element.
 - **Policy AR-4c:** Protect agricultural operations by establishing a buffer between agricultural land use and residential interface. Buffers shall generally be defined as a physical separation of 100 to 200' and/or may be a topographic feature, a substantial tree stand, water course or similar feature. In some circumstances a landscaped berm may provide the buffer. The buffer shall occur on the parcel for which a permit is sought and shall favor protection of the maximum amount of farmable land.
 - **Policy AR-4d:** Apply the provisions of the Right to Farm Ordinance to all lands designated within agricultural land use categories.
 - **Policy AR-4e:** Recognize provisions of existing State nuisance law (Government Code Section 3482.5).

- **Policy AR-4f:** Anticipated conflicts between a proposed new agricultural use and existing agricultural activities shall be mitigated by the newer use or application.
- ▶ **Objective AR-5.1:** Facilitate County agricultural production by allowing agricultural processing facilities and uses in all agricultural land use categories.
- ▶ **Objective AR-5.3:** Ensure that agriculture-related support uses allowed on agricultural lands are only allowed when demonstrated to be necessary for and proportional to agricultural production onsite or in the local area.
 - **Policy AR-5a:** Provide for facilities that process agricultural products in all three agricultural land use categories only where processing supports and is proportional to agricultural production on site or in the local area.
 - **Policy AR-5b:** Consider allowing the processing of non-viticultural agricultural products where the processing is demonstrated to support projected or new agricultural production, provided that the processing use is proportional to the new production on site or in the local area.
 - **Policy AR-5c:** Permit storage, bottling, canning, and packaging facilities for agricultural products either grown or processed on site provided that these facilities are sized to accommodate, but not exceed, the needs of the growing or processing operation. Establish additional standards in the Development Code that differentiate between storage facilities directly necessary for processing, and facilities to be utilized for the storage of finished product such as case storage of bottled wine. Such standards should require an applicant to demonstrate the need for such on-site storage.
 - **Policy AR-5d:** Define "agricultural support services" as processing services, maintenance and repair of farm machinery and equipment, veterinary clinics, custom farming services, agricultural waste handling and disposal services, and other similar related services.*
 - **Policy AR-5e:** Only permit agricultural support services that support local agricultural production consistent with the specific requirements of each of the three agricultural land use categories. Insure that such uses are subordinate to on-site agricultural production and do not adversely affect agricultural production in the area. Consider the following factors in determining whether or not an agricultural support service is subordinate to on-site agricultural production:
 - (1) The portion of the site devoted to the service as opposed to production.
 - (2) The extent of structure needed for the service as opposed to production.
 - (3) The relative number of employees devoted to the support service use in comparison to that needed for agricultural production.
 - (4) The history of agricultural production on the site.
 - (5) The potential for the service facility to be converted to non agricultural uses due to its location and access.
 - **Policy AR-5f:** Use the following guidelines for approving zoning or permits for agricultural support services:
 - (1) The use will not require the extension of sewer or water,
 - (2) The use does not substantially detract from agricultural production on-site or in the area,
 - (3) The use does not create a concentration of commercial uses in the immediate area, and
 - (4) The use is compatible with and does not adversely impact surrounding residential neighborhoods.
 - **Policy AR-5g:** Local concentrations of any separate agricultural support uses, including processing, storage, bottling, canning and packaging, agricultural support services, and visitor-serving and recreational uses as provided in Policy AR-6f, even if related to surrounding agricultural activities, are detrimental to the primary use of the land for the production of food, fiber and plant materials and shall be avoided. In determining

whether or not the approval of such uses would constitute a detrimental concentration of such uses, consider all the following factors:

- (1) Whether the above uses would result in joint road access conflicts, or in traffic levels that exceed the Circulation and Transit Element's objectives for level of service on a site specific and cumulative basis.
- (2) Whether the above uses would draw water from the same aquifer and be located within the zone of influence of area wells.
- (3) Whether the above uses would be detrimental to the rural character of the area. In cases where the proposed processing use would process only products grown on site, such use would not be subject to this concentration policy.

- ▶ **Objective AR-6.1:** Give the highest priority in all agricultural land use categories to agricultural production activities. Visitor serving uses shall promote agriculture and enhance marketing of Sonoma County agricultural products but shall be secondary and incidental to agricultural production.
 - **Policy AR-6a:** Permit visitor serving uses in agricultural categories that promote agricultural production in the County, such as tasting rooms, sales and promotion of products grown or processed in the County, educational activities and tours, incidental sales of items related to local area agricultural products, and promotional events that support and are secondary and incidental to local agricultural production. Limit recreational uses to the "Land Extensive Agriculture" and "Diverse Agriculture" categories, specifically to bed and breakfast inns and campgrounds of 30 or fewer sites.
 - **Policy AR-6d:** Follow these guidelines for approval of visitor serving uses in agricultural areas:
 - (1) The use promotes and markets only agricultural products grown or processed in the local area.
 - (2) The use is compatible with and secondary and incidental to agricultural production activities in the area.
 - (3) The use will not require the extension of sewer and water.
 - (4) The use is compatible with existing uses in the area.
 - (5) Hotels, motels, resorts, and similar lodging are not allowed.
 - (6) Activities that promote and market agricultural products such as tasting rooms, sales and promotion of products grown or processed in the County, educational activities and tours, incidental sales of items related to local area agricultural products are allowed.
 - (7) Special events on agricultural lands or agriculture related events on other lands in the Sonoma Valley Planning Area will be subject to a pilot event coordination program which includes tracking and monitoring of visitor serving activities and schedule management, as necessary, to reduce cumulative impacts.
 - **Policy AR-6f:** Local concentrations of visitor serving and recreational uses, and agricultural support uses as defined in Goal AR-5, even if related to surrounding agricultural activities, are detrimental to the primary use of the land for the production of food, fiber and plant materials and may constitute grounds for denial of such uses. In determining whether or not the approval of such uses would constitute a detrimental concentration of such uses, consider all the following factors
 - (1) Whether the above uses would result in joint road access conflicts, or in traffic levels that exceed the Circulation and Transit Element's objectives for level of service on a site specific and cumulative basis.
 - (2) Whether the above uses would draw water from the same aquifer and be located within the zone of influence of area wells.
 - (3) Whether the above uses would be detrimental to the rural character of the area.

- **Policy AR-6g:** Define in the Development Code compatible visitor serving uses such as tasting rooms, sales and promotion of products grown or processed in the County, educational activities and tours, incidental sales of items related to local area agricultural products, and promotional events which support and are incidental to local agricultural production and define their permissible sizes and intensities.
- ▶ **Objective AR-9.1:** Establish permit processing procedures that will simplify and shorten the decision-making process for permits on agricultural lands.
- ▶ **Objective AR-9.2:** Provide and expedite permitting assistance to the agricultural industry.
- ▶ **Objective AR-9.3:** Promote rural character in the design of agriculture related support uses on agricultural lands.
 - **Policy AR-9b:** Consider barns and similar agricultural support structures on agricultural lands as part of the scenic environment not requiring design review approval except where local design review exists by community choice established in an adopted Specific plan, Area plan or Local Area Development Guidelines or where a State Scenic Highway designation has been approved by the Board of Supervisors and by the State of California.
 - **Policy AR-9c:** Establish procedures and standards in the Development Code to distinguish those agricultural uses and activities which may be approved by administrative action and to expedite the processing of permits for agricultural and agriculture related uses.

Franz Valley Area Plan

The Franz Valley Area Plan contains the following policies related to agricultural and forestry resources that are relevant to the Cannabis Program Update (Sonoma County PRMD 2012):

- ▶ **Productive Agriculture:**
 - Discourage residential development in agricultural areas except where related to the agricultural use of the land.
- ▶ **Timber Resource Management:**
 - Encourage parcel sizes sufficient for commercial timber harvesting where appropriate.
 - Require adherence to Timber Harvest Plan conditions.
 - Preserve timber stands with unique biotic or scenic qualities.
 - Recognize woodlot management as a vital local resource

Penngrove Area Plan

The Penngrove Area Plan contains the following policies related to agricultural and forestry resources that are relevant to the Cannabis Program Update (Sonoma County PRMD 2008a):

C. Agriculture. A goal of this Area Plan is to protect and enhance the profitability of existing agriculture and protect agricultural soils for future generations.

Policies

(2) Protect existing agricultural activities from the conflicts caused by the encroachment of residential development.

Petaluma Dairy Belt Area Plan

The Petaluma Dairy Belt Area Plan contains the following policies related to agricultural and forestry resources that are relevant to the Cannabis Program Update (Sonoma County PRMD 2008b):

G. Agriculture Goal

1. It shall be the goal of this Area Plan to protect and maintain agricultural land for the value of its products, its economic impact on the county, its contribution to community life, and its environmental values.

Policies

- (1) Recognize the diversity of agricultural uses.
- (2) Support policies and programs providing tax and economic incentives that will ensure the long term retention of agricultural lands.
- (3) Establish mechanisms for assisting the agriculture industry in meeting the economic burden imposed by environmental quality standards.
- (4) Discourage residential use in agricultural areas unless the residential use can be shown not to conflict with agriculture.
- (5) Promote agricultural practices consistent with long term conservation of the county's agricultural capability.
- (6) Promote agricultural practices that protect environmental quality and conserve resources.

South Santa Rosa Area Plan

The South Santa Rosa Area Plan contains the following policies related to agricultural and forestry resources that are relevant to the Cannabis Program Update (Sonoma County PRMD 2008c):

Agriculture Goal 1. Protect, maintain and support agricultural land uses and soils capable of supporting agriculture.

Policies

- (1) Support programs ensuring long term retention of agriculture, including agricultural preserve contracts.

West Petaluma Area Plan

The West Petaluma Area Plan contains the following policies related to agricultural and forestry resources that are relevant to the Cannabis Update Program (Sonoma County PRMD 2008d):

General Goals and Policies

- (1) Preserve agricultural lands and encourage agriculture.

Conservation

GOAL 1.1: Protect and enhance profitability of existing agriculture and protect cultivable soils for future generations

- (1) Support policies and programs for long term retention of agriculture, including agricultural preserve contracts
- (2) Discourage residential development in defined agricultural areas unless development does not impede agricultural operation
- (3) Allow agricultural supply and processing businesses which support local agriculture when compatible with traffic, neighborhood, and scenic goals

Sonoma County Code**Sonoma County Zoning Code**

Sonoma County Zoning Regulations include three agricultural use categories: Land Intensive Agriculture (LIA), Land Extensive Agriculture (LEA), and Diverse Agriculture (DA), each of which has a land use designation of agriculture in the General Plan. The categories differ primarily in the types and intensities of agricultural support services, visitor-serving uses, and residential densities. In addition, the County Agriculture and Residential district (AR) and Rural Residential (RR) districts allow for raising of crops and farm animals in areas designated primarily for rural residential uses and has a General Plan land use designation of rural residential. The County's Timberland Production (TP) Zone identifies land consistent with the Timberland Productivity Act. Most timberland and forest land not zoned TP is zoned Resources and Rural Development (RRD), which allows land management for commercial production, and timber management for noncommercial purposes including harvesting and incidental milling, subject to the requirements of CAL FIRE.

- ▶ Chapter 26, Article 18 of the Sonoma County Code provides standards for specific agriculture and resource-based land uses in all zones, summarized as follows: Section 26-18-020 defines agricultural crop production and cultivation as commercial growing and harvesting of agricultural crops, and excludes cannabis cultivation, agricultural support services, visitor-serving uses, processing of agricultural crops where the crop is changed from its natural state to a different form, and the growing and harvesting of crops in greenhouses or similar structure.
- ▶ Section 26-18-030 defines agricultural processing as changing an agricultural product from its natural state to a different form, and excludes cannabis processing and animal product processing. Section 26-18-030 (D) requires that the review authority finds that the facility is consistent with General Plan Policy AR-5c to be approved.
- ▶ Section 26-18-050 defines agricultural support services as a commercial service that provides services purchased by farmers and agricultural enterprises, and includes farm product processing services, custom farming services, agricultural waste handling and disposal services, veterinary clinics, farm machinery and equipment maintenance and repair; irrigation, and vineyard management services.

Right To Farm Ordinance (Sonoma County Code Chapter 30, Article II)

The County's Right to Farm ordinance was originally adopted in 1988 and revised in 1999 to include stronger disclosure requirements. The basic intention of the ordinance is to provide public policy support for maintaining the viability of agriculture within the County. Two of the major features of the Right to Farm ordinance are the farmers' right to conduct agricultural operations and that legal, properly conducted agricultural operations will not be considered a nuisance. The protections afforded by the ordinance apply only to agricultural operations on land designated as LIA, LEA, or DA (Sonoma County Code Chapter 30, Article II).

Sonoma County Tree Protection Ordinances

The County has adopted various tree protection ordinances within the Sonoma County Code, consisting of the Tree Protection Ordinance (Section 26-88-015), Oak Woodland Ordinance and Valley Oak Habitat (VOH) Combining Zone (Chapter 26, Article 67), Heritage and Landmark Tree Ordinance (Chapter 26D), and the Riparian Corridor Combining Zone (Chapter 26, Article 65). In accordance with these tree protection ordinances, a zoning or use permit may be required for the removal of protected trees per the specifications established in each ordinance.

Agricultural Setbacks

The County Zoning Code establishes agricultural setbacks that provide a buffer between agricultural operations on lands designated agricultural in the existing General Plan and adjacent non-agricultural land uses. Generally, the buffer is defined as a physical separation of 100 to 200 feet on the development side (Sonoma County Code Section 26-88-040(f)).

Agricultural Preserves and Farmland Security Zones

The goal of the County's agricultural preserve program is long-term preservation of agricultural and open space lands. The program is governed by the California Land Conservation Act (also known as the Williamson Act), the County's Uniform Rules for Agricultural Preserves and Farmland Security Zones, and the recorded contract between the owner and the County, which runs with the land.

The California Land Conservation Act allows the County and owners of agricultural and open space land to voluntarily enter into agreements that restrict the owner's use of the land to agricultural and/or open space uses and uses compatible with those agricultural and/or open space uses, in exchange for a reduction in property tax assessment. Land Conservation Contracts have ten (10)-year automatically renewing terms. The County also offers Farmland Security Zone Contracts, which are similar to Land Conservation Contracts, but for twenty (20)-year automatically renewing terms.

In Sonoma County, there are two types of agricultural Williamson Act Contracts:

- ▶ Prime Agricultural Land (minimum 10 acres),
- ▶ Non-Prime Agricultural Land (minimum 40 acres).

Somona County Agricultural Commissioner Pesticide Application Protection Standards

Through authority granted by the CDPR, the Sonoma County Agricultural Commissioner enforces CDPR pesticide regulations within the county. California laws and regulations related to pesticides are established in the California Food and Agriculture Code, the California Code of Regulations and the California Business and Professions Code. The Sonoma County Agricultural Commissioner monitors, inspects and performs enforcement related to the handling, use, storage and record keeping regulations. This activity includes but is not limited to the requirements for safety training for employees handling pesticides, use of protective equipment, and addressing issues associated with pesticide drift during application to avoid contamination of nontarget crops, animals, or other public or private property. It also includes reporting the use of pesticides, and the proper storage and disposal of pesticides and their containers.

3.2.2 Environmental Setting

AGRICULTURAL RESOURCES

Agriculture is one of the main industries in the County and provides a substantial base to the County’s economy. Within the County, designated agricultural land totals approximately 326,562 acres, which accounts for roughly 34 percent of the County’s total land coverage. The County’s General Plan and Zoning Code further divide agricultural land into three main land use categories: (1) Land Intensive Agriculture (LIA); (2) Land Extensive Agriculture (LEA); and (3) Diverse Agriculture (DA). Within the County, land zoned as LIA accounts for approximately 74,255 acres; LEA accounts for approximately 186,462 acres, and DA accounts for approximately 68,845 acres.

In addition to the three main agricultural land uses, the County’s General Plan and Zoning Code also permit limited agricultural production as a secondary use of the land within the Rural Residential (RR) and Agriculture and Residential (AR) zoning designations. Although limited agricultural production is permitted within these zones, the agricultural policies of the County’s Agricultural Element are not fully applicable to parcels designated as RR and AR. The RR and AR zoning are not considered right to farm zones.

Agriculture in Sonoma County is varied and produces and processes food, fibers, plant materials, and includes the raising and maintaining of livestock, such as horses, donkeys, mules, cows, and other farm animals. Agricultural operations within the County include farms of all sizes, as well as vineyards, nurseries, equestrian, ranching, and other related agricultural activities. Additional detail on the extent and type of agricultural resources within the County is provided below.

Crops

The total reported value of agricultural production within the County increased by 18.89 percents between 2022 to 2023. Economic growth was attributed to increased fruit and nut crops and livestock and poultry, while decreased values were realized for apiary products, vegetable crops, field crops, nursery products, and livestock and poultry products (Sonoma County 2024a). With regard to cannabis, there was a decrease of value from \$54,129,375 in 2022 to \$25,735,400 in 2023 (Sonoma County 2024b).

Table 3.2-1 provides a summary of the County’s 2023 agricultural production based on the Sonoma County 2023 Crop Report.

Table 3.2-1 Sonoma County Top Crop Values (2023)

Crop Type	Quantity	Value
Winegrapes—all	240,938 tons	\$716,818,600
Milk	NA	\$58,348,700
Miscellaneous livestock and poultry products	NA	\$40,652,100
Nursery—ornamentals	1,105,764 plants	\$31,462,600
Nursery—miscellaneous	NA	\$20,503,500

Crop Type	Quantity	Value
Cattle and calves	89,000 cattle/calves	\$21,013,400
Hay, rye, and oat hay crops	19,179 tons	\$2,808,800
Miscellaneous livestock and poultry	NA	\$12,557,200
Nursery—bedding plants	1,199,079 flat	\$9,359,800
Nursery – ornamentals	1,105,764 plants	\$31,462,600
Nursery – Christmas trees	1,734 units	\$132,400
Nursery—cut flowers	NA	\$6,108,000
Sheep and lambs	13,508 sheep/lambs	\$5,404,200
Vegetables	175 harvested acres	\$2,190,800
Rye, corn, and oat silage crops	34,657 tons	\$1,215,100
Hemp	4 tons	\$714,300
Apples	6,943 tons	\$3,577,000
Cannabis	71,482 pounds (35.74 tons)	\$25,735,400

Notes: NA = not available.

Source: Sonoma County 2024a and 2024b.

Commercial Cannabis Cultivation Crops

The County issued an addendum to the 2023 Crop Report solely focused on cannabis production. The total reported value of cannabis production within the County in 2023 was \$25,734,400 (Sonoma County 2024b). The production and value of cannabis crops has decreased from 2022, when 66,375 pounds of cannabis was valued at \$53,859,375 and from 2021 (Sonoma County 2023b), when 212,548 pounds were valued at \$121,152,360 (Sonoma County 2022).

Table 3.2-2 provides a summary of the County's 2023 cannabis production based on the Sonoma County 2023 Crop Report Addendum.

Table 3.2-2 Sonoma County Cannabis Production (2023)

Cultivation Type	Quantity (pounds)	Value
Outdoor	55,583	\$15,396,500
Indoor	15,899	\$9,539,400
Total	71,482	\$25,735,400

Source: Sonoma County 2024b.

IMPORTANT FARMLAND

The California Department of Conservation (DOC) classifies farmlands based on a system that combines technical soil ratings and current land use, as part of the FMMP. Descriptions of the FMMP categories are presented in Table 3.2-3. The categories of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are defined by CEQA as "Important Farmland." Table 3.2-4 and Figure 3.2-1 identify the extent of farmlands within the unincorporated areas of the County.

Table 3.2-3 Farmland Mapping and Monitoring Program Mapping Categories

Category	Considered Important Farmland under CEQA ¹	Definition
Prime Farmland (P)	Yes	Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years before the mapping date.
Farmland of Statewide Importance (S)	Yes	Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years before the mapping date.
Unique Farmland (U)	Yes	Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the 4 years before the mapping date.
Farmland of Local Importance (L)	No	Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
Farmland of Local Potential	No	Farmland of Local Potential is a designation given to land that is of prime or statewide importance but is not presently irrigated or cultivated.
Grazing Land (G)	No	Land on which the existing vegetation is suited to the grazing of livestock.
Urban and Built-Up Land (D)	No	Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
Other Land (X)	No	Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.
Water (W)	No	Perennial water bodies with an extent of at least 40 acres.

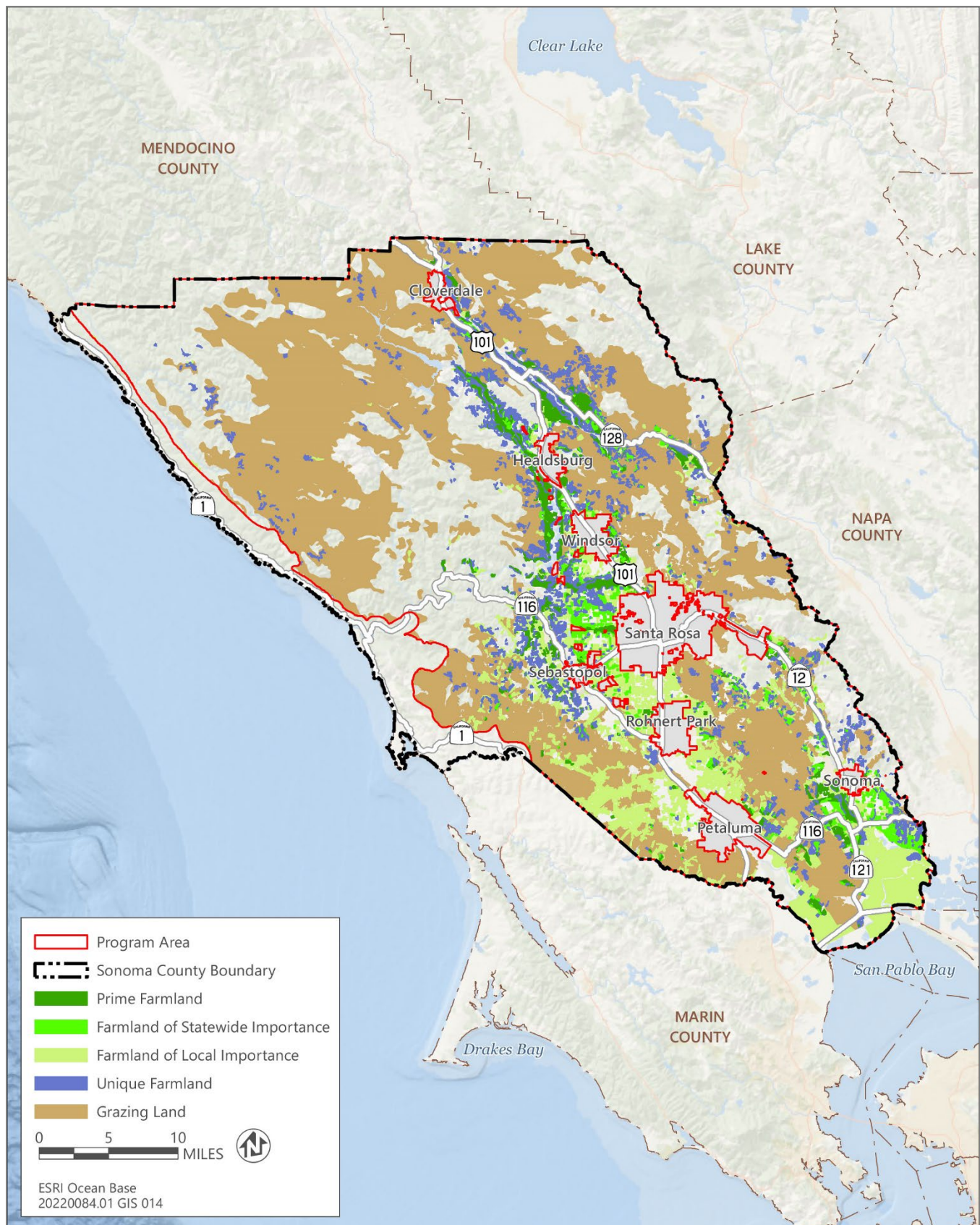
¹ Important farmland is defined by CEQA under PRC 21060.01 and State CEQA Guidelines Appendix G.

Source: DOC 2024.

Table 3.2-4 Important Farmland Acreages in Sonoma County (2024)

Farmland Type	Acres
Prime Farmland	29,803
Farmland of Statewide Importance	16,972
Unique Farmland	33,813
Farmland of Local Importance	78,590
Important Farmland Subtotal	159,816
Grazing Land	415,543
Agricultural Land Subtotal	575,359
Urban and Built-Up Land	76,751
Other Land	358,998
Water	15,941
TOTAL	1,027,049

Source: DOC 2024.



Source: Data downloaded from California Department of Conservation in 2024; adapted by Ascent in 2024.

Figure 3.2-1 Important Farmland

FORESTED AREAS AND TIMBERLANDS

The County's General Plan and Zoning Code include two zones, Resources and Rural Development (RRD) and Timberland Production District (TP), related to timberland and forestry resources. The RRD zone protects land needed for timberland production and agricultural production activities not subject to the Agricultural Element of the General Plan, in addition to other natural resources and areas. RRD zoned lands account for approximately 54 percent of the total acreage within the County, or approximately 492,658 acres. RRD-designated lands are not considered a right to farm zone. The TP zoning is designated as land capable of producing timber and forest products, as well as for compatible uses consistent with the Forest Taxation Reform Act. TP-zoned lands account for 9 percent of the total acreage within the County, or approximately 81,446 acres. In 2023, 17,837,000 board feet of timber were product, at a value of \$10,860,126 (Sonoma County 2024a). Figures 3.4-2, 3.4-3, and 3.4-6 identifies forest conditions in the County.

3.2.3 Environmental Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, "Project Description," and Section 3.0, "Approach to the Environmental Analysis," regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

The impact analysis below evaluates whether adoption and implementation of the proposed Cannabis Program Update, including subsequent cannabis operations pursuant to the adopted Cannabis Program Update, could result in significant impacts to important farmland and agricultural operations or forest resources in the County. The analysis focuses specifically on actions that could result in the use of agricultural lands for commercial cannabis operations, conversion of designated TP zones and other forest lands, or conflict with policies and regulations intended to protect farmland and timberlands. The reader is referred to Chapter 2, "Project Description," for a description of the proposed regulation of commercial cannabis operations and the anticipated extent of new commercial cannabis operations under the Cannabis Program Update. It is not possible to estimate the extent of accessory uses on cannabis sites that may occur in the future under the Cannabis Program Update. Thus, the analysis programmatically addresses the potential for accessory uses.

As it pertains to agricultural and forestry resources, the proposed Cannabis Program Update would include the following amendments to the General Plan, Code, and Uniform Rules (Appendix B).

Summary of Proposed General Plan Amendments

The Glossary of General Plan is proposed to be amended as written below:

- ▶ **Agricultural Production Activities:** Those activities directly associated with agriculture, but not including agricultural support services, processing, and visitor-serving uses. Activities include growing, harvesting, crop storage, milking, etc. Ancillary processing of cannabis grown on-site is considered an agricultural production activity because it does not change an agricultural product from its natural state to a different form, as grapes to wine, apples to juice or sauce, agricultural crops to extracted oils, etc.
- ▶ **Agricultural Support Services:** Processing services, maintenance and repair of farm machinery and equipment, veterinary clinics, custom farming services, agricultural waste handling and disposal services, and other similar services. Processing of cannabis grown off-site (i.e., "centralized processing") is considered an agricultural support service.

- ▶ **(New Term) Controlled Agriculture or Controlled Agricultural Crop:** A type of agriculture or agricultural crop that is subject to unique regulations but is included as agriculture (agricultural crop) in all General Plan agricultural policies unless stated otherwise. Cannabis is the only crop defined as a controlled agricultural crop. Cannabis does not include "industrial hemp" as defined by Section 81000 of the California Food and Agricultural Code.

Proposed General Plan is proposed to be amended as written below:

GOAL AR-1: Promote a healthy and competitive agricultural industry whose products are recognized as being produced in Sonoma County.

- ▶ **Objective AR-1.2:** Permit marketing of products grown and/or processed in Sonoma County in all areas designated for agricultural use in compliance with applicable state regulations, including restrictions placed on cannabis advertising by the Department of Cannabis Control.
- ▶ **Policy AR-4g:** Permanent structures used for cannabis production should be limited in size and be subordinate to outdoor on-site agricultural production of any type. Consider all of the following factors when making a determination:
 - (1) Whether and to what extent Prime Farmland or Farmland of Statewide Importance would be permanently encumbered by structures.
 - (2) The portion of the site devoted to agricultural production within permanent structures as opposed to outdoor agricultural production.
 - (3) The relative number of employees needed for on-site agricultural production within permanent structures in comparison to that needed for outdoor on-site agricultural production.
 - (4) The use of existing structures and infrastructure compared to new development.
- ▶ **Policy AR-4h:** Notwithstanding AR-4a and AR-4c, due to its unique classification, cannabis production on agricultural lands should be separated from existing residential areas and established in a manner that protects public health and safety, given the complicated and evolving public sentiment around the crop and its classification.
- ▶ **Policy AR-5d:** Define "agricultural support services" as processing services that change an agricultural product from its natural state to a different form, maintenance and repair of farm machinery and equipment, veterinary clinics, custom farming services, cannabis centralized processing, agricultural waste handling and disposal services, and other similar related services.
- ▶ **Policy AR-6i:** Consumption of cannabis and cannabis products in rural agricultural areas is only allowed associated with cannabis events and periodic special events in compliance with permit conditions. Events may include small groups of people throughout the day. Permitted events should encourage education and consider appropriate modes of visitor transportation and methods to control consumption amounts. Policies allowing all other visitor-serving uses apply to cannabis, including sales and promotion of products grown or processed in the County, educational activities and tours, and incidental sales of items related to local area agricultural products.

Summary of Proposed County Code Amendments

The following definitions in County Code Section 26-04-020 would be amended as written below:

- ▶ **Agricultural Crop.** Any cultivated crop grown and harvested for commercial purposes including cannabis.
- ▶ **Cannabis.** All parts of the plant *Cannabis sativa* Linnaeus, *Cannabis indica*, or *Cannabis ruderalis*, or any other strain or varietal of the genus *Cannabis* whether growing or not. "Cannabis" does not include "industrial hemp" as defined by Section 81000 of the California Food and Agricultural Code.
- ▶ **Cannabis Cultivation.** Planting, growing, developing, propagating, or harvesting of cannabis.
- ▶ **Cannabis Cultivation – Personal Use.** Cannabis cultivation exempt from permitting.
- ▶ **Cannabis Cultivation - Indoor.** Cannabis cultivation in a structure using exclusively artificial lighting.

- ▶ **Cannabis Cultivation - Mixed-Light.** Cannabis cultivation in a greenhouse or other similar structure any combination of natural and supplemental artificial lighting.
- ▶ **Cannabis Cultivation - Outdoor.** Cannabis cultivation using no artificial lighting conducted in the ground or in containers outdoors.
- ▶ **Cannabis Extraction.** Process by which cannabinoids are separated from cannabis plant material through chemical or physical means.
- ▶ **Cannabis Infusion.** Process by which cannabis extract or cannabis plant material is combined with other ingredients to make a cannabis product.
- ▶ **Cannabis Manufacturing.** Includes cannabis extraction and cannabis infusion.
- ▶ **Cannabis Premises.** The entire land area, including structures used for a cannabis operation, provided that driveways may be excluded.
- ▶ **Cannabis Processing.** Drying, curing, grading, trimming, rolling, and storing, of non-manufactured cannabis. Processing of cannabis grown off-site (i.e., centralized processing) is considered an agricultural support service.
- ▶ **Cannabis Product.** Cannabis that has undergone extraction, infusion, packaging, labeling or a combination of these.
- ▶ **Cannabis Propagation.** Cultivation of propagative plant material, including live plants, seeds, seedlings, clones, cuttings, transplants, or other propagules used to establish plants for planting.
- ▶ **Cannabis Research and Development.** Cannabis cultivation for the research or development of cannabis, cannabis strains, or cultivars.
- ▶ **Nonvolatile Solvent:** Any solvent used in the extraction process that is not a volatile solvent.
- ▶ **Nursery Wholesale, Cannabis.** An establishment that engages in the commercial production of cannabis clones, immature plants, or seeds for wholesale distribution to cannabis operations.

The following County Code amendments are applicable to agricultural and forestry resources:

Section 26-18-115[A]

A. Definition. Planting, growing, propagating, or harvesting of cannabis plants.

1. Includes: Outdoor, mixed-light, and indoor cannabis cultivation; wholesale cannabis nursery.
2. Excludes:
 - a. Hemp Cultivation. (Chapter 37)
 - b. Centralized cannabis processing. (See Sec 26-20-025).

Section 26-18-115[B];

1. Cannabis license (Chapter 4, Article IX) required.
2. Zoning Permit required in LIA, LEA, DA, RRD for a crop swap or the reuse of existing non-residential structures consistent with Section 26-18-115(4)(h) or both. It is the intent of the Board of Supervisors that these permits be subject to ministerial review only within the meaning of the California Environmental Quality Act and the State CEQA Guidelines and must be issued if all the ministerial standards are met.
3. Use Permit required in LIA, LEA, DA, RRD for all operations which do not meet Section 26-18-115(4)(h) ministerial standards.
4. Use Permit required in MP, M1, M2, M3, where urban services (water and sewer) are not available.

5. Exemption - Personal Cultivation. Cannabis cultivation up to 6 plants is allowed accessory to a residential dwelling unit in all zoning districts, and is exempt from the permit requirements and standards in this section except for (C)(5).

Section 26-18-115 (C)

1. Applicable to all zone districts:
 - c. Accessory Uses. Cannabis cultivation may include accessory uses that directly support the onsite cannabis cultivation, such as: propagation, research and development, processing, manufacturing, packaging and labeling, distribution, and other similar support uses as determined by the Director.

Section 26-18-115(C)(3) LIA, LEA, DA zones:

3. LIA, LEA, DA zones: Indoor and Mixed Light cultivation must be consistent with General Plan Policies, AR-4a and AR-4g.

Section 26-18-115(C)(4) LIA, LEA, DA, RRD zones:

- a. Minimum Lot Size of 5 acres.
- b. Canopy.
 1. Maximum Canopy. Canopy is limited to 10% of the parcel. All structures including those used for canopy remain subject to the applicable development standards in Sec. 26-06-040 and Sec. 26-16-010.
 2. Canopy Measurement. Canopy is the total area within the cannabis premises that will contain mature plants and is measured based on clearly identifiable boundaries, such as trellis netting, walls or other partitions, shelves, hedgerows, garden beds, or fencing. If mature plants are cultivated using a shelving system, the surface area of each level is included in the total canopy calculation. Canopy may be noncontiguous if each canopy area has an identifiable boundary.
- c. Setbacks.
 1. Property Line Setback. The cannabis premises must be setback at least 100 feet from each property line.
 2. Residential Land Use Setback. The cannabis premises must be setback at least 600 feet from all properties within Residential Zoning Districts including Low, Medium, and High Density Residential (R1, R2 & R3), Rural Residential (RR), Agriculture and Residential (AR), and Planned Community (PC).
 3. Incorporated City Boundaries. The cannabis premises must be setback at least 600 feet from incorporated city boundaries.
 4. Sensitive Use Setback.
 - a. Distance. The cannabis premises must be setback at least 1,000 feet from each property line of a parcel with a sensitive use that exists at the time the application to initiate the cannabis use is deemed complete.
 - b. Definition of Sensitive Use. Sensitive uses are K-12 schools, public parks, day care centers, and alcohol or drug treatment facilities. In this section, a public park means existing Federal Recreation Areas, State Parks, Regional Parks, Community Parks, Neighborhood Parks, and Class I Bikeways as designated in the Sonoma County General Plan, but not proposed public parks that have not yet been constructed.
 5. Existing Permits and Applications. The following setbacks apply to an application that was approved or deemed complete prior to the effective date of this Ordinance and any amendment to such permit or application;
 - a. Property Line Setback. New structures, the reuse of existing structures not currently used for the cannabis operation, outdoor event areas, and outdoor canopy must be setback at least 100 feet from each property line.

- b. Offsite Residential Setback. Outdoor canopy, mixed-light cultivation structures, and outdoor event areas must be setback at least 300 feet from offsite residences on residentially zoned parcels.
- c. Sensitive Use Setback. Approved permits and any amendments thereto are only subject to the sensitive use setbacks that were applied to the original approval.
- d. Best Management Practices. Outdoor cultivation must comply with best management practices for cannabis cultivation issued by the agricultural commissioner for erosion and sediment control and management of wastes, water, fertilizers, and pesticides.
- f. Hoop Houses. Outdoor cultivation may use temporary membrane-covered frame structures (i.e., hoop houses) in accordance with Section 26-18-020. Plastic used for hoop houses must be removed and securely stored immediately after harvest and when not in use.
- g. Accessory Uses.
 - 1. Accessory manufacturing is limited to chemical extraction using carbon dioxide, extraction by physical or mechanical means, and infusion of non-ingestible products from cannabis grown on-site.
 - 2. Accessory retail is allowed in compliance with the standards of Farm Retail Sales (Sec. 26-18-140 & Sec. 26-88-215), except that food sampling, on-site cannabis consumption and the sales of cannabis and cannabis products grown offsite are prohibited.
- h. A crop swap is the replacement of active cultivation of perennial or row crops with outdoor cannabis cultivation or the reuse of an existing nonresidential structure for an accessory cannabis use or indoor or mixed light cannabis cultivation, involving no or negligible expansion of use. The application must conform to all standards in Secs. 26-18-115(C)(1), (3) and (4) and the following:
 - 1. Active cultivation. A minimum of five years of active cultivation of perennial or row crops must have occurred immediately preceding permit application filing.
 - 2. Reuse of structures. To allow for the reuse of an existing permanent structure, a bona fide onsite outdoor agricultural use must exist on the parcel.
 - 3. Operation size.
 - a. Cultivation footprint. The cultivation footprint cannot be expanded beyond the actively cultivated land area being replaced. Actively cultivated land cannot be removed to accommodate cannabis cultivation inside permanent structures.
 - b. Structural footprint. A permanent structure used in the operation cannot be expanded or modified beyond its existing footprint.
 - 4. Soil Protection. Deep ripping during crop removal is prohibited. Deep ripping is the mechanical manipulation of the soil at depths greater than sixteen inches to break up or pierce of highly compacted, impermeable, or slowly permeable subsurface soil layer or other similar kinds of restrictive soil layers.

26-18-270. Cannabis Events.

- A. Definition. "Cannabis event" means an event that includes cannabis promotional activities and consumption.
 - 1. Includes.
 - a. Any cannabis event associated with a cannabis land use permit.
 - b. Cannabis events not associated with a cannabis land use permit that occur more frequently than Periodic Special Events, Section 26-22-120.
 - 2. Excludes.
 - a. Periodic Special Events, Section 26-22-120.

- B. Applicable Zones. This section applies to parcels zoned LIA - Land Intensive Agriculture, LEA-Land Extensive Agriculture, DA -Diverse Agriculture, and RRD -Resources and Rural Development.
- C. Permits. Use Permit required for Cannabis Events.

Refinements to the Sonoma County Uniform Rules for Agricultural Preserves

Cannabis would be redefined in the Uniform Rules to mimic the definition found in the proposed Cannabis Program Update, more specifically the Zoning Code definition (Section 26-04-020) and would read as:

“Cannabis” All parts of the plant Cannabis sativa Linnaeus, Cannabis indica, or Cannabis ruderalis, or any other strain or varietal of the genus Cannabis whether growing or not; “Cannabis” does not include “industrial hemp” as defined by Section 81000 of the California Food and Agriculture Code.

The proposed Cannabis Program Update would reclassify the ‘commercial growing of cannabis’ as a qualifying agricultural use pursuant to Uniform Rule 7.2-A. Cannabis would be classified as a Prime agricultural use due to its high annual gross value (under Table 4-2 of the Uniform Rules).

As applicable to cannabis, the updated Uniform Rule would read as follows.

7.2. Agricultural Uses

- A. Qualifying agricultural uses. To be a qualifying agricultural use a use must meet the definition of “agricultural use,” under Uniform Rule 2.0, and be one or more of the following:
 - 1. General farming and the raising, growing, and harvesting of vegetables, field, orchard, bush and berry crops, vineyards, and trees.
 - 3. Stock nurseries, greenhouses, floriculture, and horticulture.
 - 13. Commercial growing of cannabis, which includes propagation and research and development.

Uniform Rule Section 7.2-B (Accessory Agricultural Uses and Structures) would include accessory uses to cannabis cultivation that are directly related to onsite production and processing that does not change the natural state of the raw agricultural product.

- 7.2 B. Accessory Agricultural Uses and Structures. The following uses and structures, provided that they are incidental, related, and subordinate to a qualifying agricultural use:
 - 1. Preparation for market of agricultural commodities in their natural state, which are grown or raised on-site or in the local area, including the following activities: sorting, grading, sizing, polishing, cleaning, packing, cooling, and shipping. Preparation under this subsection shall not include processing of an agricultural commodity beyond the natural state.
 - 2. Facilities and structures utilized in conjunction with the preparation of an agricultural commodity described in Subsection 1 above.
 - 13. Accessory uses in support of the onsite cannabis cultivation, including but not limited to, processing, packaging and labeling, and distribution would be considered accessory agricultural uses and structures.

Uniform Rule Section 8.3-B Compatible Uses – Agricultural Contracted Land, would be modified to specifically refer to cannabis manufacturing of cannabis grown on-site and centralized processing of cannabis grown off-site, as follows.

- 1. Processing of agricultural commodities beyond the natural state, including processing by pressing, pasteurizing, slaughtering, cooking, freezing, dehydrating, and fermenting. This use includes facilities for processing and storage of agricultural commodities beyond the natural state such as wineries, dairies, slaughterhouses, and mills. This includes processing of cannabis grown off-site and cannabis manufacturing.

2. Sale and marketing of agricultural commodities in their natural state or beyond, including winery tasting rooms, promotional activities, marketing accommodations, farmer's markets, stands for the sampling and sale of agricultural products, livestock auction or sale yards, and related signage.

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the State CEQA Guidelines, the project could have a significant adverse effect related to agricultural and forestry resources if it would:

- ▶ convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- ▶ conflict with existing zoning for agricultural use or a Williamson Act contract;
- ▶ conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g));
- ▶ result in the loss of forest land or conversion of forest land to non-forest use; or
- ▶ involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

ISSUES NOT DISCUSSED FURTHER

Personal Cultivation

The proposed Cannabis Program Update does not include changes to personal cultivation standards that would be substantially different from existing requirements such that physical changes to the environment could occur that would create significant impacts related to agricultural and forestry resources. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

Potential Impacts to Agricultural and Resources Lands from Pesticide Drift

Potential concerns regarding conflicts with adjoining agricultural uses consist of pesticide usage that may adversely affect neighboring agricultural operations. As described in Section 3.2.1, "Regulatory Setting," pesticides used on commercial cannabis cultivation sites (both new and crop swap) are restricted to those with active ingredients that are exempt from residue tolerance requirements and are either exempt from registration requirements or registered for a use that is broad enough to include use on commercial cannabis cultivation sites. Some of these pesticides are bacterial-based insect pathogens (e.g., *Bacillus thuringiensis*) or biofungicides (e.g., *Bacillus subtilis*, *Gliocladium virens*). Active ingredients exempt from registration requirements are mostly food-grade essential oils such as peppermint oil or rosemary oil. The use of restricted pesticides on commercial cannabis cultivation is prohibited. Harvested commercial cannabis is required to pass laboratory tests for pesticide residues as provided in CCR, title 4, division 19, section 15719. In addition, proposed County Code Section 26-18-115(C)(4)(c)(1) requires cannabis premises be setback 100 feet from each property line that would provide a buffer from other agricultural operations and General Plan Policy AR-4f addresses review of anticipated conflicts between a proposed new agricultural use and existing agricultural activities.

CDPR places controls on pesticides based on the results of risk characterization studies and documentation. Regulations require that employees and others applying pesticides for agricultural uses have been trained in their use. As described in Section 3.2.1, "Regulatory Setting," the Sonoma County Agricultural Commissioner enforces CDPR requirements to protect adjacent land areas from pesticide drift. As noted above, proposed County Code Section 26-18-115(C)(4)(c)(1) requires cannabis premises be setback 100 feet from each property line that would buffer cannabis cultivation sites from pesticide use on adjoining sites.

Technical studies have confirmed the effectiveness of the use of buffers and drift-reducing spray nozzles, limiting speed of application, and wind speeds to address pesticide drift (Rasmussen et al. 2011; Egan et al. 2014; Al Heidary et al. 2014). Thus, these requirements and associated controls are effective in avoiding pesticide drift impacts. This impact is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: Directly or Indirectly Convert or Conflict with Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance

Adoption and implementation of the proposed Cannabis Program Update could result in an increase in commercial cannabis cultivation and supply chain uses within the County. Cannabis is currently defined by the state as an agricultural product and is considered a secondary use of agricultural land by the County. Implementation of the proposed Cannabis Program Update would allow for development of structures to support non-production accessory uses, such as manufacturing, retail, and distribution, as well as permanent structures for events would involve conversion of farmland to a nonagricultural use. However, potential new developed uses that could be located on Farmland would not comprise a substantial area of the county's agricultural resources. Furthermore, support uses would be critical to protect the future agricultural use of the county's agricultural lands. Thus, the loss of such a relatively small area would not significantly detract from future agricultural use in the unincorporated area. This impact would be **less than significant**.

Pursuant to California Business and Profession Code Section 26060(a)(1), the state has defined medical and adult-use cannabis as agricultural products for purposes of MAUCRSA. Commercial cannabis cultivation and associated processing involves the same practices as other agricultural products generated currently in the County. These similar practices include:

- ▶ Cultivation of the crop through a growth medium (soil), light, water, and nutrients
- ▶ Harvesting and processing of the crop for sale

Within the Program Area, Important Farmland is located within all zones where allowable cannabis uses are proposed (Table 3.2-5)

Table 3.2-5 Important Farmland within Program Area

	Agricultural and Resource	Commercial	Industrial
	LEA	C1	M1
Farmland of Local Importance	29,337	2	15
Farmland of Statewide Importance	4,417	<1	—
Prime Farmland	3,025	—	4
Unique Farmland	36,881	—	—
	LIA	C2	M2
Farmland of Local Importance	4,745	5	8
Farmland of Statewide Importance	6,661	—	—
Prime Farmland	18,865	—	—
Unique Farmland	15,803	—	—
	DA	C3	M3
Farmland of Local Importance	19,977	4	90
Farmland of Statewide Importance	4,130	—	1
Prime Farmland	6,004	—	6

	Agricultural and Resource	Commercial	Industrial
Unique Farmland	42,724	—	<1
	RRD	LC	MP
Farmland of Local Importance	2,712	34	94
Farmland of Statewide Importance	541	<1	<1
Prime Farmland	609	4	<1
Unique Farmland	7,538	—	—
Total	203,969	50	218

Source: DOC 2024.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Adoption of the Cannabis Program Update would amend the Glossary of the Sonoma County Code to include cannabis cultivation and operations as agricultural uses. Although cannabis cultivation would be classified as an agricultural use, it would be defined as “controlled agriculture,” which is an agricultural use that is subject to unique regulations but is included as agriculture in all General Plan agricultural policies unless stated otherwise.

Cannabis cultivation would be considered an agricultural use. Thus, development of indoor, mixed-light, and outdoor cultivation would not convert Important Farmland to a nonagricultural use.

The General Plan EIR addresses potential conversion of agricultural processing and support uses to nonagricultural uses. As discussed under Impact 4.8-2 of the General Plan EIR, agricultural support uses are defined as providing services purchased by farmers and agricultural enterprises, such as maintenance and repair of farm machinery and equipment, veterinary clinics, custom farming services, agricultural waste handling and disposal services, and other similar related services as described in Policy 5d (consistent with County Code Section 26-18-050); and processing facilities are identified as wineries in the General Plan EIR and defined as uses involving changing an agricultural product from its natural state to a different form, and excludes cannabis processing and animal product processing. The potential for processing services and storage on agricultural lands to remove a portion of the county’s agricultural land from agricultural production is addressed under Impact 4.8-2 in the General Plan EIR. This discussion states that, “the development of agricultural processing and other support uses to be of substantial benefit in keeping agricultural operations economically viable as well as preventing the loss of these lands to expanded residential development (Sonoma County 2006: p 4.8-22).”

Various policies included in the General Plan address agricultural processing facilities and support services. Policy AR-5a permits the development of facilities that process agricultural products provided at least 50 percent of the product being processed is grown or raised on-site or in the local area. Based on the development potential provided in Table 3-1 of this Draft EIR, the development potential for the Cannabis Program Update is assumed to reach a total area of 208 acres of cannabis cultivation and 109 acres of supply chain uses, some portion of which would be accessory uses to cannabis cultivation in agricultural districts. The proposed Cannabis Program Update requires accessory uses to cannabis cultivation to be secondary to (e.g., smaller in area) than the canopy. The General Plan policies also establish standards limiting the impermeable surface area and require facilities to be proportional to the total area of the parcel (AR-5b), require that the processing facility not exceed the needs of the growing operation (AR-5C), and require that support services are subordinate to on-site agricultural production (AR-5e).

General Plan Policy AR-5e provides guidance on how to consider if an agricultural support service is subordinate to on-site agricultural production by considering how the portion of the site, extent of structure, and relative number of employees compares between the agricultural production versus the service. Policy AR-5e also requires consideration of the history of agriculture on the site and the potential for service facilities to be converted to non-agricultural uses due to its location and access. Policy AR-5f applies restrictive criteria to the zoning or permit review process, by addressing extension of sewer or water and the potential for an agricultural support service to detract from agricultural production on-site or in the area, to concentrate commercial uses in the immediate area, or to result in conflicts with adjacent residential areas. Finally, Policy AR-5g provides the following screening factors to consider if a proposed use would constitute a detrimental concentration of such uses: joint road access conflicts and consistency with or exceedance of service level objectives described in the Circulation and Transportation Element, interference with other area wells, exceedance of prescribed density limits, or a detriment to the county's rural character.

With consideration of the policies described above, the General Plan EIR identified that the General Plan would allow for development of agricultural support uses, including processing services and storage on agricultural lands, which would remove a portion of the county's agricultural lands from agricultural production. However, due to the limited acreage that would be removed as well as policies and programs contained in the Draft GP 2020 regulating such development, this impact was determined to be less than significant.

The General Plan EIR also addressed agricultural tourism. As discussed under Impact 4.8-3, General Plan Policy AR-6a allows various visitor-serving uses such as tasting rooms, bed and breakfast, direct on-site sale, and others provided they are incidental and secondary to local agricultural production. While agricultural tourism is described as resulting in a beneficial economic impact, the potential for land use conflicts with agricultural production, indirect conversion pressure for nearby agricultural uses, and overall threats to the long-term viability of Sonoma County agriculture are described. While development of visitor serving uses on agricultural land would be considered a loss of agricultural production, the General Plan contains policies designed to limit the types, intensity, and location of such visitor-serving development on agricultural lands. Policy AR-6a permits visitor-serving uses that promote agricultural production (e.g., sales, promotional events) and that support and are secondary and incidental to local agricultural production. In addition, Policy AR-6d limits conversion of agricultural lands through the application of specific guidelines for visitor-serving uses during the review of project applications. These include requirements that the use would: promote agricultural products grown or processed in the local area and that the use be compatible and secondary or incidental to agricultural production, that the project not require the extension of urban services and would be compatible with existing uses, and that certain lodging types would not be included as part of the project. Furthermore, Policy AR-6f provides the guidance to consider if a visitor-serving use would be detrimental: whether the use would be inconsistent with or exceed service level objectives or cause joint road access conflicts described in the Circulation and Transportation Element, interfere with other area wells, exceed prescribed density limits, or be detrimental to the county's rural character. The General Plan EIR acknowledges that visitor-serving uses could remove agricultural lands from production; however, it finds that as long as the policies are successful in avoiding concentrated uses, the potential area of agricultural land removed from production would be minimal on a countywide scale. Thus, allowance of agricultural tourism within agricultural and resource areas was determined to not result in a significant environmental effect related to conversion of the county's agricultural lands to nonagricultural uses.

As identified in Table 3.2-3, the county contains 29,803 acres of Prime Farmland, 16,972 acres of Farmland of Statewide Importance, and 33,813 acres of Unique Farmland. As discussed above, within Sonoma County, an impact to Important Farmland may occur if structures for accessory uses (i.e., agricultural support services, such as manufacturing, retail, event-related structures, or processing) are located on land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (i.e., Important Farmland). In addition, the proposed Cannabis Program Update would limit the extent of development of structures that support mixed-light and indoor cannabis cultivation to be subordinate (an accessory use) to outdoor agricultural production on the site and would be subject to compliance with General Plan policies AR-4a through AR-4g as amended by the project.

As identified above under "Methodology," the proposed Cannabis Program Update would define cannabis as controlled agriculture under the General Plan and as an agricultural crop in Section 26-18-020 of the County Code. As

part of the proposed General Plan Amendment, new policies would be incorporated into the General Plan, as summarized below:

- ▶ Proposed Policy AR-4g would limit the size of permanent structures used for cannabis production to minimize loss of agricultural soils, and would require these structures to be subordinate to outdoor on-site agricultural production. The determination of whether a permanent structure has been appropriately minimized relies upon:
 - 1) the extent to which Prime Farmland or Farmland of Statewide Importance has been encumbered by a structure;
 - 2) The area of agricultural production within a permanent structure compared to the outdoor production area;
 - 3) The number of employees associated with agricultural production within a permanent structure compared to the outdoor production area; and
 - 4) The additional area of new structures compared to the existing structures within a site.

Policy AR-5d would define processing, a service already identified as “agricultural support services,” as a service that changes an agricultural product (including cannabis) from its natural state to a different form. By redefining cannabis as an agricultural use, the related visitor-serving uses are included under General Plan Goal AR-6, with the exception of tasting rooms, which are proposed to be explicitly excluded from policies AR-6a, AR-6d (6), and AR-6g.

Thus, within regard to allowable uses under the Cannabis Program Update, outdoor, indoor, and mixed-light cultivation, as well as accessory cannabis processing, would not be considered conversion of agricultural land to another use. In contrast, development of structures for centralized processing, as well as accessory agricultural support services such as manufacturing, retail, and distribution, and structures for events on Important Farmland could result in conversion to a nonagricultural use. As noted above, the Cannabis Program Update would include adoption of proposed General Plan Policy AR-4g, which places limits on the extent to which Prime Farmland or Farmland of Statewide Importance may be permanently encumbered by structures. Policy AR-4g is intended to minimize loss of access to agricultural soils and maintain a rural agricultural environment, but it does not include requirements that address conversion because these structures are for agricultural production. Regardless of these limits, Important Farmland could be converted to nonagricultural use through the development of allowable non-production accessory uses on agricultural and resource zoned lands.

Table 3-1 in this Draft EIR presents assumptions and calculations that have been developed to reflect the projected total cannabis development in 2044. While accessory uses to cannabis would comprise a portion of the total supply chain uses (i.e., supply chain uses would also be standalone businesses), the countywide activity footprint for supply chain uses is projected to be 109 acres. Of this, 109-acres, 734,000 square feet (approximately 17 acres) are projected to be associated with developed uses. Of these 17 acres, a portion would be developed on Farmland (i.e., Prime Farmland, Farmland of Statewide Importance, or Unique Farmland). As provided in Table 3.2-3, a total of 159,816 acres of Important Farmland has been designated in the County. Even if the full projected area of 17 acres were to be developed on Important Farmland, it would not substantially decrease the area of Farmland in the County (i.e., approximately 0.01 percent). Furthermore, support uses would be critical to protect the future agricultural use of the county’s agricultural lands. Thus, the loss of such a relatively small area would not significantly detract from future agricultural use in the unincorporated area. This impact would be less than significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. Because cannabis would be redefined as an agricultural crop and there would be no changes to the existing conditions (beyond change in crop type), with regard to developed uses on a cannabis site, there would not be a conversion of farmland to a nonagricultural use. There would be no impact.

Construction of Event Facilities and Event Operations in Agricultural and Resources Districts

Under the proposed Cannabis Program Update, small cannabis events (per proposed Code Section 26-18-270) would be allowed within LEA, LIA, DA, and RRD zoning districts. Small events would support up to 50 people if a shuttle is

made available to transport guests. As discussed above under “Proposed Allowable Uses in Agricultural and Resources Districts,” while development of visitor serving uses on agricultural land could be considered a loss of agricultural production, the General Plan contains policies designed to limit the types, intensity, and location of such visitor-serving development on agricultural lands. Thus, allowance of agricultural tourism within agricultural and resource areas would not result in a significant environmental effect related to conversion of the county’s agricultural lands to nonagricultural uses. This impact would be less than significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. As shown in Table 3.2-5, farmland has been identified within industrial and commercial districts. Consequently, for the reasons described above under “Proposed Allowable Uses in Industrial and Commercial District,” there could be conversion of important farmland to a nonagricultural use would not be considered significant. This impact would be less than significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County’s existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on farmland. This impact would be less than significant.

Summary

Implementation of the proposed Cannabis Program Update would allow for development of structures to support non-production accessory uses, such as manufacturing, retail, and distribution, as well as permanent structures for events would involve conversion of farmland to a nonagricultural use. However, potential new developed uses that could be located on Farmland would not comprise a substantial area of the county’s agricultural resources. Furthermore, support uses would be critical to protect the future agricultural use of the county’s agricultural lands. Thus, the loss of such a relatively small area would not significantly detract from future agricultural use in the unincorporated area. This impact would be **less than significant**.

Mitigation Measures

None required.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

Consistency with the General Plan is discussed above in the impact analysis, which describe how the Cannabis Program Update is consistent with the General Plan policies. The program would also be consistent with the Petaluma Dairy Belt Area Plan, South Santa Rosa Area Plan Policy 1, under Agriculture Goal 1, and Policy 1 under Goal 1.1 of the West Petaluma Area Plan, because these policies support conservation and economic assistance to the agricultural industry.

Impact 3.2-2: Conflict with Existing Agricultural Zoning or with a Williamson Act Contract

Adoption and implementation of the Cannabis Program Update would update the existing land use and zoning regulations to redefine cannabis cultivation and operations as agricultural uses, as well as provide additional standards and restrictions based on the type of use. The proposed updated regulations would complement the County’s existing zoning requirements for agricultural uses and Williamson Act contracts and therefore, would not conflict with existing agricultural zoning. As such, there would be **no impact** related to conflicting with existing agricultural zoning or with a Williamson Act contract with adoption and implementation of the Cannabis Program Update.

As discussed above under Impact 3.2-1, adoption and implementation of the Cannabis Program Update would amend the County's General Plan, County Code and the County's Uniform Rules for Agricultural Preserves and Farmland Security Zones to define cannabis cultivation and operations as controlled agricultural uses. In addition, the Cannabis Program Update would regulate all cannabis cultivation and operations within the unincorporated areas of the County by establishing Section 26-18-115, "Cannabis Cultivation," in the County Code.

Within the Program Area, Williamson Act contracts are established in zones DA, LEA, LIA, and RRD as shown below in Table 3.2- 6.

Table 3.2-6 Williamson Act Contract Status by Zoning District Type in Sonoma County

	Agricultural and Resources (acres)
Type I (Prime)	43,729
Type I (Prime) (Phase-Out Status)	1,364
Type II (Non-Prime)	202,579
Type II (Non-Prime) (Phase-Out Status)	4,822
Type II (Open Space)	4,269

Notes: Under the Cannabis Program Update.

Source: Data compiled by Ascent in 2025.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Specific land use requirements and performance standards are included in the updated regulations that address the following agriculture operation–related and visitor-serving issues:

- ▶ cannabis permits (Section 26-18-115[B]);
- ▶ size of events, hours of operation, traffic management, and parking for events (26-18-270[D]);
- ▶ setbacks between the cannabis premises and the property line, residential land uses, incorporated city boundaries, and defined sensitive land uses (Section 26-18-115[C][4][c]);
- ▶ generators (Section 26-18-115[C][1][d]);
- ▶ accessory uses (Section 26-18-115[C][1][c] and Section 26-18-115[C][4][g]);
- ▶ canopy standards (Section 26-18-115[C][4][b]);
- ▶ best management practices (Section 26-18-115[C][4][d]); and
- ▶ crop swap (Section 26-18-115[C][4][h]).

These provisions establish additional requirements for the cultivation and handling of cannabis and associated cannabis promotional, visitor-serving uses that do not apply to other agricultural operations and would not conflict with the requirements set forth in County's Zoning Code. The Cannabis Program Update would ensure that cannabis cultivation and operations would be compatible and complementary to existing agricultural operations through better defined regulations and allowable uses. Once adopted, the Cannabis Program Update would be incorporated into the County's Zoning Code and would regulate future cannabis cultivation and operations. Therefore, adoption of the Cannabis Program Update would not conflict with existing agricultural zoning requirements.

In addition, adoption of the Cannabis Program Update would not conflict with active Williamson Act contracts within the unincorporated areas of the County. As part of the Cannabis Program Update, cannabis would be considered an agricultural use. In addition, it would be redefined in the Uniform Rules to reflect the Zoning Code definition (Section 26-04-020) to read as:

“Cannabis” All parts of the plant *Cannabis sativa* Linnaeus, *Cannabis indica*, or *Cannabis ruderalis*, or any other strain or varietal of the genus *Cannabis* whether growing or not; “Cannabis” does not include “industrial hemp” as defined by Section 81000 of the California Food and Agriculture Code.

Under the proposed Cannabis Program Update, the County’s Uniform Rules for Agricultural Preserves and Farmland Security Zones would be amended to include cannabis as a qualifying agricultural use. Sites subject to a Williamson Act contract would continue to be implemented through existing County development permitting processes in compliance with the County’s Uniform Rules for Agricultural Preserves and Farmland Security Zones and Policy and Procedure 8-1-8 (Procedure for Permits on Parcels under Williamson Act Contracts). Under the proposed Cannabis Program Update, Williamson Act would apply to cannabis operations, including cultivation and accessory uses that support onsite cannabis cultivation (e.g., propagation, research and development, self-distribution, and processing). Additionally, Uniform Rule Section 8.3-B Compatible Uses would be modified to include facilities for cannabis manufacturing and centralized processing of cannabis grown off-site as compatible agricultural support uses. Consistent with proposed Code Section 26-18-115, accessory uses to cannabis would be directly related and incidental to the primary agricultural use of the land (i.e., cannabis cultivation). Finally, all use permits, zoning permits, and ministerial building permits on parcels subject to Williamson Act contracts are reviewed for compliance with the contract, and contracts are amended as necessary to support allowable uses. Development permits are not issued if a parcel is in non-compliance or if proposed development would exceed area limitations for compatible uses (limited to 5 acres or 15 percent of the parcel under Uniform Rule Section 8.2-A). For these reasons, implementation of the Cannabis Program Update would not cause conflict with Williamson Act Contracts within agricultural and resources districts because all allowable uses would be compatible with agricultural contracted lands.

Applications Meeting Crop Swap Requirements

As discussed above, under the proposed Cannabis Program Update, Right to Farm and Williamson Act would apply to cannabis operations, including cultivation and accessory uses that support onsite cannabis cultivation (e.g., propagation, research and development, self-distribution, packaging and labeling, and processing). Additionally, Uniform Rule Section 8.3-B Compatible Uses would be modified to include facilities for cannabis manufacturing of cannabis grown on-site and centralized processing of cannabis grown off-site. Thus, there would be no conflicts with Williamson Act contract requirements related to cultivation sites approved via crop swap applications.

Construction of Event Facilities and Event Operations in Agricultural and Resources Districts

As discussed above, under “Proposed Allowable Uses in Agricultural and Resources Districts,” Uniform Rule Section 8.3-B Compatible Uses would be modified to include facilities for cannabis manufacturing of cannabis grown on-site and centralized processing of cannabis grown off-site. Promotional events and special events would be considered compatible uses. In addition, supporting compatible uses would be limited to 5 acres or 15 percent of the parcel under proposed Uniform Rule Section 8.2-A. Therefore, construction of event facilities and event operations would not cause conflict with Williamson Act Contracts within agricultural and resources districts because all allowable uses would be compatible with agricultural contracted lands.

Proposed Allowable Uses in Industrial and Commercial Districts

Williamson Act contracts cannot be established within industrial and commercial districts. There would be no impact.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County’s existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new

construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on Williamson Act contracts.

Summary

Under the proposed Cannabis Program Update, sites subject to a Williamson Act contract would continue to be implemented through existing County development permitting processes in compliance with the Uniform Rules and Policy and Procedure 8-1-8 (Procedure for Permits on Parcels under Williamson Act Contracts). Under the proposed Cannabis Program Update, Right to Farm and Williamson Act would apply to cannabis operations, including cultivation and accessory uses that support onsite cannabis cultivation (e.g., propagation, research and development, self-distribution, packaging and labeling, and processing). Additionally, Uniform Rule Section 8.3-B Compatible Uses would be modified to include facilities for cannabis manufacturing of cannabis grown on site and centralized processing of cannabis grown off-site as compatible agricultural support uses. Consistent with proposed Code Section 26-18-115, accessory uses to cannabis would be directly related and incidental to the primary agricultural use of the land (i.e., cannabis cultivation). Finally, all use permits, zoning permits, and ministerial building permits on parcels subject to Williamson Act contracts are reviewed for compliance with the contract, and contracts are amended as necessary to support allowable uses. Development permits are not issued if a parcel is in non-compliance or if proposed development would exceed area limitations for compatible uses. For these reasons, the Cannabis Program Update would not conflict with existing County zoning requirements for agricultural uses or any Williamson Act contracts. **No impact** would occur.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The intent of Williamson Act contracts is to help farmers continue to manage lands for agricultural purposes. The program is governed by the California Land Conservation Act (also known as the Williamson Act), the County's Uniform Rules for Agricultural Preserves and Farmland Security Zones, and the recorded contract between the owner and the county, which runs with the land. As discussed above, the Cannabis Program Update would not cause conflicts with these programs and would therefore be consistent with efforts to preserve lands managed for agricultural purposes. Because Williamson Act would apply to cannabis operations under the proposed Cannabis Program Update, it would be consistent with Agriculture Goal 1 Policies 2, 3, 7, and 9 of the Petaluma Dairy Belt Area Plan, South Santa Rosa Area Plan Policy 1, under Agriculture Goal 1, and Policy 1 under Goal 1.1 of the West Petaluma Area Plan, because these policies support conservation and economic assistance to the agricultural industry.

Impact 3.2-3: Conflict with Existing Zoning for, or Cause Rezoning of, Forest Land, Timberland, or Timberland-Zoned Timberland Production

Adoption and implementation of the Cannabis Program Update would not rezone any parcels currently zoned as forest land, timberland, or areas designated for timberland production. The Cannabis Program Update would allow for cannabis cultivation, wholesale nursery, accessory uses, and events within the RRD zone, where timber production is an allowable use. Future cannabis operations would be required to comply with the requirements of the zoning designation as updated by the Cannabis Program Update. Compliance with the development standards established by the Cannabis Program Update would ensure future cannabis operations within the RRD zone would not conflict with the zoning requirements. As such, implementation of the Cannabis Program Update would not conflict with existing zoning for or cause the rezoning of forest land, timberland, or areas designated for timberland production.

No impact would occur with adoption and implementation of the Cannabis Program Update.

As discussed above in Section 3.2.2, "Environmental Setting," there are approximately 492,658 and 81,446 acres of land zoned as RRD and TP, respectively, within the unincorporated areas of the County. The Cannabis Program Update does not include any rezoning actions and would not result in the rezoning of forest land (as defined by PRC Section 12220[g]), timberland (as defined by PRC Section 4526), or areas designated for timberland production (as defined by Government Code Section 51104[g]). The Cannabis Program Update would not permit any new cannabis

uses within the TP zone. As identified in Section 26-06-020(B)(5)(a), the intent of the TP zone is the conservation and protection of land capable of producing timber and forest products. Thus, the proposed Cannabis Program Update would not conflict with timber resource provisions of County Code.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

The Cannabis Program Update would establish development standards for future cannabis uses within the RRD zone, including but not limited to a minimum lot size of 5 acres, limits on canopy cover and measurements, required setbacks from sensitive uses and implementation of best management practices. As identified in Section 26-06-020(B)(4), the intent of the RRD zone is to provide lands for a variety of natural resource uses (timber production, geothermal production, aggregate production, watershed protection, and agricultural production activities) as well as very low density residential and recreational uses. Implementation of proposed Cannabis Program Update would involve cannabis cultivation and accessory uses that are consistent with this zoning district. There would be no impact.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. Because there would be no changes to the existing conditions, there would be no conflicts with existing zoning for or cause the rezoning of forest land, timberland, or areas designated for timberland production. This impact would be no impact.

Construction of Event Facilities and Event Operations in Agricultural and Resources Districts

Under the updated regulations, cannabis events could be permitted within the RRD zone with a Use Permit where timber production is permitted. As discussed above, implementation of proposed Cannabis Program Update would involve cannabis cultivation and accessory uses (e.g., events) that are consistent with this zoning district.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for cultivation and supply chain uses. Areas zoned for industrial and commercial uses tend to be developed and are not intended for timber production. Implementation of proposed Cannabis Program Update would involve cannabis uses that are consistent with this zoning district and would not conflict with forestland or timberland zoning or timberland production. This impact would be no impact.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue. Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on timberland production.

Summary

Of the zones where allowable cannabis uses could be developed and operated, only RRD allows for timber production (Section 26-06-020(B)(4)). However, implementation of proposed Cannabis Program Update would

involve cannabis cultivation and accessory uses that are consistent with the allowed uses of the RRD zoning district and would not conflict with existing zoning for or cause the rezoning of forest land, timberland, or areas designated for timberland production or conflict with current or future timber production activities. **No impact** would occur.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

As discussed above, implementation of proposed Cannabis Program Update would involve cannabis cultivation and accessory uses that are consistent with the allowed uses and would not conflict with existing zoning for or cause the rezoning of forest land, timberland, or areas designated for timberland production or conflict with current or future timber production activities. Thus, there would be no conflicts with the Franz Valley Area plan policies related to timber resources because timber harvesting activities would not be modified under the Cannabis Program Update.

Impact 3.2-4: Result in the Direct or Indirect Loss of Forest Land or Conversion of Forest Land to Nonforest Use

Under the proposed Cannabis Program Update, allowable cannabis uses could be established in agricultural, resources, commercial, and industrial zones. Of these zones, forest land may occur within the RRD zone and could be converted to nonforest uses to support cannabis cultivation, nursery uses, accessory uses and events. However, compliance with the County's tree protection regulations would ensure future cannabis operations would provide adequate replacement or payment for the removal of any on-site protected trees, including those contained in existing forestland. Therefore, impacts related to the loss or conversion of forestland to nonforest use would be **less than significant**.

As discussed above in Impact 3.2-4, there are approximately 492,658 and 81,446 acres of land zoned as RRD and TP, respectively, within the unincorporated areas of the County. The Cannabis Program Update does not include any rezoning actions and would not result in the rezoning of forest land (as defined by PRC Section 12220[g]), timberland (as defined by PRC Section 4526), or areas designated for timberland production (as defined by Government Code Section 51104[g]). The Cannabis Program Update would not permit any new cannabis uses within the TP zone. As identified in Section 26-06-020(B)(5)(a), the intent of the TP zone is the conservation and protection of land capable of producing timber and forest products. Thus, the proposed Cannabis Program Update would not conflict with timber resource provisions of County Code. However, forested conditions may occur on sites proposed for cannabis uses that could result in the removal of trees.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

The County's General Plan includes goals and policies aimed at establishing standards and programs for protecting native trees, plant communities, riparian corridors, and timber resources.

To implement these conservation goals and policies, the County has adopted various tree protection ordinances within the County Code to mitigate potential impacts to trees and forestland from cannabis uses and associated accessory uses, including the Tree Protection Ordinance (Section 26-88-015), Oak Woodland Ordinance (Section 26-67), VOH Combining Zone (Section 26-67), Heritage and Landmark Tree Ordinance (Chapter 26D), and the Riparian Corridor Combining Zone (Section 26-65). Each of these tree protection ordinances includes different requirements,

construction standards, or replacement or repayment measures to address the loss of trees. For example, the Tree Protection Ordinance requires the implementation of specific construction standards and either tree replacement based on ratios specified by the ordinance or payment of in-lieu fees. This compensation for tree removal is enforced through issuance of a zoning permit. For parcels designated with timberland resources, any proposed permanent conversion of such resources would be required to undergo the County's Timberland Conversion permitting process. This impact would be less than significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. Because there would be no changes to the existing conditions, there would be no impacts related to the loss or conversion of forestland to nonforest use.

Construction of Event Facilities and Event Operations in Agricultural and Resources Districts

Under the updated regulations, cannabis events could be permitted within the RRD zone, where forest lands may be present. As discussed above, tree removal would be subject to Sonoma County's tree protection ordinances, which include different requirements, construction standards, or replacement or repayment measures to address impact to the affected trees. This impact would be less than significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new cannabis structures could be developed and operated for cultivation and supply chain uses, as well as accessory uses. Areas zoned for industrial and commercial uses tend to be developed and not contain trees that meet the definition of forest land (i.e., land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits). As discussed above, tree removal would be subject to County tree protection ordinances that would require issuance of a zoning permit for tree removal, which requires compensation for removal of protected trees. This impact would be less than significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on forestland.

Summary

Future cannabis operations that involve the removal of on-site trees, including those considered forestland, would be required to comply with the requirements of the applicable County tree protection ordinance based on the type and maturity of the on-site trees. Compliance with the County's tree protection ordinances would ensure adequate replacement or payment for the removed trees and would suffice in addressing the environmental impacts associated with the removal of on-site protected trees. As described under Impact 3.2-3, the proposed Cannabis Program would prohibit new cannabis uses in the TP zone, which is the primary zoning district used by the County for the conservation and protection of land capable of producing timber and forest products (County Code Section 26-06-020[B][5][a]) generally consistent with General Plan Objective 12.1. Compliance with the County's tree protection ordinances would ensure impacts to forestland would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The County's tree protection ordinances are intended to preserve protected trees and protect resources (e.g., aesthetics, biological resources). As discussed above, cannabis operations that involve the removal of on-site trees, including those considered forestland, would be required to comply with the requirements of the applicable County tree protection ordinance based on the type and maturity of the on-site trees. Compliance with the County's tree protection ordinances would ensure adequate replacement or payment for the removed trees and would suffice in addressing the environmental impacts associated with the removal of on-site protected trees. Because these ordinances would continue to be applied, there would be no conflicts with these regulations. In addition, because there would be no changes to timber resource management under the proposed Cannabis Program Update, there would be no conflicts with timber resource management policies under the Franz Valley Area Plan.

3.3 AIR QUALITY

This section identifies the regulatory context and policies related to air quality and odors, describes the existing air quality conditions in the Program area, and evaluates potential air quality and odors impacts of the proposed Cannabis Update Program.

Comments regarding air quality and odors submitted in response to the notice of preparation (NOP) were received from organizations and individuals. Comments pertained to impacts of cannabis-related odors from cannabis cultivation. This issue is addressed in the impact analysis below. All comments received in response to the NOP are presented in Appendix A of this EIR.

3.3.1 Regulatory Setting

Air quality in the project area is regulated through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality within the air basins are discussed below.

FEDERAL

US Environmental Protection Agency

The US Environmental Protection Agency (EPA) has been charged with implementing national air quality programs. EPA's air quality mandates draw primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments were made by Congress in 1990. EPA's air quality efforts address both criteria air pollutants (CAPs) and hazardous air pollutants (HAPs). EPA regulations concerning CAPs and HAPs are presented in greater detail below.

Criteria Air Pollutants

The CAA required EPA to establish national ambient air quality standards (NAAQS) for six common air pollutants found all over the United States, referred to as criteria air pollutants (CAPs). EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), respirable particulate matter with aerodynamic diameter of 10 micrometers or less (PM₁₀), fine particulate matter with aerodynamic diameter of 2.5 micrometers or less (PM_{2.5}), and lead. The NAAQS are shown in Table 3.3-1. The primary standards protect public health, and the secondary standards protect public welfare. The CAA also required each state to prepare a state implementation plan (SIP) for attaining and maintaining the NAAQS. The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. California's SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments and whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, EPA may prepare a federal implementation plan that imposes additional control measures. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and stationary air pollution sources in the air basin.

Table 3.3-1 California and National Ambient Air Quality Standards

Pollutant	Averaging Time	California (CAAQS) ^{a, b}	National (NAAQS) ^c	
			Primary ^{b, d}	Secondary ^{b, e}
Ozone	1-hour	0.09 ppm (180 µg/m ³)	—	Same as primary standard
	8-hour	0.070 ppm (137 µg/m ³)	0.070 ppm (147 µg/m ³)	
Carbon monoxide (CO)	1-hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	Same as primary standard
	8-hour	9 ppm ^f (10 mg/m ³)	9 ppm (10 mg/m ³)	
Nitrogen dioxide (NO ₂)	Annual arithmetic mean	0.030 ppm (57 µg/m ³)	53 ppb (100 µg/m ³)	Same as primary standard
	1-hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)	—
Sulfur dioxide (SO ₂)	24-hour	0.04 ppm (105 µg/m ³)	—	—
	3-hour	—	—	0.5 ppm (1300 µg/m ³)
	1-hour	0.25 ppm (655 µg/m ³)	75 ppb (196 µg/m ³)	—
Respirable particulate matter (PM ₁₀)	Annual arithmetic mean	20 µg/m ³	—	Same as primary standard
	24-hour	50 µg/m ³	150 µg/m ³	
Fine particulate matter (PM _{2.5})	Annual arithmetic mean	12 µg/m ³	9.0 µg/m ³	15.0 µg/m ³
	24-hour	—	35 µg/m ³	Same as primary standard
Lead ^f	Calendar quarter	—	1.5 µg/m ³	Same as primary standard
	30-day average	1.5 µg/m ³	—	—
	Rolling 3-month average	—	0.15 µg/m ³	Same as primary standard
Hydrogen sulfide	1-hour	0.03 ppm (42 µg/m ³)	No national standards	
Sulfates	24-hour	25 µg/m ³		
Vinyl chloride ^f	24-hour	0.01 ppm (26 µg/m ³)		
Visibility-reducing particulate matter	8-hour	Extinction of 0.23 per km		

Notes: CAAQS = California ambient air quality standards; NAAQS = national air quality standards; µg/m³ = micrograms per cubic meter; km = kilometers; ppb = parts per billion; ppm = parts per million.

^a California standard for ozone, carbon monoxide, SO₂ (1- and 24-hour), NO₂, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in CCR, Title 17, Section 70200.

^b Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

^c National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth-highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM₁₀ 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. The PM_{2.5} 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current federal policies.

^d National primary standards: The levels of air quality necessary, with an adequate margin of safety to protect public health.

^e National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

^f The California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Sources: CARB 2024a.

Hazardous Air Pollutants and Toxic Air Contaminants

Toxic air contaminants (TACs), or in federal parlance “hazardous air pollutants” (HAPs), are a defined set of airborne pollutants that may pose a present or potential hazard to human health. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

A wide range of anthropogenic sources, from industrial plants to motor vehicles, emit TACs. The health effects associated with TACs are quite diverse and generally are assessed locally rather than regionally. TACs can cause long-term health effects, such as cancer, birth defects, neurological damage, asthma, bronchitis, and genetic damage, or short-term acute effects, such as eye watering, respiratory irritation (a cough), runny nose, throat pain, and headaches.

For evaluation purposes, TACs are separated into carcinogens and noncarcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. This contrasts with criteria air pollutants for which acceptable levels of exposure can be determined and for which the ambient standards have been established (Table 3.3-1). Cancer risk from TACs is expressed as excess cancer cases per one million exposed individuals, typically over a lifetime of exposure.

EPA regulates HAPs through its National Emission Standards for Hazardous Air Pollutants. The standards for a particular source category require the maximum degree of emission reduction that EPA determines to be achievable, which is known as the Maximum Achievable Control Technology (MACT) standards. These standards are authorized by Section 112 of the 1970 CAA and the regulations are published in Title 40 of the Code of Federal Regulations (CFR), Parts 61 and 63.

STATE

The California Air Resources Board (CARB) is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required CARB to establish California ambient air quality standards (CAAQS) (Table 3.3-1).

Criteria Air Pollutants

CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. In most cases the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects that studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

The CCAA requires that all local air districts in the state endeavor to attain and maintain the CAAQS by the earliest date practical. The CCAA specifies that local air districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources. The CCAA also provides air districts with the authority to regulate indirect sources.

Toxic Air Contaminants

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807, Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588, Chapter 1252, Statutes of 1987). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. Research, public participation, and scientific peer review are required before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and adopted EPA’s list of HAPs as TACs. Most recently, particulate matter (PM) exhaust from diesel engines (diesel PM) was added to CARB’s list of TACs.

After a TAC is identified, CARB then adopts an airborne toxics control measure for sources that emit that particular TAC. If a safe threshold exists for a substance at which there is no toxic effect, the control measure must reduce

exposure below that threshold. If no safe threshold exists, the measure must incorporate best available control technology for toxics to minimize emissions.

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level prepare an inventory of toxic emissions, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

AB 617 of 2017 aims to help protect air quality and public health in communities around industries subject to the state's cap-and-trade program for greenhouse gas (GHG) emissions. AB 617 imposes a new state-mandated local program to address non-vehicular sources (e.g., refineries, manufacturing facilities) of criteria air pollutants and TACs. The bill requires CARB to identify high-pollution areas and directs air districts to focus air quality improvement efforts through adoption of community emission reduction programs within these identified areas. Currently, air districts review individual sources and impose emissions limits on emitters based on best available control technology, pollutant type, and proximity to nearby existing land uses. This bill addresses the cumulative and additive nature of air pollutant health effects by requiring community-wide air quality assessment and emission reduction planning.

CARB has adopted diesel exhaust control measures and more stringent emissions standards for various transportation-related mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., tractors, generators). Over time, the replacement of older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1-3-butadiene, diesel PM) have been reduced significantly over the last decade and will be reduced further in California through a progression of regulatory measures (e.g., Low Emission Vehicle/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. With the implementation of CARB's Risk Reduction Plan and other regulatory programs, it is estimated that emissions of diesel PM will be less than half of those in 2010 by 2035 (CARB 2024b). Adopted regulations are also expected to continue to reduce formaldehyde emissions emitted by cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

LOCAL

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) maintains and manages air quality conditions in the San Francisco Bay Area Air Basin (SFBAAB), including the southern portion of Sonoma County, through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of BAAQMD includes the preparation of plans and programs for the attainment of the NAAQS and CAAQS, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. BAAQMD also inspects stationary sources, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements other programs and regulations required by the CAA and CCAA.

Projects located in the SFBAAB are subject to BAAQMD's rules and regulations. The following rules and regulations are applicable to the Cannabis Program Update:

- ▶ **Regulation 2, Rule 1: General Permit Requirements.** This rule includes criteria for issuance or denial of permits, exemptions, and appeals against decisions of the Air Pollution Control Officer and BAAQMD actions on applications.
- ▶ **Regulation 6, Rule 1: General Requirements.** This rule limits the quantity of particulate matter in the atmosphere by controlling emission rates, concentration, visible emissions, and opacity.
- ▶ **Regulation 7: Odorous Substances.** Regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds. A person or facility must meet all limitations of this regulation, but meeting such limitations shall not exempt such person or facility from any other requirements of BAAQMD, state, or national law. The limitations of this regulation are not applicable until BAAQMD receives odor complaints from 10 or more complainants within a 90-day period, alleging that a person or facility has caused

odors perceived at or beyond the property line of such person or facility and deemed to be objectionable by the complainants in the normal course of their work, travel, or residence. When the limitations of this regulation become effective, as a result of citizen complaints described above, the limits remain effective until such time as no citizen complaints have been received by BAAQMD for 1 year. The limits of this regulation become applicable again if BAAQMD receives odor complaints from five or more complainants within a 90-day period. BAAQMD staff investigate and track all odor complaints it receives, make attempts to visit the site and identify the source of the objectionable odor, and assist the owner or facility in finding a way to reduce the odor.

The CCAA requires that all local air districts in the state endeavor to achieve and maintain the CAAQS in their region by the earliest practical date. It specifies that local air districts should focus attention on reducing the emissions from transportation and area-wide emission sources and provides districts with the authority to regulate indirect sources. To achieve the CAAQS, BAAQMD prepares and updates air quality plans on a regular basis. The air quality plans published by BAAQMD and other local air districts in the state are incorporated into California's SIP strategy and meet CAA requirements.

For state air quality planning purposes, the SFBAAB is classified as a serious nonattainment area with respect to the 1-hour ozone standard. The "serious" classification triggers various plan submittal requirements and transportation performance standards. One such requirement is that BAAQMD update its Clean Air Plan every 3 years to reflect progress in meeting the NAAQS and CAAQS and to incorporate new information regarding the feasibility of control measures and new emission inventory data. BAAQMD's record of progress in implementing previous measures must also be reviewed. BAAQMD prepared these plans in cooperation with the Metropolitan Transportation Commission and the Association of Bay Area Governments. On April 19, 2017, BAAQMD adopted the most recent revision to the Clean Air Plan, *2017 Clean Air Plan: Spare the Air, Cool the Climate* (BAAQMD 2017). This plan serves to:

- ▶ define a vision for transitioning the region to a post-carbon economy needed to achieve 2030 and 2050 greenhouse gas reduction targets;
- ▶ decrease emissions of air pollutants most harmful to Bay Area residents, such as particulate matter, ozone, and TACs;
- ▶ reduce emissions of methane and other potent climate pollutants; and
- ▶ decrease emissions of carbon dioxide by reducing fossil fuel combustion.

Although offensive odors rarely cause any physical harm, they can be unpleasant, leading to considerable stress among the public and often generating citizen complaints to local governments and BAAQMD. BAAQMD's Regulation 7 ("Odorous Substances") discussed above, regulates odors.

Northern Sonoma County Air Pollution Control District

The Northern Sonoma County Air Pollution Control District (NSCAPCD) maintains and manages air quality conditions in the northern portion of Sonoma County, which is located within the North Coast Air Basin (NCAB). The NCAB is in compliance with all ambient state and federal air quality standards except for the 24-hour PM₁₀ standard, which is violated only in Humboldt County which is under the regulation of the North Coast Unified Air Quality Management District. Accordingly, the NSCAPCD is not required to adopt nor implement an air quality plan. The following NSCAPCD rules are applicable to the project:

Rule 410: - Visible Emissions

A person shall not discharge into the atmosphere from any source whatsoever any air contaminant for a period or periods aggregating more than three (3) minutes in any one hour which is as dark or darker in shade as that designated as No. 2 on the Ringelmann Chart, as published by the United States Bureau of Mines; or of such opacity as to obscure an observer's view to a degree equal to or greater than Ringelmann 2 or forty (40) percent opacity.

Rule 420 - Particulate Matter

- (a) **General Combustion Sources:** A person shall not discharge particulate matter into the atmosphere from any combustion source in excess of 0.46 grams per standard cubic meter (0.20 grains per standard cubic foot) of

exhaust gas, calculated to 12 percent carbon dioxide; or in excess of the limitations of NSPS Regulation 3, as applicable.

- (d) Non-combustion Sources: A person shall not discharge particulate matter into the atmosphere from any non-combustion source in excess of 0.46 grams per actual cubic meter (O. 20 grains per cubic foot) of exhaust gas or in total quantities in excess of the amount shown in Table I, whichever is the more restrictive condition.

Rule 430 - Fugitive Dust Emissions

- (a) The handling, transporting, or open storage of materials in such a manner which allows or may allow unnecessary amounts of particulate matter to become airborne, shall not be permitted.
- (b) Reasonable precautions shall be taken to prevent particulate matter from becoming airborne, including, but not limited to, the following provisions:
- (1) covering open bodied trucks when used for transporting materials likely to give rise to airborne dust. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Containment methods can be employed during sandblasting and other similar operations.
 - (2) Conduct agricultural practices in such a manner as to minimize the creation of airborne dust
 - (3) The use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
 - (4) The application of asphalt, oil, water or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts.
 - (5) The paving of roadways and their maintenance in a clean condition.
 - (6) The prompt removal of earth or other material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water, or other means.

Rule 440 - Sulfur Dioxide Emissions

A person shall not discharge into the atmosphere from any single source of emissions whatsoever sulfur oxides, calculated as sulfur dioxide in excess of 1,000 ppm; or in excess of the specific source emission limitations of NSPS Regulation 3 of the North Coast Air Basin, as applicable.

3.3.2 Environmental Setting

The Program Area is located in the SFBAAB and the NCAB. The SFBAAB includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties and the southwestern portion of Solano and southern portion of Sonoma Counties. The NCAB includes the northern portion of Sonoma County and Mendocino, Humbolt, Del Norte, and Trinity Counties. The ambient concentrations of air pollutant emissions are determined by the amount of emissions released by the sources of air pollutants and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by natural factors, such as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources, as discussed separately below.

The southern portion of Sonoma County lies within the SFBAAB, which is managed by BAAQMD. This includes the Cities of Santa Rosa, Petaluma, and Sonoma. The northern and coastal regions of the County fall within the NCAB, overseen by NSCAPCD. This encompasses Healdsburg, Cloverdale, and the coastal towns. Air pollution can also move freely within and between air basins; therefore, air pollution generated in one basin may degrade the air quality within an adjacent basin. Table 3.2-2 shows the attainment status for each criteria pollutant with respect to the CAAQS and the NAAQS in Sonoma County.

CLIMATE, METEOROLOGY, AND TOPOGRAPHY

Climate

The Mediterranean climate type of Sonoma County is characterized by warm, dry summers and cool, rainy winters. During the summer, daily temperatures range from 70 degrees Fahrenheit (°F) to more than 90°F. The inland location and surrounding hills shelter some areas from the ocean breezes that keep the coastal regions moderate in temperature. Most precipitation in the area results from air masses that move in from the Pacific Ocean, usually from the west or northwest, during the winter months. More than half the total annual precipitation falls during the winter rainy season (November through February); the average winter temperature is a moderate 50°F. Also characteristic of Sonoma County, winters consist of periods of dense and persistent low-level fog, which are most prevalent between storms. However, microclimates within the county vary significantly due to topographic and elevational differences. Coastal areas experience cooler temperatures and more fog, while inland valleys are warmer and drier. The region is also susceptible to periodic droughts and wildfires.

Topography

Sonoma County presents a diverse landscape encompassing valleys, mountains, coastal plains, and redwood forests. Bounded by the Pacific Ocean to the west, the Mayacamas Mountains to the east, and the Sonoma Mountains to the south, the county's topography influences its Mediterranean climate with warm, dry summers and cool, wet winters. The Russian River, the largest in the county, flows southward through prominent valleys: Alexander Valley, Russian River Valley, each known for viticulture. Other significant valleys include Dry Creek Valley and Bennett Valley. The Mayacamas Mountains, with Mount Saint Helena as its highest peak, define the eastern county line. The Sonoma Mountains extend along the southern portion. This varied terrain supports diverse ecosystems, including coastal redwood forests, oak woodlands, grasslands, and wetlands, providing habitat for numerous species. Furthermore, the complex topography can create barriers to airflow, which can lead to the entrapment of air pollutants when meteorological conditions are unfavorable for transport and dilution. The highest frequency of poor air movement occurs in the fall and winter when high-pressure cells are often present over the SFBAAB. The lack of surface wind during these periods, combined with the reduced vertical flow caused by a decline in surface heating, reduces the influx of air and leads to the concentration of air pollutants under stable meteorological conditions. Surface concentrations of air pollutant emissions are highest when these conditions occur in combination with wood-burning activities or with temperature inversions, which hamper dispersion by creating a ceiling over the area and trapping air pollutants near the ground.

Meteorology

May through October is ozone season in the SFBAAB. This period is characterized by high temperatures, abundant sunlight, and low humidity, which create favorable conditions for ozone formation. In addition, longer daylight hours provide a plentiful amount of sunlight to fuel photochemical reactions between reactive organic gases (ROG) and nitrogen oxides (NO_x), which result in ozone formation. Typically, the prevailing westerly winds and the Delta Breeze transport air pollutants northward and eastward out of the SFBAAB, but under certain conditions, they can become trapped within the basin. The local meteorology of the Program area and surrounding vicinity is represented by measurements recorded at the Western Regional Climate Center (WRCC) station at the Charles M. Schulz – Sonoma County Airport (STS) weather station. The normal annual precipitation is approximately 29.43 inches. January temperatures range from a normal minimum of 37°F to a normal maximum of 57°F. July temperatures range from a normal minimum of 51°F to a normal maximum of 89°F (WRCC 2023). The prevailing wind direction (1991-2020) in Sonoma County is northwest (WRCC 2023).

Air Pollution Potential

Sonoma County's potential for air pollution is influenced by its topography and meteorology. The surrounding mountains can trap pollutants under stable atmospheric conditions. Prevailing winds can transport pollutants from other areas into the county, while local wind patterns may recirculate them. However, the county's air quality is generally good due to the limited sources of pollution. The primary sources of pollution are associated with agricultural activities, motor vehicles emissions, and residential wood burning. As the county's population grows and

tourism increases, motor vehicle emissions and wood smoke are likely to become more significant contributors to air pollution.

CRITERIA AIR POLLUTANTS

Concentrations of criteria air pollutants are used to indicate the quality of the ambient air. A brief description of key criteria air pollutants in the SFBAAB is provided below. Sonoma County's attainment status for the CAAQS and NAAQS is shown in Table 3.3-2. The NCAB is currently in attainment or unclassified for criteria air pollutants under CAAQS and NAAQS.

Table 3.3-2 Sonoma County Attainment Status for the SFAAB

Pollutant	National Ambient Air Quality Standard	California Ambient Air Quality Standard
Ozone	Nonattainment – Marginal (8-hour) ¹	Nonattainment
Respirable particulate matter (PM ₁₀)	Attainment	Nonattainment
Fine particulate matter (PM _{2.5})	Attainment ²	Nonattainment
	Nonattainment – Moderate ³	
Carbon monoxide (CO)	Maintenance – Moderate <= 12.7ppm	Attainment
Nitrogen dioxide (NO ₂)	Unclassified/attainment	Attainment
Sulfur dioxide (SO ₂)	Attainment	Attainment
Lead (particulate)	Attainment	Attainment
Hydrogen sulfide	No federal standard	Unclassified
Sulfates	No federal standard	Attainment
Visibility-reducing particles	No federal standard	Unclassified
Vinyl chloride	No federal standard	Unclassified

Note: This table represents the attainment status of Sonoma County for only the SFAAB.

¹ 2015 standard.

² 2012 standard.

³ 2006 standard

Sources: EPA 2024b; CARB 2023.

Ozone

Ozone is a photochemical oxidant (a substance whose oxygen combines chemically with another substance in the presence of sunlight) and the primary component of smog. Ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of ROG and NO_x in the presence of sunlight. ROG are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_x are a group of gaseous compounds of nitrogen and oxygen that result from the combustion of fuels.

Emissions of the ozone precursors ROG and NO_x have decreased over the past several years because of more stringent motor vehicle standards and cleaner burning fuels. Emissions of ROG and NO_x decreased from 2000 to 2010 and are projected to continue decreasing from 2010 to 2035.

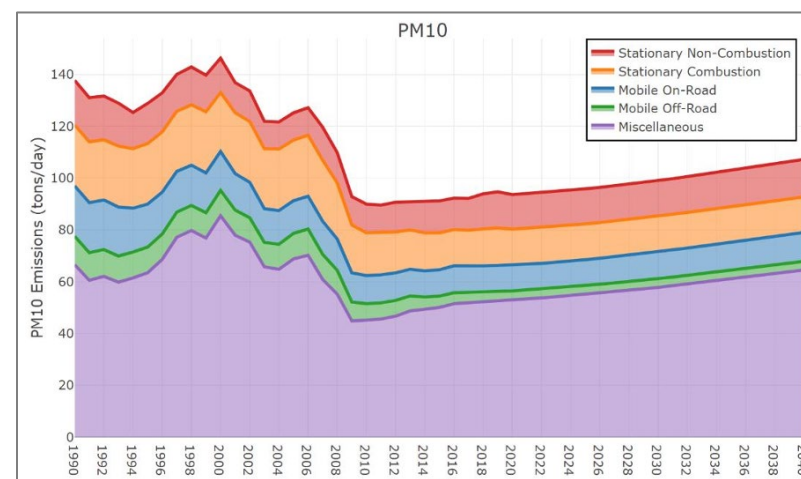
Nitrogen Dioxide

NO₂ is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO₂ are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO₂. The combined emissions of NO and NO₂ are referred to as NO_x and are reported as

equivalent NO_2 . Because NO_2 is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographical area may not be representative of the local sources of NO_x emissions (EPA 2024a).

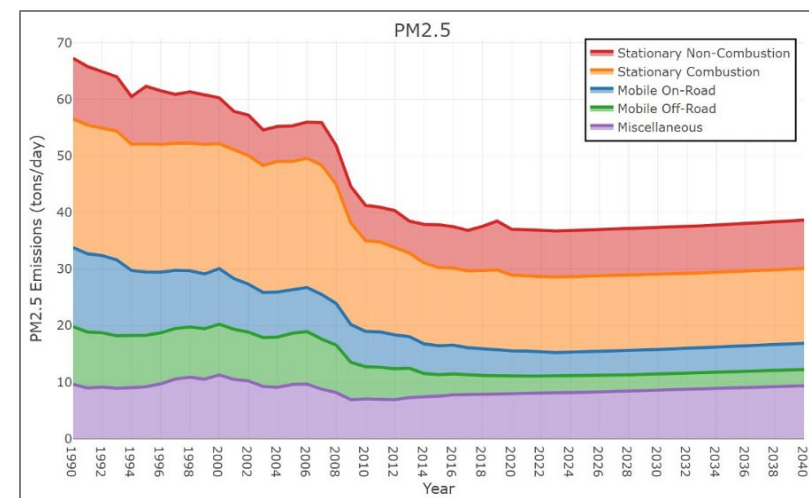
Particulate Matter

Particulate matter (PM) is a generic term for a broad class of chemically and physically diverse substances that exist as discrete particles (liquid droplets or solids) over a wide range of sizes. Particles originate from a variety of human-made stationary and mobile sources, as well as from natural sources, such as forest fires. Particles may be emitted directly or may be formed in the atmosphere by transformations of gaseous emissions, such as oxides of sulfur (SO_x), oxides of nitrogen (NO_x), and volatile organic compounds (VOCs). The chemical and physical properties of PM vary greatly with time, region, meteorology, and the source of emissions. EPA distinguishes between categories of particles based on size and has established standards for fine and coarse particles. PM_{10} , in general terms, is an abbreviation for particles with an aerodynamic diameter less than or equal to 10 micrometers (μm) and represents inhalable particles small enough to penetrate deeply into the lungs (i.e., thoracic particles). PM_{10} is composed of a coarse fraction referred to as $\text{PM}_{10-2.5}$ or as thoracic coarse particles (i.e., particles with an aerodynamic diameter less than or equal to 10 μm and greater than 2.5 μm) and a fine fraction referred to as $\text{PM}_{2.5}$ or fine particles (i.e., particles with an aerodynamic diameter less than or equal to 2.5 μm). PM_{10} emissions in the SFBAAB are dominated by emissions from area sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, farming operations, construction and demolition, and particles from residential fuel combustion. Overall, PM_{10} emissions have dropped by 32 percent, from 139 to 95 tons/day, between 1990 and 2020. Direct emissions of PM_{10} are projected to slightly increase through 2040. Overall, $\text{PM}_{2.5}$ emissions have decreased by 44 percent between 1990 and 2020. Direct emissions of $\text{PM}_{2.5}$ have steadily declined but are projected to remain relatively constant through 2040. Emissions of $\text{PM}_{2.5}$ in the SFBAAB are dominated by the same sources as emissions of PM_{10} (BAAQMD 2024). Figures 3.3-1 and 3.3-2 show PM_{10} and $\text{PM}_{2.5}$ emissions trends by sector between 1990 and 2040.



Source: BAAQMD 2024.

Figure 3.3-1 BAAQMD PM_{10} Emissions Trend by Source Sector



Source: BAAQMD 2024.

Figure 3.3-2 BAAQMD PM_{2.5} Emissions Trend by Source Sector

MONITORING STATION DATA AND ATTAINMENT DESIGNATIONS

Criteria air pollutant concentrations are measured at several monitoring stations in the SFBAAB. The Sebastopol–103 Morris Street station provides the most representative data for ozone and PM_{2.5} concentrations in the region. Its central location, combined with consistent land use patterns and emission source profiles compares to the surrounding areas, makes it an indicator of regional air quality. Table 3.3-3 summarizes the air quality data from the last 3 years (2021–2023). Because no PM₁₀ concentrations are collected at the Sebastopol–103 Morris Street station, measured concentrations from the next closest station, Napa–Valley College station, are presented in Table 3.3-3.

Both CARB and EPA use this type of monitoring data to designate areas according to their attainment status for criteria air pollutants (attainment designations are summarized above in Table 3.3-2).

Table 3.3-3 Summary of Annual Ambient Air Quality Data in Sonoma County (2021–2023)

Pollutant	2021	2022	2023
Ozone (2015 standard)¹			
Maximum concentration (1-hr/8-hr avg, ppm)	0.063	0.055	0.051
Number of days state standard exceeded (1-hr/8-hr)	0	0	0
Number of days national standard exceeded (8-hr)	0	0	0
Fine particulate matter (PM_{2.5})¹			
Maximum concentration (24-hour µg/m ³)	29.5	25.5	42.0
Annual average (µg/m ³)	*	6.4	5.0
Number of days national standard exceeded (measured)	0	0	2
Respirable particulate matter (PM₁₀)²			
Maximum concentration (24-hour µg/m ³)	24.0	*	*
Number of days state standard exceeded	0	*	*
Number of days national standard exceeded (estimated days)	0	*	*

Notes: µg/m³ = micrograms per cubic meter; ppm = parts per million; * = data not available.

¹ Data from the Sebastopol–103 Morris Street station.

² Data from the Napa–Valley College station.

Sources: BAAQMD 2024; CARB 2024c.

TOXIC AIR CONTAMINANTS

According to the *California Almanac of Emissions and Air Quality* (CARB 2013), the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being diesel PM. Diesel PM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM₁₀ database, ambient PM₁₀ monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene. It's important to note that the term "Toxic Air Contaminant" refers specifically to anthropogenic air pollutants that are known to cause or suspected of causing cancer or other serious health effects. Naturally occurring plant compounds that have not been concentrated or manufactured for commercial purposes are generally not considered TACs. For example, beta-myrcene, a common terpene found in many plants, including hops and cannabis, is not classified as a TAC by the state.

ODORS

Odors are generally 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). The human nose is the sole sensing device for the presence of odors. The ability to detect odors varies considerably among the population. Some individuals can smell very 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; an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also 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. Land uses typically associated with odor complaints include wastewater treatment plants, sanitary landfills, composting facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting operations, rendering plants, manure irrigation, and food packaging plants. These sources of odors are found throughout the county.

Cannabis Odor

The typical smell of cannabis originates from roughly 140 different terpenes. A terpene is a volatile, unsaturated hydrocarbon that is found in essential oils of plants, especially conifers and citrus trees. Some terpenes are identified explicitly in research (myrcene, pinene, limonene). The "skunk" odor is primarily volatile thiols. Cannabis contains alpha-linolenic acid, which may break down under ultraviolet rays of sunlight into methyl and butyl thiols (Yolo County 2019).

Some researchers define an "odor activity value" (OAV), which is the chemical compound concentration divided by the chemical compound odor detection threshold (which is a literature-based value). A higher OAV could mean a more significant odor. One shortcoming of the OAV is that the quality of the odor detection thresholds may be low. Highly odorous compounds in low concentrations that may have a more potent OAV include nonanal, decanol, o-cymene, and benzaldehyde. In other research findings, it is believed the majority of the odor in cannabis flowers is linked to pinene, limonene, and terpinolene. Terpenes that are commonly identified and thought to warrant further evaluation for odor impacts include myrcene, pinene, limonene, b-caryophyllene, terpinolene, and o-cymene (Yolo County 2019). Research indicates that cannabis has a range of OAV depending on the age of the plant, proximity to it, and nature in which it is kept (i.e., loose leaf compared to enclosed in plastic); fresh cannabis is considered to have high OAV (Rice and Koziel 2015).

Currently, there is not a clear or consistent numerical threshold to use for cannabis odors. Because odor is a perception-based phenomenon and involves complex mixtures of substances rather than single chemically defined substances, it is important to evaluate odors comprehensively rather than breaking down individual chemical constituents of the odor. Dispersion modeling has been conducted to determine the distance from which cannabis odor may be detected. The results of modeling by Kern County indicated that specific cannabis compounds may be detectable at a distance of 2 miles or more depending on weather conditions (Kern County 2017). Nevada County released an EIR (State Clearinghouse No. 2018082023) for its Commercial Cannabis Cultivation Ordinance in 2019 and identified in their odor detection modeling that cannabis odors could be detected in some circumstances between 100 feet and as far as 1 mile from the source of the odor (Nevada County 2019).

When cannabis is grown in enclosed, indoor environments (buildings and greenhouses), odor-causing chemicals are concentrated and have been found to generate significant odors within the air space. Cannabis grown in greenhouses can generate odor with strengths ranging from 30,000 to 50,000 odor units (First Canadian Odour Conference 2018).

Public Health/Nuisance Issues

A review of scientific publications identified no studies that evaluated the health effects associated with exposure to cannabis odors. An evidence brief prepared by Public Health Ontario (Public Health Ontario 2018) states that “most substances responsible for odors in the outdoor air are not present at levels that can cause long-term health effects. However, exposure to unpleasant odors may affect an individual’s quality of life and sense of well-being.” This statement was made in reference to odors in general and not cannabis odors in particular. The City of Denver prepared a Cannabis Environmental Best Management Practices document (City of Denver 2018), which states that “the rate of VOC [volatile organic compound] emissions from cannabis cultivation facilities is relatively unknown.... [T]hese VOCs from the cannabis industry typically do not pose a direct threat to human health.” Although research is limited, the research that is available demonstrates that the concentration of cannabis odors is not significant enough to create a public health concern for off-property residential receptors.

As noted above, cannabis odors are attributed to terpenes that include beta-myrcene. Beta-myrcene is listed as a chemical that causes cancer under Proposition 65. Beta-myrcene is part of a class of terpene hydrocarbons which are commercially manufactured; manufactured beta-myrcene is subject to Proposition 65 warning labels. Beta-myrcene also naturally occurs in hundreds of plants and spices including but not limited to parsley, basil, mangoes, wild thyme, apricot, bell pepper, cinnamon, carrots, celery, and grapes. It is also present in the emissions of many trees. The concentration of beta-myrcene in essential oils of plants varies considerably between plant species and varieties, geographical areas, season of harvesting, part of the plant and agronomical factors. (SafeBridge Consultants 2025)

CCR, Title 27, Section 25501 states that human consumption of a food shall not constitute an “exposure” for purposes of section 25249.6 of the Safe Drinking Water and Toxic Enforcement Act to a listed chemical in the food to the extent that the person responsible for the exposure can show that the chemical is naturally occurring in the food, meaning that beta-myrcene found inherently in a plant or spice consumed as food, rather than used as an additive, is not subject to Proposition 65. This listing was based on the use of beta-myrcene as a refined component in essential oils to produce aroma and flavor chemicals; as a flavoring agent in food and beverages; and as a fragrance in cosmetics, soaps, and detergents (Office of Environmental Health Hazard Assessment 2012).

The safety of beta-myrcene has also been reviewed by the Food and Drug Administration (FDA). This review was based on the perceived risk of beta-myrcene as a potential human carcinogen as a result of studies conducted by the National Toxicology Program (NTP). Those studies reported increased incidence of neoplasms in rodents upon exposure to extremely high levels of beta-myrcene. The FDA concluded beta-myrcene does not pose a risk to public health, is unlikely to induce tumors in humans and is safe under its conditions of intended use as a flavor. Similar conclusions upon review of the toxicological data for beta-myrcene have also been made by the European Food Safety Authority, Joint Expert Committee on Food Additives and the Expert Panel of the Flavor and Extract Manufacturers Association (SafeBridge Consultants 2025).

It is important to note that exposure of commercially manufactured beta-myrcene differs from the natural occurrence and associated concentration of beta-myrcene in cannabis that generates detectable odors near harvest.

SENSITIVE RECEPTORS

Sensitive receptors are generally considered to include land uses where exposure to pollutants could result in health-related risks to sensitive individuals, such as children or the elderly. Residential dwellings, schools, hospitals, playgrounds, and similar facilities are of primary concern because of the presence of individuals particularly sensitive to pollutants or the potential for increased and prolonged exposure of individuals to pollutants. Sensitive receptors are found throughout the County.

3.3.3 Environmental Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, "Project Description," and Section 3.0, "Approach to the Environmental Analysis," regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

The analysis of potential impacts on air quality resources resulting from implementation of the Cannabis Program Update is based on the information provided previously in Section 3.3.2, "Environmental Setting." Regional and local criteria air pollutant emissions and associated impacts, as well as impacts from TACs, CO concentrations, and odors, were assessed in accordance with BAAQMD-recommended methodologies. The project's emissions are compared to BAAQMD-adopted thresholds. Actions that would result in emissions of air pollution include ground disturbance from construction of storage ponds; installation of irrigation systems and water storage; road and building construction; extension of electrical facilities and infrastructure; fencing, planting, and harvest activities; and operation of artificial lights and generators.

As further discussed below cannabis operations could result in an increase in emissions from short-term construction-related activities and their long-term operation. As recommended by BAAQMD, the California Emissions Estimator Model (CalEEMod) Version 2022.1.1.28 computer program was used to estimate emissions of criteria air pollutants and precursors associated with the construction and operation of the types and sizes of indoor, outdoor, and mixed-light cultivation and supply chain uses that could be approved under the Cannabis Program Update. The modeling provided below summarizes the potential emissions generated from the construction and operation of typical outdoor, mixed-light, and indoor cannabis cultivation uses, as well as supply chain uses. Supply chain uses (i.e., processing, manufacturing, testing, distribution, and retail) were modeled using the highest development capacity for supply chain uses and are presented as one example scenario in the analyses hereafter.

Operational emissions were also estimated for each cannabis use type, rather than the total cannabis uses anticipated to be constructed by 2044 (Chapter 4, "Cumulative Impacts," provides estimates of total emissions from cannabis uses for 2044.). CalEEMod was used to estimate on-site operational emissions, including emissions generated by off-road equipment, maintenance activity, and fertilizer application. CalEEMod energy consumption rates were adjusted to account for energy efficiency improvements from the 2019 California Energy Code as a conservative assumption. Default energy consumption for electricity was used. Off-road equipment includes utility vehicles (e.g., John Deere Gator) used for cannabis cultivation sites. Mobile-source emissions were estimated using default VMT assumed in CalEEMod.

Construction and operational emissions were estimated for the construction of each cannabis cultivation type using the information provided in Section 2.4 of Chapter 2, "Project Description."

Detailed model assumptions and inputs for these calculations are presented in Appendix C.

As described in Section 3.3.2, "Environmental Setting," odors are generally regarded as an annoyance rather than a health hazard. Odor is inherently complex because it is often caused by a mixture of chemical substances and has subjective components associated with human perception by the olfactory senses. Thus, the impact analysis qualitatively evaluates the potential of cannabis uses to create odors that cause a public nuisance or adversely affect nearby residents or businesses. However, air dispersion modeling simulation was completed to provide a cannabis cultivation industry toxics risk assessment to understand potential community exposure to beta-myrcene. This analysis is summarized below and provided in Appendix C.

The following proposed changes to the Sonoma County Code that address air quality include:

Sec. 26-18-115. - Cannabis Cultivation

(C) Standards

1. Applicable to all zone districts:

- a. Odor control. A structure containing cannabis must be equipped with a filtration and ventilation system to control odors, humidity, and mold, provided that structures containing only packaged cannabis products may be excluded from this requirement.
- d. Generators. Generator use is prohibited, except in case of an emergency.

4. LIA, LEA, DA, RRD zones:

c. Setbacks.

- 1. Property line setback. The cannabis premises must be setback at least 100 feet from each property line.
- 2. Residential Land Use setback. The cannabis premises must be setback at least 600 feet from all properties within Residential Zoning Districts including Low, Medium, and High Density Residential (R1, R2 & R3), Rural Residential (RR), Agriculture and Residential (AR), and Planned Community (PC).
- 3. Incorporated City boundaries. The cannabis premises must be setback at least 600 feet from incorporated City boundaries.

4. Sensitive Use setback.

- a. Distance. The cannabis premises must be setback at least 1,000 feet from each property line of a parcel with a sensitive use that exists at the time the application to initiate the cannabis use is deemed complete.
- b. Definition of sensitive use. Sensitive uses include, K-12 schools, public parks, day care centers, and alcohol or drug treatment facilities. In this section, a public park includes existing Federal Recreation Areas, State Parks, Regional Parks, Community Parks, Neighborhood Parks, and Class I Bikeways as designated in the Sonoma County General Plan, but not proposed public parks that have not yet been constructed.
- f. Hoop Houses. Outdoor cultivation may use temporary membrane-covered frame structures (i.e., hoop houses) in accordance with Section 26-18-020. Plastic used for hoop houses must be removed and securely stored immediately after harvest and when not in use.

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the State CEQA Guidelines and standard practice, an impact on air quality would be significant if implementation of the project 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 non-attainment under an applicable federal or state ambient air quality standard,

- ▶ expose sensitive receptors to substantial pollutant concentrations, or
- ▶ result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The project is located in Sonoma County. The northern portion of the County is under the jurisdiction of NSCAPCD, and the southern portion is under the jurisdiction of BAAQMD. Therefore, both air districts' thresholds are discussed below.

Table 3.3-4 shows the criteria pollutant thresholds for NSCAPCD, and Table 3.3-5 shows the criteria pollutant thresholds for BAAQMD. The thresholds consider whether a project's emissions would result in a cumulatively considerable adverse contribution to existing air quality conditions. If a project's emissions would be less than these levels, the project would not be expected to result in a cumulatively considerable contribution to the significant project-level and cumulative impact.

Table 3.3-4 NSCAPCD Air Quality Thresholds

Pollutant	ROG (tpy)	NO _x (tpy)	CO (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)
Annual (construction and operations)	40	40	100	15	10

Notes: ROG=reactive organic compounds; NO_x=oxides of nitrogen; CO=carbon monoxide; PM₁₀=respirable particulate matter; PM_{2.5}=fine particulate matter; tpy = tons per year.

Source: NSCAPCD 2015.

BAAQMD sets thresholds of significance for the purpose of evaluating air quality and GHG impacts under CEQA. BAAQMD's air quality thresholds of significance are tied to achieving or maintaining attainment designations with the NAAQS and CAAQS. BAAQMD's project-level thresholds, which are scientifically substantiated, are numerical concentrations of criteria air pollutants considered to be protective of human health. Projects that do not exceed thresholds would not contribute to the nonattainment of the CAAQS nor subsequently the NAAQS or result in increases in health-related impacts associated with increases in criteria air pollutants or ozone precursors. Applicable thresholds are shown in Table 3.3-5.

Table 3.3-5 BAAQMD Air Quality Thresholds

Pollutant	Construction	Operations	
Criteria Air Pollutants and Precursors	Average Daily (lb/day)	Average Daily Emissions (lb/day)	Maximum Annual Emissions (tpy)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀ (exhaust)	82	82	15
PM _{2.5} (exhaust)	54	54	10
PM ₁₀ /PM _{2.5} (fugitive dust)	BMPs	None	
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
Risk and hazards for new sources and receptors (individual project)	Same as operational	Increased cancer risk of > 10.0 in a million Increased noncancer risk of > 1.0 hazard index (chronic/acute) Ambient PM _{2.5} increase: > 0.3 µg/m ³ annual average or compliance with qualified community risk reduction plan	
Risk and hazards for new sources and receptors (Cumulative Threshold)	Same as operational	Cancer: > 100 in a million (from all sources) Noncancer: > 10.0 chronic hazard index (from all sources) PM _{2.5} : > 0.8 µg/m ³ annual average (from all sources) or compliance with qualified community risk reduction plan	
Odors	None	5 confirmed complaints per year averaged over 3 years	or compliance with qualified community risk reduction plan

Notes: ROG=reactive organic compounds; NO_x=oxides of nitrogen; PM₁₀=respirable particulate matter; PM_{2.5}=fine particulate matter; CO=carbon monoxide.

Source: BAAQMD 2022.

Because the Cannabis Program area is under the jurisdiction of both the NSCAPCD and BAAQMD, the more stringent air quality thresholds between the two air districts are utilized in this analysis (i.e., BAAQMD). Therefore, based on the State CEQA Guidelines Appendix G questions and adopted BAAQMD thresholds, the project would result in a significant air quality impact if it would:

- ▶ cause construction-generated criteria air pollutant or precursor emissions to exceed 54 pounds per day (lb/day) of ROG and NO_x, 82 lb/day for PM₁₀ exhaust, and 54 lb/day for PM_{2.5} exhaust, or substantially contribute to emissions concentrations (e.g., PM₁₀, PM_{2.5}) that exceed the applicable NAAQS or CAAQS;
- ▶ result in a net increase in long-term operational criteria air pollutant or precursor emissions that exceed 54 lb/day or 10 tons per year (tons/year) of ROG and NO_x, 82 lb/day or 15 tons/year for PM₁₀ exhaust, and 54 lb/day or 10 tons/year for PM_{2.5} exhaust, or substantially contribute to emissions concentrations (e.g., PM₁₀, PM_{2.5}) that exceed the applicable NAAQS or CAAQS;
- ▶ not implement the BAAQMD's Basic Construction Mitigation Measures for dust emissions (e.g., PM₁₀ and PM_{2.5});
- ▶ result in long-term operational local mobile-source CO emissions that would violate or contribute substantially to concentrations that exceed the 1-hour CAAQS of 20 parts per million (ppm) or the 8-hour CAAQS of 9 ppm;
- ▶ result in an incremental increase in cancer risk (i.e., the risk of contracting cancer) greater than 10 in one million at any off-site receptor and/or a noncarcinogenic hazard index of 1.0 or greater; or
- ▶ result in other emissions (such as those leading to odors) adversely affecting a substantial number of people (i.e., five confirmed complaints per year averaged over 3 years).

ISSUES NOT DISCUSSED FURTHER

CO Hot Spots

BAAQMD recommends that local "hot spots" of CO resulting from traffic congestion must be accounted for using a health-based screening approach. BAAQMD recommends screening criteria for CO hotspots that can be applied to the project because emissions of CO are generally similar statewide, and those criteria have been applied here. Regarding the potential for CO hot spots at local intersections, these types of effects have the potential to occur only at intersections experiencing extremely high volumes of traffic. For instance, BAAQMD has determined that CO hot spots have the potential to occur only at intersections that experience a traffic volume greater than 44,000 vehicles per hour (BAAQMD 2022). Operational activities for all facilities would not be anticipated to generate traffic volumes at this level based on the extent of cannabis uses identified in Section 2.4 of Chapter 2, "Project Description," and the trip generation rates identified in Table 3.14-2. Moreover, the cannabis operations would be generally spread throughout the County. Thus, it would not be anticipated that vehicle trips generated by cannabis operations would result in congestion at any intersection that experiences high volumes of vehicles or long wait times exceeding BAAQMD's CO hot spot threshold of 44,000 vehicles per hour at any one intersection. For these reasons, additional trips associated with new cannabis operations would not contribute substantially to traffic congestion at affected intersections such that local CO "hot spots" occur in exceedance of the CAAQS or NAAQS.

Toxic Air Contaminants

Construction and operation of the new licensed cannabis cultivation and associated supply chain operations may involve the use of diesel-powered equipment that emits diesel PM. However, the amount of construction activity at any single location would not be intensive (i.e., no more than three pieces of off-road equipment being used at a time for the purpose of this analysis), would be temporary (i.e., up to seven months), and would not take place at the same site for longer than a few months. Operational activities would not include any major sources of stationary TACs such as smokestacks, and all operations would be required to comply with setback distances specified in Section 26-18-115(c)(4)(c) of the proposed Sonoma County Code amendment which states that cannabis premises must be setback at least 100 feet from the property line, with an extended boundary of 600 feet from all R1, R2, R3, RR, AR, and PC. Given the minimal construction activities required for the project, the lack of newly introduced major sources

of TACs, and the setback requirements, the construction and operation of new cannabis facilities would not expose existing receptors to substantial TAC concentrations.

See Impact 3.4-4, regarding exposure to emissions of beta myrcene.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: Conflict with or Obstruct Implementation of an Applicable Air Quality Plan

Implementation of the Cannabis Program Update would not result in changes to land use designations and would thus not result in greater emissions than have already been accounted for in the regional emissions modeling used to develop the emissions reduction targets, strategies, and measures of the 2017 Clean Air Plan. Therefore, implementation of the Cannabis Program Update would not obstruct BAAQMD's efforts to attain and maintain the NAAQS and CAAQS in the SFBAAB. This impact would be **less than significant**.

Air quality impacts from exposure to criteria air pollution are inherently regional. The location of criteria air pollutants emissions affects the attainment and nonattainment designation of an air basin (i.e., the NCAB and SFBAAB). Therefore, the impacts associated with conflicting with or the obstruction of an air quality plan for allowable uses within Agricultural, Resources, Industrial, and Commercial Districts are considered holistically below.

The Cannabis Program area consists of unincorporated Sonoma County, outside of the Coastal Zone. NSCAPCD has jurisdiction over the northern portion of Sonoma County. The northern Sonoma County portion of the NCAB is in attainment for all state and federal ambient air quality standards. Therefore, NSCAPCD is not required to prepare or implement an air quality plan, and there is no applicable air quality plan for the northern portion of Sonoma County. The southern portion of Sonoma County is located in the SFBAAB and is under the jurisdiction of BAAQMD. BAAQMD's thresholds are inherently tied to long-term regional air quality planning (i.e., BAAQMD's 2017 Clean Air Plan). To fulfill state ozone planning requirements, the 2017 control strategy includes all feasible measures to reduce emissions of ozone precursors (ROG and NO_x) and reduce the transport of ozone and its precursors to neighboring air basins. In addition, the 2017 Clean Air Plan builds upon and enhances BAAQMD's efforts to reduce emissions of PM_{2.5} and TACs.

The SFBAAB is currently designated as nonattainment for the ozone, PM₁₀, and PM_{2.5} NAAQS and the ozone and PM_{2.5} CAAQS. BAAQMD has developed the 2017 Clean Air Plan, which presents comprehensive strategies to reduce criteria pollutant emissions from stationary, area, mobile, and indirect sources to achieve attainment status of the NAAQS and CAAQS. The emission inventories used to develop air quality action plans (AQAPs) are based primarily on projected population and employment growth and associated VMT for the SFBAAB. This growth is estimated for the region based, in part, on the planned growth identified in regional and local land use plans, such as general plans and community plans. Therefore, projects that would result in population or employment growth beyond that projected in regional or local plans could result in increases in VMT above that forecasted in the attainment plans, further resulting in mobile source emissions that could conflict with or obstruct implementation of the AQAP. Increases in VMT beyond that projected in the Association of Bay Area Government's regional VMT modeling, the County General Plan, and the 2017 Clean Air Plan generally would be considered to have a significant adverse incremental effect on the SFBAAB's ability to attain CAAQS and NAAQS for all criteria air pollutants.

Implementation of the Cannabis Program Update would result in amendments to the Sonoma County General Plan and changes to the County Code to further regulate cannabis uses allowed by the state licensing program beyond the current County regulations. As stated in Section 3.11, "Land Use and Planning," the Cannabis Program Update is intended to implement and be consistent with the existing General Plan policy provisions. The Cannabis Program Update does not include any changes to land use designations and would require cannabis activities to be consistent with applicable zoning districts by requiring County licenses and land use or design review permits, when needed. Existing and future cannabis uses would be required to comply with the Cannabis Program Update and state cannabis requirements. Because cannabis use applicants would be required to obtain necessary approvals, the County would have a mechanism for control of land uses. Existing and future cannabis uses would be required to comply with Chapter 26 of the County Code, specifically, proposed Sections 26-18-115, 26-18-270, and 26-20-025, which provides land use

and development standards for cannabis uses, as well as establishing the zoning districts that allow for cannabis uses. Because the Cannabis Program Update does not alter the land use designations of the County General plan, the growth assumed in the County, as determined by the General Plan, is already accounted for in the emissions inventorying and projections of the 2017 Clean Air Plan.

Because implementation of the Cannabis Program Update would not result in changes to land use designations, emissions from these land uses have already been accounted for in the regional emissions modeling conducted by the Association of Bay Area Governments (ABAG), which informs the emissions reduction targets, strategies, and measures of the 2017 Clean Air Plan. Therefore, implementation of the Cannabis Program Update would not obstruct BAAQMD's efforts to attain and maintain the NAAQS and CAAQS in the SFBAAB. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.3-2: Generate Short-Term Construction-Related Emissions of ROG, NO_x, PM₁₀, and PM_{2.5}

Construction related to the Cannabis Program Update could result in emission of ROG, NO_x, PM₁₀, and PM_{2.5} from the operation of heavy-duty equipment, vendor and worker commute trips, and application of architectural coatings. From a project-level, construction of individual cannabis sites would not generate construction emissions of ROG, NO_x, PM₁₀ exhaust, or PM_{2.5} exhaust exceeding BAAQMD's average daily mass emissions thresholds of significance. However, because the Cannabis Program Update does not include BAAQMD's basic construction mitigation measures as a component of the proposed Cannabis Update Program, construction-generated fugitive dust would be **significant**.

Air quality impacts from exposure to criteria air pollution are inherently regional. The location of criteria air pollutants emissions affects the attainment and nonattainment designation of an air basin (i.e., the NCAB and SFBAAB). Therefore, the impacts associated with the generation of criteria air pollutants during project construction of allowable uses within Agricultural, Resources, Industrial, and Commercial Districts are considered holistically below.

Development of cannabis operations could require earthwork and use of heavy-duty off-road equipment that would generate exhaust emissions and fugitive dust. Generally, the intensity of construction activity would be similar to that associated with a residential renovation or building-addition project. Construction of individual outdoor cannabis cultivation operations could involve the clearing of vegetation, grading, and other earth-disturbance activities to establish a grow area; the laying of a gravel pad to support the containers in which the cannabis is planted; installation of a water storage tank or pond; and construction of structures. Construction of individual indoor and mixed-light cultivation operations would involve the construction of a greenhouse or grow buildings, as well as a water storage tank or pond, utilities, and supporting structures.

Based on review of cannabis construction projects state-wide, the construction of new cannabis operations was assumed to last approximately 7 months at each cannabis site, and heavy-duty off-road equipment would be used for approximately 22 weeks at each single new cannabis operation. Emissions of fugitive PM₁₀ and PM_{2.5} dust would be generated primarily by ground disturbance during site preparation and grading and would vary as a function of such parameters as travel on unpaved roads, soil silt content, soil moisture, wind speed, and the size of the disturbance area. PM₁₀ and PM_{2.5} would also be emitted in vehicle and equipment exhaust.

Emissions were estimated for each new cannabis type using the range of assumed future cannabis sites identified in Section 2.4 of Chapter 2, "Project Description," and based on anticipated daily construction activities. Table 3.3-6 presents the levels of criteria air pollutants and precursors that would be emitted by this level of construction activity based on modeling using the construction module of CalEEMod. Refer to Appendix C for detailed modeling input parameters and results. An example project-level estimate of emissions was prepared for supply chain uses using the largest development footprint and operational features (e.g., employees, traffic, energy use) of the range of the supply chain uses identified in Table 3-1. It is important to note that the proposed Cannabis Program Update does not specify the number of cannabis uses that would be allowed, so it is not known how many may be constructed in a given year or to what extent a site may include accessory uses.

Table 3.3-6 Criteria Air Pollutant and Precursor Emissions Associated with Construction of Each New Individual Cannabis Use Type

Cannabis Use Type	ROG (lb/day)	NO _x (lb/day)	CO (lb/day)	SO _x (lb/day)	PM ₁₀ (Exhaust) (lb/day)	PM _{2.5} (Exhaust) (lb/day)
Average Daily Emissions						
Outdoor Cultivation	2	3	4	<1	<1	<1
Mixed-light Cultivation	1	4	6	<1	<1	<1
Indoor Cultivation/Wholesale Nursery	1	2	3	<1	<1	<1
Supply Chain Uses	2	3	4	<1	<1	<1
BAAQMD thresholds of significance	54	54	N/A	N/A	82	54
Exceeds thresholds of significance?	No	No	N/A	N/A	No	No

Notes: lb/day = pounds per day, ROG = reactive organic gases, NO_x = oxides of nitrogen, CO = carbon monoxide, SO_x = sulfur oxides, PM₁₀ = respirable particulate matter, PM_{2.5} = fine particulate matter, BAAQMD = Bay Area Air Quality Management District.

Source: Modeling performed by Ascent in 2024 (Appendix C).

As shown in Table 3.3-6, construction emissions would not exceed BAAQMD's average daily thresholds of significance; however, the Cannabis Program Update does not include performance standards to regulate fugitive dust emissions consistent with BAAQMD's 2022 CEQA Guidelines. Therefore, this impact would **potentially significant**.

Mitigation Measures

The following mitigation measures would be implemented through the design review with hearing (DRH) or use permit for cannabis (UPC) process for individual projects.

Mitigation Measure 3.3-2 (DRH and UPC): Implement the Bay Area Air Quality Management District's Basic Construction Mitigation Measures

The following mitigation measures would be implemented through the design review with hearing (DRH) or use permit for cannabis (UPC) process for individual projects.

Prior to the issuance of grading or building permits, Sonoma County shall ensure that BAAQMD's basic construction mitigation measures from Table 5-2 of the BAAQMD 2022 CEQA Guidelines (or subsequent updates) are noted on the construction documents. These basic construction mitigation measures include the following:

- 1) All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- 2) All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- 3) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- 4) All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
- 5) All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- 6) All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- 7) All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- 8) Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.

- 9) A Construction Coordinator shall be designated by the project applicant, and a sign shall be posted on the site including the Coordinator's 24-hour phone number for public contact regarding dust, trackout, and air quality complaints. The Coordinator shall respond and take corrective action within 48 hours. The Coordinator shall report all complaints and their resolutions to Permit Sonoma staff.

Significance after Mitigation

Implementation of Mitigation Measure 3.3-2 would reduce construction-generated fugitive dust emissions through various mechanisms including speed limits, limited construction activity during conditions of high wind, watering of unpaved surfaces, covering of loose materials, and washing out of truck tires prior to leaving a construction site. Through these measures, this impact would be reduced to a **less-than-significant** level.

Impact 3.3-3: Generate Long-Term Operation-Related Emissions of ROG, NO_x, PM₁₀, and PM_{2.5}

Cannabis cultivation sites and associated supply chain uses under the Cannabis Program Update would not generate operational emissions of criteria air pollutants and ozone precursors exceeding BAAQMD's average daily mass emissions thresholds of significance. Because operational emissions of criteria air pollutants and ozone precursors from individual cannabis sites would not be greater than BAAQMD's daily mass emissions threshold, this impact would be **less than significant**.

Air quality impacts from exposure to criteria air pollution are inherently regional. The location of where criteria air pollutants are emitted affects the attainment and nonattainment designation of an air basin (i.e., the NCAB and SFBAAB). Therefore, the impacts associated with the generation of criteria air pollutants during the operation of allowable uses within Agricultural, Resources, Industrial, and Commercial Districts are considered holistically below.

Development of new or expanded cannabis uses could result in operational emissions of ROG, NO_x, PM_{2.5}, and PM₁₀. The use of generators would be prohibited except for emergencies as identified in proposed Section 26-18-115(C)(1)(d). Table 3.3-7 presents the levels of criteria air pollutants and precursors associated with the operation of cannabis uses. Emissions were estimated for each cannabis use type identified in Table 3-1. An example project-level estimate of emissions was prepared for supply chain uses using the largest development footprint and operational features (e.g., employees, traffic, energy use) of the range of the supply chain uses identified in Table 3-1. It is important to note that the proposed Cannabis Program Update does not specify the number of each cannabis uses that would be allowed, so it is not known how many may actually be in operation or to what extent a site may include accessory uses.

Table 3.3-7 Criteria Air Pollutant and Precursor Emissions Associated with Operation of Each New Individual Cannabis Use Type

Cannabis Use Type	ROG (lb/day)	NO _x (lb/day)	CO (lb/day)	SO _x (lb/day)	PM ₁₀ (lb/day)	PM _{2.5} (lb/day)
Average Daily Emissions						
Outdoor Cultivation	2	1	7	<1	1	<1
Mixed-light Cultivation	7	3	19	<1	3	<1
Indoor Cultivation/Wholesale Nursery	1	1	5	<1	1	<1
Supply Chain Uses	4	3	20	<1	3	1
BAAQMD thresholds of significance	54	54	N/A	N/A	82	54
Exceeds thresholds of significance?	No	No	N/A	N/A	No	No

Notes: lb/day = pounds per day, ROG = reactive organic gases, NO_x = oxides of nitrogen, CO = carbon monoxide, SO_x = sulfur oxides, PM₁₀ = respirable particulate matter, PM_{2.5} = fine particulate matter, BAAQMD = Bay Area Air Quality Management District.

Source: Modeling performed by Ascent in 2024 (Appendix C).

As shown in Table 3.3-7, operational emissions of ROG, NO_x, PM₁₀, and PM_{2.5} from outdoor, mixed-light, and indoor cannabis cultivation and supply chain sites would not exceed BAAQMD's average daily thresholds of significance.

Mixed-light cultivation sites are anticipated to generate the most air pollutant emissions due to extent of site activity and operation footprint.

Long-term operational emissions of criteria air pollutants and precursors that exceed BAAQMD's thresholds could violate or substantially contribute to an existing or projected air quality violation and expose sensitive receptors to substantial pollutant concentrations such that adverse health impacts could occur. However, because operation of cannabis uses are not expected to exceed BAAQMD's screening thresholds, the Cannabis Program Update's emissions would not adversely affect human health. Therefore, the Cannabis Program Update's contribution to operational criteria pollutants and precursors would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.3-4: Expose a Substantial Number of People to Odors Considered Objectionable

Operation of existing and new cannabis uses could generate objectionable odors with adverse effects for residents and other sensitive land uses. This impact would be **significant**.

As described in Section 3.3.2, "Environmental Setting," the typical smell of cannabis originates from roughly 140 different terpenes. A terpene is a volatile, unsaturated hydrocarbon that is found in essential oils of plants, especially conifers and citrus trees. Some terpenes are identified explicitly in research (myrcene, pinene, limonene). The "skunk" odor attributable to cannabis is primarily volatile thiols. Cannabis cultivation, processing, distribution, and the smoking of cannabis have the potential to generate nuisance odors.

The furthest distance cannabis odors from cultivation uses may be recognizable or detectable is approximately 2 miles, depending on topography and meteorology (Kern County 2017). However, recognition of an odor does not imply that the odor is a nuisance, only that it can be identified or detected as cannabis. Typically, the odor is detectable much closer to the source, such as adjacent to or on a cannabis cultivation site. The distance for odor detection is very site-specific and can be affected by many variables, including meteorology, topography, and plant stages of plant growth. In addition, human perception of cannabis plant odors may be influenced by personal views regarding cannabis. Whether the odor is acceptable and the level at which it should be defined as objectionable varies by the individual sensitive receptor depending on various strengths and distances.

Comments on the scope of this EIR expressed concerns related to beta-myrcene emissions from cannabis cultivation. As noted above, beta-myrcene is part of a class of terpene hydrocarbons that are commercially manufactured and also occur naturally at high levels in a large variety of foods. Despite its long history of use as a flavoring substance and wide consumption via its natural occurrence in foods, the safety of beta-myrcene was reviewed by the FDA in 2018. FDA concluded that beta-myrcene was unlikely to induce tumors in humans and safe under its conditions of intended use as a flavoring (SafeBridge Consultant 2025). Previous to this conclusion, in March 2015, the State of California, Office of Environmental Health Hazard Assessment (OEHHA) added beta-myrcene to the list of chemicals known to the state to cause cancer, for the purposes of Safe Drinking Water and Toxic Enforcement Act of 1986, Health and Safety Code section 25249.5 et seq. (i.e., California Proposition 65). Commercially manufactured beta-myrcene remains listed under California Proposition 65 at the time of release of this Draft EIR.

Generally, a person may be exposed to chemicals via inhalation, ingestion, or skin contact. The route of exposure determines where/how the substance first contacts the body, how it is absorbed, distributed throughout the body, broken down and ultimately excreted (i.e., urine, feces, expired air, etc.). Some substances cause toxic effects where they are absorbed (lungs damaged by breathing wildfire smoke), while others need to be absorbed and distributed to distant sites throughout the body to exert toxic effects (the liver is damaged after repeatedly ingesting alcohol). Because of its long-standing use as a flavoring, the majority of beta-myrcene data was generated using the oral route; however, the EPA has provided specific guidance to allow for consideration of other exposure routes. Thus, data generated using an oral route can be applied to an inhalation route by considering both physicochemical properties of beta-myrcene and use of conservative conversion factors.

Beta Myrcene

Sonoma County commissioned Trinity Consultants to evaluate the potential for toxics risk and community exposure of beta-myrcene related to cannabis cultivation (Appendix C). The study included the development of an occupation exposure level (OEL), with the intent of determining the potential to adversely affect members of the public with proximity to cannabis cultivation. Based on a review of readily available clinical and nonclinical data an OEL of 5 mg/m³ as an 8-hour time-weighted average was recommended. The OEL provides a threshold at which no adverse effects would occur in an exposed worker (i.e., somebody within proximity to the chemical in question for the duration of a normal 8 hours work day). The OEL considers pharmacological and other adverse effects (e.g., sneezing, itching, nasal congestion and irritation, drowsiness, moderate skin and eye irritations), as well as nonclinical effects (reproductive and developmental effects at extremely high doses). To address public exposure, the OEL was lowered by a factor of 10 to develop the chronic risk exposure level (REL), which was used as a threshold in consideration of protecting the general public, which may experience exposure 24 hours per day, 7 days per year, year round. Thus, this analysis assumed an REL of 0.5 mg/m³ or less would not present an adverse effect.

To determine the potential for exposure on the general public, air dispersion modeling was completed to estimate ground-level beta myrcene concentrations at a distance of 100 feet for two hypothetical outdoor cannabis growing operations: a 1-acre facility and a 10-acre facility. These scenarios were modeled to estimate the ground-level concentration of beta-myrcene from a cannabis growing area at various distances using the US EPA regulatory model, AERSCREEN. Conservatively (i.e., more protective of public health), the analysis assumes that all of the cannabis plants are emitting beta-myrcene at the highest possible rate all of the time, which presents a worst-case analysis of actual ground-level concentration. (In actuality, outdoor cannabis is not planted year-round and growing plants to do not consistently emit beta-myrcene throughout their growing cycle.)

The results showed that the maximum concentration of airborne beta-myrcene generated by 1-acre and 10-acre cannabis fields at a distance of 100 feet from the edge of a field would be 0.1 mg/m³ (23 percent of REL) and 0.3 mg/m³ (64 percent of REL), respectively. Additionally, at 600 feet, the setback required for residential zoning under the Cannabis Program Update, airborne concentrations of beta myrcene would be reduced to 0.04 mg/m³ for a 1-acre site and 0.1 mg/m³ for a 10-acre site. Levels at Cannabis Program defined sensitive land uses, which would be setback at least 1,000 feet from a cannabis premises under the Cannabis Program Update, would be reduced further. Therefore, based on the established REL, which was developed by experts that relied on substantial evidence (i.e., scientific research), emissions of beta-myrcene would not be at a concentration high enough to cause the community harms related to pharmacological and other adverse effects (e.g., sneezing, itching, nasal congestion and irritation, drowsiness, moderate skin and eye irritations). Moreover, effects such as reproductive and developmental effects only occur at levels higher than 145,000 times higher than the REL and thus are not likely to occur.

A 10-acre grow site was used for the dispersion modeling because it is not reasonably foreseeable that grows in the County will be larger than this and thus expose nearby sensitive receptors to higher concentrations than determined under the study. This is because the County limits canopy to 10 percent of a parcel, the largest parcels in the County generally do not allow for concentrated large-scale cannabis development due to slope, topography, and vegetation, and areas with large parcels are regulated to have very low residential density. Further, the economic conditions are not expected to support more than 104 acres of cannabis cultivation across all cultivation types countywide (per the Program-specific economics report, EPS 2025) (note that 208 acres is assumed in the Draft EIR impact analysis and presents a conservative scenario). Outdoor cultivation in the County is expected to be dominated by craft brands and thus market conditions will also naturally limit the scale of individual grows. Thus overall, it is not reasonably foreseeable that emissions would exceed the REL for any types of health effects.

With these data in mind, it is important to further consider the opportunity for exposure to beta myrcene. Generally, an individual would not spend every hour of a full year outside, rather it is more typical to spend the majority of the day indoors or otherwise moving around a given area (i.e., not standing at the edge of a parcel). Additionally, people tend to come and go from their property to purchase items, attend school, report to work, go on vacation, or for various other reasons. Furthermore, beta myrcene emissions fluctuate throughout the growing season and during the day; emissions are highest during the flowering phase which occurs over 7-9 weeks out of a 3-month growing cycle (up to two cycles per year are possible with some strains). Thus, while the exposure rate from a 1-acre or 10-acre

outdoor operation would already be below the REL, it is reasonable to assume an individual would be exposed to concentrations even further below the calculated $0.1 - 0.3 \text{ mg/m}^3$ on a continuous basis throughout a year. Therefore, with reliance on data and analysis based on scientific evidence, the general public would not experience adverse health effects due to exposure to beta myrcene emissions from an outdoor cannabis cultivation site that could be allowed under the proposed Cannabis Program Update.

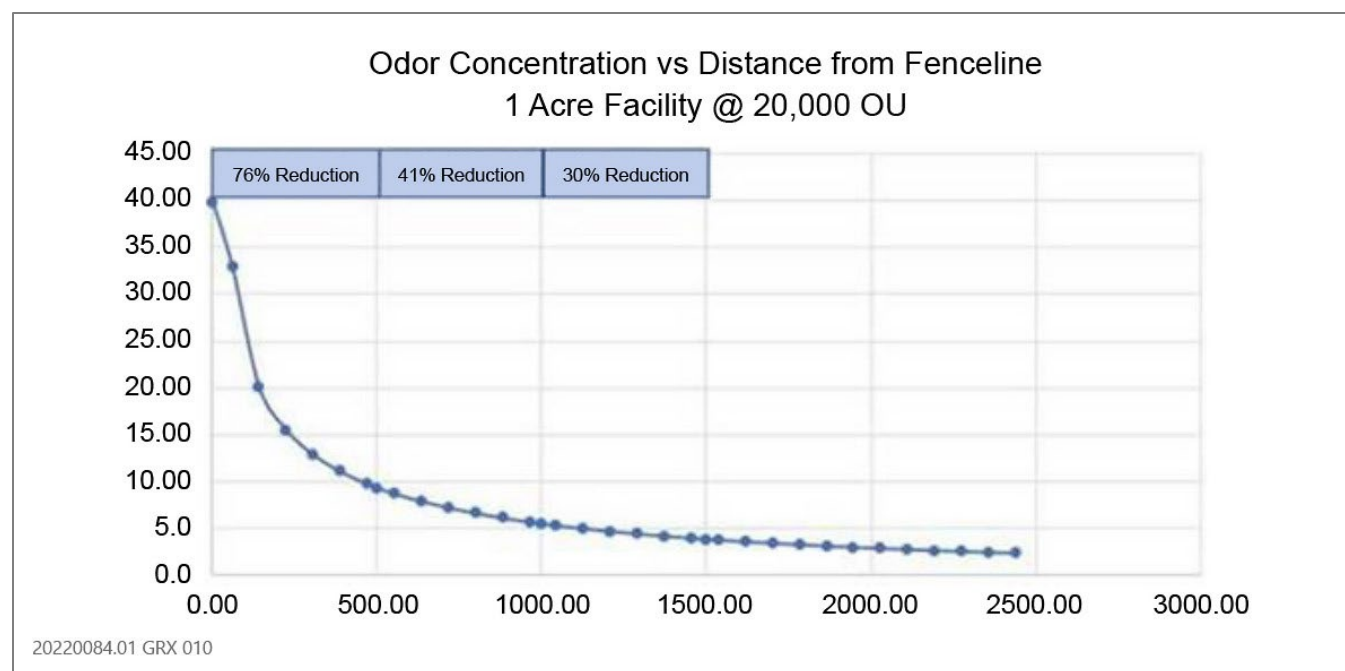
Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program Update, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program Update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses at an existing site must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Operation of new cannabis cultivation sites and supply chain operations would involve the growing and handling of cannabis. As identified above, cannabis plants are known to emit odors, most prominently during the final stages of the growing cycle (i.e., typically beginning in August and continuing through the harvest season, in September and October for outdoor cultivation), which may be detectable at a distance of 2 miles or more depending on topography and meteorology. The potential for detected odors from cannabis plants to be considered objectionable and have an adverse effect would depend on the size of the cannabis-related operation, the receptor, the presence of nearby vegetation, and topographic and atmospheric conditions. Because site-specific conditions can determine the effectiveness of buffers, identifying a standard buffer distance at which odors could not be perceived for outdoor and mixed-light cannabis cultivation operations not contained within buildings or greenhouses is not considered feasible. Generally, the larger the size of the canopy area, the greater the potential for odor to be evident to off-site receptors (Trinity Consultants 2020).

Cannabis cultivation operations that do not include odor control systems, even those limited to within a greenhouse, have the potential to generate objectionable odors causing nuisance to nearby receptors. A study prepared in 2019 evaluated the potential odor impacts from an approximately 50,000 sf greenhouse for cannabis cultivation and found that despite cannabis cultivation being encompassed by an enclosed structure, odorous air from within the greenhouse could not be contained without appropriate ventilation systems (Trinity Consultants 2019). While odors tend to be greatest while cannabis plants are blooming, odors are also associated with harvested, drying, and dried products. Cannabis facilities located within buildings (e.g., nurseries, mixed-light, and indoor cultivation, processing, and manufacturing) can be equipped with odor-reducing features, such as active carbon filters, biofilters, plasma ion technology, air filters, and other manufactured odor control/masking substances (e.g., gels and sprays designed to mask odors). Cannabis odor control for buildings through this use of filtration is an effective method of providing odor control (Trinity Consultants 2019). Proposed Code Section 26-18-115(C)(1)(a) includes requirements for filtration and ventilation systems to control odors; however, without more specific guidance related to how odor may be abated, it cannot be determined that these requirements would reduce cannabis-related odors.

Proposed Code Section 26-18-115(c)(4)(c) requires cannabis premises to be setback at least 100 feet from the property line; 600 feet from incorporated city boundaries and parcels zoned for residential uses (i.e., zones R1, R2, R3, RR, AR, and PC); and, 1,000 feet from schools providing education to K-12 grades, public parks, daycare centers, and alcohol or drug treatment facilities. Generally, odor perception tends to decrease with distance; thus, these setback requirements would place limits on odor perceptibility on parcels supporting sensitive land uses and residences. Based on dispersion modeling, odors emitted from outdoor cannabis cultivation facilities decrease substantially for the first approximately 500 to 600 feet from a cultivation site (see Figure 3.3-3). Past this point, up to 1,000 feet, odors become less detectable at a slower rate. Past 1,000 feet, odor perceptibility tends to decrease further with distance at a slower rate compared to the first 1,000 feet from a cultivation site. Modeling indicates a direct relationship between odor emissions levels and cultivation area size, and in turn, a decreased rate of odor dissipation as cultivation area increases within a given site.



Source: Adapted by Ascent in 2025.

Figure 3.3-3 Ground-Level Odor Concentration vs. Distance from 0.5 Acre Facility

While odors would be substantially reduced at 1,000 feet from a 1-acre cannabis cultivation site they would remain perceptible and may be considered objectionable (note that the maximum area of cultivation on the smallest allowable parcel size under the proposed Cannabis Program Update is 0.5 acres) (Trinity Consultants 2020).

While cannabis odors are often attributed to cultivation activities, they are also associated with the handling of cannabis that has been harvested, is drying, and has been dried before packaging (e.g., stored in air-tight containers as flower or other product). As noted above, while distance would decrease odor emission, it cannot be established that remaining odors at proposed setbacks would not be considered objectionable.

As noted above, whether the odor is acceptable or objectionable at various strengths and distances as perceived by individual sensitive receptors varies. While odor levels would decrease substantially by 600 feet and further at 1,000 feet (Trinity Consultants 2020), as stated above, cannabis odors may be detected as far as 2 miles away (Kern County 2017). Whether the odor is acceptable and the level at which it should be defined as objectionable varies by the individual sensitive receptor depending on various strengths and distances. Without installation of adequate odor-reducing systems and continued system maintenance, odors from cultivation, centralized processing, and accessory manufacturing and processing, may be perceptible by sensitive receptors. Given that detection of cannabis odors associated with cultivation, nurseries, centralized processing, and accessory manufacturing and processing may be considered a nuisance, this impact is significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. As discussed above, cannabis cultivation emits odors that could be perceptible to offsite receptors and considered to be a nuisance. Thus, this would be a significant impact.

Construction of Event Facilities and Event Operations

During cannabis events, cannabis consumption would be allowed. Packaged cannabis is generally sold in air-tight or nearly-air tight containment that substantially limits odor emissions. However, consumption may include smoking of

cannabis flower, which would emit odors that could be perceptible by offsite receptors. Cannabis event areas would be subject to the same setbacks established for the cannabis cultivation premises and as such any smoking area would be at least 100 feet from the property line, 600 feet from residentially zoned parcels, and 1,000 feet from sensitive uses. The level of odor would be related to the number of people actively smoking, meteorological conditions, and proximity to a sensitive receptor. While setbacks would reduce potential impacts, depending on these conditions, burning cannabis odors may be detected offsite and considered to be a nuisance by receptors. Thus, this impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses. As discussed above, cannabis odor control for buildings through this use of filtration is an effective method of providing odor control (Trinity Consultants 2019). However, without maintenance and specific requirements for odor reduction, it cannot be established that odors would not be perceived offsite from a facility that cultivates plants or handles unpackaged products (i.e., processing and manufacturing). Additionally, smoking at lounges (including outdoor areas of lounges) could contribute to odors emissions that could be considered a nuisance by offsite receptors. Thus, odor-related effects associated with indoor cultivation, lounges, processing, and manufacturing may be considered a nuisance that would result in a potentially significant impact.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because smoking at periodic events could generate odors that could be considered a nuisance, this impact would be potentially significant.

Conclusion

As discussed above, potentially objectional cannabis odors are associated with cultivation, processing, manufacturing, and consumption (i.e., smoking) of products. While odors decrease with distance and through implementation of odor control systems, remnant offsite odor levels could be detected by receptors and considered a nuisance. Thus, this impact would be **significant**. Note that this analysis does not address potential health impacts to users of the project related to cannabis consumption. It is anticipated that County Health Code and State law will address those issues.

Mitigation Measures

The following mitigation measures shall be added to County Code and applied to individual cannabis projects.

Mitigation Measure 3.3-4a: Implement Additional Measures to Minimize Odors from Cultivation and Handling of Harvested Cannabis

The Cannabis Program Update Code shall be modified as follows.

Section 26-18-115. Cannabis Cultivation shall be amended to read as follows.

(C)(1)(a). Odor control. Odors shall be managed by compliance with the following provisions:

1. A structure containing cannabis must be equipped with a filtration and ventilation system to control odors, humidity, and mold, except for structures containing only prepackaged cannabis products. The air filtration system shall be sufficient to prevent internal odors from being emitted externally and must rely on activated carbon filtration, negative ion generation, ozone generation, or other odor control mechanisms demonstrated to achieve the same odor reductions so that odors are not detectable outside the structure.

Section 26-20-080. Manufacturing/Processing, Medium shall be amended to include the following provision:

- A structure containing cannabis must be equipped with a filtration and ventilation system to control odors, humidity, and mold, except for structures containing only prepackaged cannabis products. The air filtration

system shall be sufficient to prevent internal odors from being emitted externally and must rely on activated carbon filtration, negative ion generation, ozone generation, or other odor control mechanisms demonstrated to achieve the same odor reductions so that odors are not detectable outside the structure.

Section 26-26-025(C). Centralized Processing shall be amended to include the following provision:

1. A structure containing cannabis must be equipped with a filtration and ventilation system to control odors, humidity, and mold, except for structures containing only prepackaged cannabis products. The air filtration system shall be sufficient to prevent internal odors from being emitted externally and shall rely on activated carbon filtration, negative ion generation, ozone generation, or other odor control mechanisms demonstrated to achieve the same odor reductions so that odors are not detectable outside the structure.

Mitigation Measure 3.3-4b (UPC): Implement Additional Measures to Minimize Odors from Cannabis Smoking

The following mitigation measures would be implemented through the use permit for cannabis (UPC) process for individual projects.

Mitigation Measure 3.3-4b: Implement Additional Measures to Minimize Odors from Cannabis Smoking

Proposed Sections 26-18-270, 26-22-120, and 26-26-025 shall be amended as follows:

- Designated outdoor smoking areas must be located at the furthest distance possible from offsite receptors. If a designated outdoor smoking area is within 600 feet from a property line, the site must employ odor control technology proven to reduce or control smoke and associated odors (e.g. vacuum ventilation or water misters). If smoking occurs indoors, the structure shall be equipped with an air filtration system sufficient to prevent internal odors from being emitted externally and shall rely on activated carbon filtration, negative ion generation, ozone generation, or other odor control mechanisms demonstrated to achieve the same odor reductions so that odors are not detectable outside the structure. Any facility where cannabis smoking occurs must also comply with the Sonoma County Health Ordinance related to employee protections.

Significance after Mitigation

As discussed above, smoking of cannabis products could result in offsite odor emissions that could be considered a nuisance.

Implementation of Mitigation Measure 3.3-4a would reduce potential odor impacts through additional requirements for odor control that would be incorporated into the County's standards for cannabis cultivation and supply chain facilities. While Sonoma County Code Section 32-6 currently prohibits smoking in enclosed areas in places of employment and Section 14-06-060 prohibits cannabis smoking and consumption at dispensaries, these laws are subject to change. Mitigation Measure 3.3-4b would require designated smoking areas to be located at the furthest distance possible from an offsite receptor; however, it is not clear how much odor could be decreased through this action because it would be related to site-specific factors, such as the layout of a building, vegetation, and wind patterns. If smoking occurs within 600 feet of a property line (the distance at which much odor dissipation has already occurred), the site must employ technology to reduce and control smoke from substantially crossing to other parcels. If cannabis smoking is allowed indoors, Mitigation Measure 3.3-4b would require air filtration systems that ensure odor is not detectable outside the structure. Compliance with updated performance standards would provide all feasible measures to address and minimize odor impacts. However, nuisance odor impacts may continue to occur due to the infeasibility of ventilation and filtration standards on outdoor and mixed-light cultivation and allowable outdoor smoking at events and lounges. Because there are no effective mitigation measures to ensure elimination of cannabis odors from these use types, this impact would be **significant and unavoidable**.

3.4 BIOLOGICAL RESOURCES

This section evaluates the potential impacts that may occur with Cannabis Program Update implementation on biological resources known or with potential to occur in Sonoma County. It summarizes relevant federal, state, and local regulations that pertain to biological resources and describes the existing environmental conditions. The analysis includes a description of the methods used for assessment of the potential direct and indirect impacts of Cannabis Program Update implementation and mitigation measures to address impacts determined to be significant or potentially significant. The information presented in this section is based on a review of existing and available information and is regional in scope. Data, analysis, and findings provided in this section are programmatic for broad application under the Cannabis Program Update rather than site-specific. Data reviewed in preparation of this analysis include:

- ▶ California Natural Diversity Database (CNDDDB) record search of US Geological Society (USGS) 7.5-minute quadrangles in the Cannabis Program area (Program area) and surrounding lands (CNDDDB 2024);
- ▶ California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California search of USGS 7.5-minute quadrangles in the Program area and surrounding lands (CNPS 2024a);
- ▶ US Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) (USFWS 2024c);
- ▶ *A Manual of California Vegetation* (Sawyer et al. 2009);
- ▶ Jepson Herbarium (Jepson 2024);
- ▶ Cornell Lab of Ornithology eBird observation database (eBird 2024);
- ▶ California Wildlife Habitat Relationships (CWHR) (CWHR 2024);
- ▶ USFWS National Wetlands Inventory (USFWS 2023); and
- ▶ Aerial photographs of the Program area and surrounding locales.

Comments regarding biological resources submitted in response to the notice of preparation (NOP) were received. Comments pertained to impacts on sensitive habitats (e.g., watersheds, rivers, creeks, wetlands, riparian habitat, forest habitat); typical vegetation and wild areas on a landscape scale; plant and wildlife species (e.g., anadromous fish, listed wildlife species, fully protected wildlife species, sensitive species, light pollution, noise); wildlife entrapment; breeding, nesting, dispersal, and foraging habitat; and wildlife corridors. These issues are addressed in the impact analysis below. All comments received in response to the NOP are presented in Appendix A of this EIR.

3.4.1 Regulatory Setting

FEDERAL

Federal Endangered Species Act

Pursuant to the federal Endangered Species Act (ESA) (16 USC Section 1531 et seq.), US Fish and Wildlife Service (USFWS) regulates the taking of species listed in the ESA as threatened or endangered. In general, persons subject to ESA (including private parties) are prohibited from “taking” endangered or threatened fish and wildlife species on private property and from “taking” endangered or threatened plants in areas under federal jurisdiction or in violation of state law. Under Section 9 of the ESA, the definition of “take” is to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” USFWS has also interpreted the definition of “harm” to include significant habitat modification that could result in take.

Section 10 of the ESA applies if a nonfederal agency is the lead agency for an action that results in take and no other federal agencies are involved in permitting the action. Section 7 of the ESA applies if a federal discretionary action is required (e.g., a federal agency must issue a permit), in which case the involved federal agency consults with USFWS.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, provides for protection of international migratory birds and authorizes the secretary of the interior to regulate the taking of migratory birds. The MBTA provides that it will be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. Under the MBTA, “take” is defined as “pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities.” A take does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof. The current list of species protected by the MBTA can be found in Title 50 of the Code of Federal Regulations (CFR), Section 10.13 (50 CFR 10.13). The list includes nearly all birds native to the United States.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act, enacted in 1940 and amended multiple times since, prohibits the taking of bald and golden eagles without a permit from the secretary of the interior. Similar to the ESA, the Bald and Golden Eagle Protection Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb” (16 USC Sections 668–668c). For the purpose of the act, disturbance that would injure an eagle, decrease productivity, or cause nest abandonment, including habitat alterations that could have these results, are considered take and can result in civil or criminal penalties.

Section 404 of the Clean Water Act

Section 404 of the federal Clean Water Act (CWA) (33 USC Section 1344) requires a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Fill material is material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land or changing the bottom elevation of any portion of a water of the United States. Waters of the United States include navigable waters of the United States; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; tributaries to any of these waters that are relatively permanent standing or continuously flowing bodies of water; and wetlands adjacent to and with a continuous surface connection to these waters. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Potentially jurisdictional wetlands must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Wetlands that meet the delineation criteria may be jurisdictional under Section 404 of the CWA pending US Army Corps of Engineers (USACE) verification.

Section 401 Water Quality Certification

Under Section 401 of the CWA (33 USC Section 1341), an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the intended dredging or filling activity is consistent with the state’s water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board (SWRCB) to the regional water quality control boards (RWQCBs).

STATE

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act (Porter-Cologne Act, Chapter 368, Statutes of 1943), waters of the state fall under the jurisdiction of the appropriate RWQCB. RWQCBs must prepare and periodically update water quality control plans (basin plans). Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control point and nonpoint sources of pollution to achieve and maintain these standards. The RWQCB’s jurisdiction includes federally protected waters, as well as areas that meet the definition of “waters of the state.” “Waters of the state” is defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The RWQCB has the discretion to take jurisdiction over areas not federally protected under Section 401 of the CWA provided they meet the definition of waters of the state. Actions that affect waters of the state, including wetlands, must meet the RWQCB’s waste discharge requirements.

State Water Resources Control Board Order WQ 20230102-DWQ

Attachment A (General Requirements and Prohibitions and Requirements Related to Water Diversions and Waste Discharge for Cannabis) of SWRCB Order WQ 2023-0102-DWQ, General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Wastes Associated with Cannabis Cultivation Activities, includes the following requirements (terms) for state-licensed cultivation sites that are associated with biological resources.¹ The reader is referred to Section 3.10, "Hydrology and Water Quality," for requirements associated with protection of water quality and surface water flows.

General Requirements and Prohibitions:

1. Prior to commencing any cannabis cultivation activities, including cannabis cultivation land development or alteration, the cannabis cultivator shall comply with all applicable federal, state, and local laws, regulations, and permitting requirements, as applicable, including but not limited to the following:
 - The Clean Water Act (CWA) as implemented through permits, enforcement orders, and self-implementing requirements. When needed per the requirements of the CWA, the cannabis cultivator shall obtain a CWA Section 404 (33 U.S.C. § 1344) permit from the United States Army Corps of Engineers (Army Corps) and a CWA Section 401 (33 U.S.C. § 1341) water quality certification from the State Water Board or the Regional Water Board with jurisdiction. If the CWA permit cannot be obtained, the cannabis cultivator shall contact the appropriate Regional Water Board or State Water Board prior to commencing any cultivation activities. The Regional Water Board or State Water Board will determine if the cannabis cultivation activity and discharge is covered by the Requirements in the Policy and Cannabis General Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (Cannabis General Order).
 - The California Water Code as implemented through applicable water quality control plans (often referred to as Basin Plans), waste discharge requirements (WDRs) or waivers of WDRs, enforcement orders, and self-implementing requirements issued by the State Water Resources Control Board (State Water Board) or Regional Water Quality Control Boards (Regional Water Boards).
 - All applicable state, city, county, or local regulations, ordinances, or license requirements including, but not limited to those for cannabis cultivation, grading, construction, and building.
 - All applicable requirements of the California Department of Fish and Wildlife (CDFW).
 - All applicable requirements of the California Department of Forestry and Fire Protection (CAL FIRE), including the Board of Forestry.
 - California Environmental Quality Act and the National Environmental Policy Act.
3. The cannabis cultivator shall apply for a Lake and Streambed Alteration Agreement (LSA Agreement) or consult with CDFW to determine if a LSA Agreement is needed prior to commencing any activity that may substantially:
 - divert or obstruct the natural flow of any river, stream, or lake;
 - change or use any material from the bed, channel, or bank of any river, stream, or lake; or
 - deposit debris, waste, or other materials that could pass into any river stream or lake.

"Any river, stream or lake," as defined by CDFW, includes those that are episodic (they are dry for periods of time) as well as those that are perennial (they flow year round). This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water.
4. Cannabis cultivators shall not take any action which results in the taking of Special-Status Plants (state listed and California Native Plant Society 1B.1 and 1B.2), Fully Protected species (Fish and Game Code sections 3511, 4700, 5050, and 5515), or a threatened, endangered, or candidate species under either the California Endangered Species Act (ESA) (Fish & Game Code §§ 2050 et seq.) or the federal ESA (16 U.S.C. § 1531 et seq.). If a "take," as defined by the California ESA (Fish and Game Code section 86) or the federal ESA (16 U.S.C. § 1532(21)), may

¹ The Order defines cannabis cultivation as "Any activity involving or necessary for the planting, growing, pruning, harvesting, drying, curing, or trimming of cannabis."

result from any act authorized under this Policy, the cannabis cultivator must obtain authorization from CDFW, National Marine Fisheries Service, and United States Fish and Wildlife Service, as applicable, to incidentally take such species prior to land disturbance or operation associated with the cannabis cultivation activities. The cannabis cultivator is responsible for meeting all requirements under the California ESA and the federal ESA.

7. A California Licensed Timber Operator (LTO) shall be used if any commercial tree species are to be removed from the cannabis cultivation site. All timberland conversions shall be permitted and compliant with the Forest Practice Rules and CAL FIRE permitting requirements.
10. Prior to commencing any cannabis land development or site expansion activities the cannabis cultivator shall retain a qualified biologist to identify sensitive plant, wildlife species, or communities at the proposed development site. If sensitive plant, wildlife species, or communities are identified, the cannabis cultivator and Qualified Biologist shall consult with CDFW and CAL FIRE to designate a no-disturbance buffer to protect identified sensitive plant, wildlife species, and communities. A copy of the report shall be submitted to the appropriate Regional Water Board.
11. To prevent transfer of invasive species, all equipment used at the cannabis cultivation site, including excavators, graders, etc., shall be cleaned before arriving and before leaving the site.
30. In timberland areas, cannabis cultivators shall not remove commercial tree species or other vegetation within 150 feet of fish bearing water bodies or 100 feet of aquatic habitat for nonfish aquatic species (e.g., aquatic insects) prior to obtaining all applicable permits required from CAL FIRE, CDFW (i.e., LSA Agreement), and/or the Regional Water Board Executive Officer.
37. Cannabis cultivators shall comply with the minimum riparian setbacks described below [presented as Table 3.4-1 below] for all land disturbance, cannabis cultivation activities, and facilities (e.g., material or vehicle storage, petroleum powered pump locations, water storage areas, and chemical toilet placement). The riparian setbacks shall be measured from the waterbody's bankfull stage (high flow water levels that occur every 1.5 to 2 years) or from the top edge of the waterbody bank in incised channels, whichever is more conservative. Riparian setbacks for springheads shall be measured from the springhead in all directions (circular buffer). Riparian setbacks for wetlands shall be measured from the edge of wetland as delineated by a qualified professional with experience implementing the Corps of Engineers Wetlands Delineation Manual (with regional supplements). The Regional Water Board Executive Officer may require additional riparian setbacks or additional requirements, as needed, to meet the performance requirement of protecting surface water from discharges that threaten water quality. If the cannabis cultivation site cannot be managed to protect water quality, the Executive Officer of the applicable Regional Water Board may revoke authorization for cannabis cultivation activities at the cannabis cultivation site:

Table 3.4-1 Minimum Riparian Setbacks^{1,2}

Common Name	Watercourse Class ³	Distance
Perennial watercourses, waterbodies (e.g., lakes, ponds), or springs ⁴	I	150 ft.
Intermittent watercourses or wetlands	II	100 ft.
Ephemeral watercourses	III	50 ft.
Man-made irrigation canals, water supply reservoirs, or hydroelectric canals that support native aquatic species	IV	Established Riparian Vegetation Zone
All other man-made irrigation canals, water supply reservoirs, or hydroelectric canals	IV	N/A

Notes: ft. = feet; WDRs = waste discharge requirements.

- ¹ A Regional Water Board may adopt site-specific WDRs or an enforcement order for a cannabis cultivator with requirements that are inconsistent with the setbacks in this table if the Executive Officer determines that the site-specific WDRs or enforcement order contains sufficient requirements to be protective of water quality.
- ² Cannabis cultivators enrolled in a Regional Water Board order adopting WDRs or a waiver of WDRs for cannabis cultivation activities prior to October 17, 2017, may retain reduced setbacks applicable under that Regional Water Board order unless the Regional Water Board's Executive Officer determines that the reduced setbacks applicable under that order are not protective of water quality.
- ³ Except where more restrictive, the stream class designations are equivalent to the Forest Practice Rules Water Course and Lake Protection Zone definitions (California Code of Regulations, title 14, Chapter 4. Forest Practice Rules, Subchapters 4, 5, and 6 Forest District Rules, Article 6 Water Course and Lake Protection).

4. Spring riparian setbacks default to the applicable watercourse riparian setback 150 feet downstream and/or upstream of the spring's confluence with the watercourse or 150 feet downstream of the point where the spring forms a watercourse with defined bed and banks.

Source: Data downloaded from SWRCB in 2023; compiled by Ascent in 2024.

Requirements Related to Water Diversions and Waste Discharge for Cannabis:

63. Cannabis cultivators shall not disturb aquatic or riparian habitat, such as pools, spawning sites, large wood, or shading vegetation unless authorized under a CWA section 404 permit, CWA section 401 certification, Regional Water Board WDRs (when applicable), or a CDFW LSA Agreement.
64. Cannabis cultivators shall maintain existing, naturally occurring, riparian vegetative cover (e.g., trees, shrubs, and grasses) in aquatic habitat areas to the maximum extent possible to maintain riparian areas for streambank stabilization, erosion control, stream shading and temperature control, sediment and chemical filtration, aquatic life support, wildlife support, and to minimize waste discharge.

California Endangered Species Act

Pursuant to the California Endangered Species Act (CESA, Fish and Game Code Section 2050 et seq.), a permit from CDFW is required for projects that could result in the "take" of a plant or animal species that is listed by the state as threatened or endangered. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species but, unlike the federal definition, does not include "harm" or "harass." As a result, the threshold for take is higher under CESA than under the federal ESA. Authorization for take of state-listed species can be obtained through a Fish and Game Code Section 2081 Incidental Take Permit.

California Game Code Sections 3503 and 3503.5, Protection of Bird Nests and Raptors

Section 3503 of the Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 of the Fish and Game Code states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders Falconiformes and Strigiformes), including their nests or eggs. Typical violations include destruction of active nests as a result of tree removal or disturbance caused by project construction or other activities that cause the adults to abandon the nest, resulting in loss of eggs or young.

California Fish and Game Code Sections 3511, 4700, 5050, and 5515, Fully Protected Species

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the Fish and Game Code. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take, except under specific conditions. The Fish and Game Code allows CDFW to authorize incidental take of fully protected species for scientific research purposes, relocation to protect livestock, as part of a Natural Community Conservation Plan (NCCP), State Water Project projects, regional or local water agency infrastructure (other than the Delta conveyance project and desalination project), certain transportation-related projects, such as wildlife crossings, and wind and solar photovoltaic projects, provided that the project avoids, minimizes, or mitigates impacts on these species.

California Fish and Game Code Section 1602, Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW under section 1602 of the Fish and Game Code. Under Section 1602 of the Fish and Game Code, it is unlawful for any person, governmental agency, or public utility to do the following without first notifying CDFW:

- ▶ substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake, or
- ▶ deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel that has banks and supports fish or other aquatic life. This definition includes watercourses with a surface or subsurface flow that supports or has supported riparian vegetation. CDFW's jurisdiction within altered or artificial

waterways is based on the value of those waterways to fish and wildlife. A CDFW streambed alteration agreement must be obtained for any action that would result in an impact on a river, stream, or lake.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) (Fish and Game Code Section 1900 et seq.) allows the California Fish and Game Commission to designate plants as rare or endangered. The act prohibits take of endangered or rare native plants but includes exceptions for agricultural and nursery operations; for emergencies; and, after proper notification of CDFW, for vegetation removal from canals, roads, and other building sites; changes in land use; and other situations. CDFW and CNPS jointly manage the Rare Plant Status Review groups, which consist of over 300 botanical experts from government agencies, academia, nonprofit organizations, and the private sector. The Rare Plant Status Review groups evaluate plant taxa rarity using NatureServe's element ranking methodology, which uses standardized ranking criteria and definitions, making ranks comparable across organisms and political boundaries. The methodology uses a rank calculator to increase repeatability and transparency of the process. Detailed information on the current element ranking methodology can be found at <https://www.natureserve.org/conservation-status-assessment>. Designating plants with California Rare Plant Ranks (CRPRs) is part of this process, and the CRPRs are defined as follows:

- ▶ **CRPR 1A: Presumed Extirpated or Extinct.** Plants presumed extirpated in California and either rare or extinct elsewhere.
- ▶ **CRPR 1B: Rare or Endangered.** Plants rare, threatened, or endangered in California and elsewhere.
- ▶ **CRPR 2A: Extirpated in California.** Plants presumed extirpated in California but common elsewhere
- ▶ **CRPR 2B: Rare or Endangered in California.** Plants rare, threatened, or endangered in California but common elsewhere.

CRPR threat ranks:

- ▶ **0.1:** Seriously threatened in California (over 80 percent of occurrences threatened; high degree and immediacy of threat).
- ▶ **0.2:** Moderately threatened in California (20–80 percent occurrences threatened; moderate degree and immediacy of threat).
- ▶ **0.3:** Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

Oak Woodlands Conservation Act

The Oak Woodlands Conservation Act (Senate Bill [SB] 1334, Chapter 732, Statutes of 2004) requires counties to determine whether implementation of a project within their jurisdiction may result in a conversion of oak woodlands that would have a significant adverse effect on the environment (Public Resources Code [PRC] Section 21083.4). If the County determines that implementing a project would result in a significant adverse effect on oak woodlands, mitigation measures to reduce the significant adverse effect of converting oak woodlands to other land uses are required.

LOCAL

Sonoma County General Plan

Open Space and Resource Conservation Element

The Open Space and Resource Conservation Element of the Sonoma County General Plan contains the following policies related to biological resources that are relevant to the Cannabis Program Update (policies with a * symbol at the end are mitigating policies) (Sonoma County 2006):

Biotic Resources

Policies for Biotic Habitat Areas:

- ▶ **Policy OSRC-7b:** Rezone to the Biotic Resources combining district all lands designated as Biotic Habitat Areas. Prepare and adopt an ordinance that provides for protection of designated Biotic Habitat Areas in conformance with the following principles. Until the ordinance is adopted, require that land use and development in designated areas comply with these principles:
 - (1) For discretionary projects, notify applicants of protected habitats and species and possible requirements of Federal and State regulatory agencies, request identification of known protected habitats and species, and:
 - (a) In designated Biotic Habitat Areas, require site assessment and adequate mitigation. The priorities for adequate mitigation are, in order of highest to lowest priority:
 - Avoid the habitat.
 - Mitigate on site to achieve no net loss.
 - Mitigate off site to achieve no net loss.
 - Create replacement habitat off site to achieve no net loss.

To the extent feasible, the mitigation required by the County should be consistent with permit requirements of Federal and State regulatory agencies.
 - (b) In designated Marshes and Wetlands, require a setback of 100 feet from the delineated edges of wetlands. The setback may be reduced based upon site assessment and appropriate mitigation.
 - (c) In designated Habitat Connectivity Corridors, encourage property owners to consult with CDFW, install wildlife friendly fencing, and provide for roadway undercrossings and oversized culverts and bridges to allow movement of terrestrial wildlife.
 - (d) The acreage required for adequate mitigation and replacement habitat shall be at least two times the acreage affected unless a lower level is acceptable to the applicable State and Federal agencies, with the amount depending on the habitat affected and the applicable mitigation priority value.
 - (2) For discretionary projects in all designated Biotic Habitat Areas, send referrals to appropriate regulatory agencies and, where such agencies' comments or other agency information indicates biotic resources could be adversely affected, require site assessment, compliance with agency requirements and adequate mitigation pursuant to the priorities in (1)(a).*
- ▶ **Policy OSRC-7d:** In all areas outside Urban Service Areas, encourage property owners to utilize wildlife friendly fencing and to minimize the use of outdoor lighting that could disrupt native wildlife movement activity.*
- ▶ **Policy OSRC-7f:** Support acquisition of conservation easements or fee title by the Sonoma County Agricultural Preservation and Open Space District (SCAPOS) of designated Biotic Habitat Areas.*
- ▶ **Policy OSRC-7k:** Require the identification, preservation and protection of native trees and woodlands in the design of discretionary projects, and, to the maximum extent practicable, minimize the removal of native trees and fragmentation of woodlands, require any trees removed to be replaced, preferably on the site, and provide permanent protection of other existing woodlands where replacement planting does not provide adequate mitigation.
- ▶ **Policy OSRC-7n:** Encourage landowners to voluntarily participate in a program that protects officially designated individual trees or groves that either have historical interest or significance or have outstanding size, age, rarity, shape or location.*
- ▶ **Policy OSRC-7o:** Encourage the use of native plant species in landscaping. For discretionary projects, require the use of native or compatible non-native species for landscaping where consistent with fire safety. Prohibit the use of invasive exotic species.*

Policies for Riparian Corridors:

- **Policy OSRC-8d:** Allow or consider allowing the following uses within any streamside conservation area:
 - (1) Timber harvest operations conducted in accordance with an approved timber harvest plan.
 - (2) Streamside maintenance and restoration.
 - (3) Fire fuel management where vegetation removal is limited to the minimum required for fire safety purposes and where there are no feasible alternative development locations or designs that do not require vegetation removal.
 - (4) Road crossings, street crossings, utility line crossings.
 - (5) Mining operations conducted in accordance with the County Surface Mining and Reclamation Ordinance.
 - (6) Stream dams and stream-related water storage approved by applicable agencies.
 - (7) Grazing and similar agricultural production activities not involving structures or cultivation, except as defined by (8) below, and conducted in accordance with water quality protection guidelines of the Agricultural Commissioner, Resource Conservation Districts, or Regional Water Quality Control Boards.
 - (8) Agricultural cultivation and related planting, seeding, fertilizing, weeding, irrigation, and harvesting.
 - (a) located no closer than 100' from the top of the bank in the "Russian River Riparian Corridor."
 - (b) located no closer than 50' from the top of the bank in the "Flatland Riparian Corridors" or in upland areas of "Other Riparian Corridors."
 - (c) located no closer than 25' from the top of the bank in the "Other Riparian Corridors" not in upland areas.

The upland areas in (b) and (c) above shall be determined using information on streamside slopes from USGS topographic maps and soil types from the Soil Conservation Service "Soil Survey of Sonoma County."
 - (9) Equipment turnaround and access roads associated with agricultural cultivation, provided that the affected area is the minimum necessary for these turnaround and access roads and that a minimum 25' vegetative filter strip is provided and maintained between the affected area and the top of the bank.
 - (10) Vegetation removal as part of an integrated pest management program administered by the Agricultural Commissioner.
 - (11) Creekside bikeways, trails, and parks within Urban Residential, Commercial, Industrial, or Public-Quasi Public land use categories.
 - (12) Development authorized by exception under Policy OSRC-8e.*
- **Policy OSRC-8e:** Prohibit, except as otherwise allowed by Policy OSRC-8d, grading, vegetation removal, agricultural cultivation, structures, roads, utility lines, and parking lots within any streamside conservation area. Consider an exception to this prohibition if:
 - (1) It makes a lot unbuildable and vegetation removal is minimized,
 - (2) The use involves the minor expansion of an existing structure where it is demonstrated that the expansion will be accomplished with minimum damage to riparian functions,
 - (3) The use involves only the maintenance or restoration of an existing structure or a non-structural use,
 - (4) It can be clearly demonstrated through photographs or other information that the affected area has no substantial value for riparian functions, or
 - (5) A conservation plan is approved that provides for the appropriate protection of the biotic resources, water quality, flood management, bank stability, groundwater recharge, and other applicable riparian functions. Until the County adopts mitigation standards and procedures for specific uses and riparian functions, prior to

approving the conservation plan, consult on areas of concern with the Resource Conservation District, Agricultural Commissioner, and resource agencies that are applicable to the proposed plan.*

- ▶ **Policy OSRC-8i:** As part of the environmental review process, refer discretionary permit applications near streams to CDFG and other agencies responsible for natural resource protection.*
- ▶ **Policy OSRC-8j:** Notify permit applicants of possible Federal and State permit requirements in areas near streams and notify landowners whose property overlaps or touches a designated Riparian Corridor regarding the public hearings on the proposed regulations affecting them.*

Land Use Element

The Land Use Element of the Sonoma County General Plan contains the following policies related to biological resources that are relevant to the Cannabis Program Update t (Sonoma County 2016):

2 Countywide Land Use Policy Framework

2.1 General Goals and Policies

Use of Environmental Suitability Criteria in Locating and Guiding Rural and Urban Growth

- ▶ **Policy LU-7b:** Limit development in wetlands designated on Figure OSRC-2 of the Open Space and Resource Conservation Element.

2.7 Natural Resource Land Use Policy

Policy for Resources and Rural Development Areas

- (4) Protect natural resource lands including, but not limited to watershed, fish and wildlife habitat and biotic areas.
- (5) Protect against intensive development of lands constrained by geologic hazards, steep slopes, poor soils or water, fire and flood prone areas, biotic and scenic areas, and other constraints.

3 Land Use Policies for the Planning Areas

3.1 Sonoma Coast/Gualala Basin

- ▶ **Policy LU-12g:** Design discretionary projects in any commercial or industrial categories in harmony with the natural and scenic qualities of the local area. Give natural landscapes precedence over human-made features.

Sonoma County Airport Industrial Area Specific Area Plan

The Sonoma County Airport Industrial Area Specific Area Plan contains the following policies related to biological resources that are relevant to the Cannabis Program Update (Sonoma County PRMD 2013):

V. Land Use and Open Space Element

2. Open Space Designations

c. Mark West Creek

The planning area segment of Mark West Creek has been designated as a major waterway by the Sonoma County Water Agency and has been identified as a significant riparian habitat by the California Department of Fish and Game (now called the California Department of Fish and Wildlife). To ensure that these values are not adversely affected by planning area development, the following standards shall apply to those parcels with industrial designations that border Mark West Creek:

1. Mark West Creek shall be retained as a natural waterway.
2. A permanent open space corridor shall be established along the planning area side of Mark West Creek to provide an adequate buffer zone between industrial development and riparian habitat. The following guidelines and policies shall be applied in establishing the zone:

- a. The corridor shall include all riparian vegetation as indicated in aerial photographs taken of the creek on or before May 1984 (see Figure 3 in Sonoma County Airport Industrial Area Specific Area Plan).
 - b. In addition, the corridor shall include an unobstructed access easement between the riparian growth and the edge of industrial development, to provide a means of controlled public and maintenance access.
 - c. Development of lands bordering the creek shall be made contingent upon erection by the applicant of a continuous 6-foot chain-link fence along the outside edge of the corridor.
 - d. The width of the access easement shall measure at least 10 feet from the outside drip line of the riparian canopy, as indicated by the aerial photography.
 - e. The average width of the creek setback shall be 100 feet between the top of the high bank, as defined by Sonoma County Water Agency criteria, and the face of the fence line described above. All riparian vegetation shall be included in the creek setback area.
 - f. The corridor between the creek bank and fence line shall be granted in fee simple to the County of Sonoma or its designee as a permanent riparian conservation and enhancement corridor.
 - g. Where such standards are less restrictive than required for General Plan designated riparian corridors, compliance with the General Plan standards is required (plan amendment dated March 9, 1993, Resolution No. 93-0337).
3. To protect wildlife habitats, access to the creek shall be restricted.
 4. Where warranted, plantings of native species shall be introduced into the open space corridor between the access easement and creek bank to increase cover and enhance the wildlife habitat. CDFW shall be consulted regarding appropriate selection and use of plant materials to ensure successful growth and wildlife adaptation.

d. Airport and Redwood Creeks

Planning area segments of Airport Creek and Redwood Creek are designated as minor waterways by the Sonoma County Water Agency, based on area of their tributary watershed. Vegetation and wildlife values associated with these creek segments are less substantial than those of Mark West Creek. The following standards shall apply to those industrial park designations through which these streams pass:

1. The Sonoma County Water Agency (SCWA) will be responsible for reviewing any projects that would substantially divert or obstruct natural stream flows, or would substantially change the bed channel or bank of either stream. Development plans that propose alterations to either of these stream channels shall be submitted to the SCWA for approval. The types of alterations that are permissible and associated design standards are set forth in the agency's Flood Control Design Criteria.
2. All proposed development plans that affect these stream channels shall be submitted by the Planning Department to California Department of Fish and Game, which will review them for possible adverse impacts on wildlife and vegetation, and suggest mitigation measures where indicated.

e. Burke's Goldfields

Past location studies near and within the planning area for a sewage effluent holding pond site determined that a small, annual wildflower of considerable interest occurs in the general vicinity, including parcel 58 on Figure 4 in Sonoma County Airport Industrial Area Specific Area Plan. The plant, Burke's goldfields (*Lasthenia burkei*) is recognized by the California Native Plant Society (California Native Plant Society Inventory of Rare and Endangered Vascular Plants of California. Special Publication No. 1, 2nd edition. 1980) as very rare, endangered throughout its range, and declining in numbers. It is also officially listed as endangered by the California Department of Fish and Game (California Department of Fish and Game (CDFG). List of designated endangered or rare plants. List of California protected species compiled by the CDFG Rare Plant Office, Sacramento, CA 1982), and is currently under review for possible federal listing by the U.S. Fish and Wildlife Service (US Fish and Wildlife Service [FWS]. Endangered

and threatened wildlife and plants; supp. To review of plant taxa for listing ad endangered or threatened species. 50CFR, Part 17. Fed. Reg. 8 (229), November 28, 1983).

The following measures been incorporated with development proposals for parcels 57, 58, 60, and 66:

1. The major concentration of *L. burkei* on parcel 58 (0.35 acre) were avoided by including it as open space or within a landscaping easement (see the WESCO report and Appendix C of this plan for proposed area). A site-specific drainage design, criteria for adjacent landscaping, and restrictions on onsite uses shall be included.
2. Continue to maintain the current *L. burkei* transplant effort on adjacent land (Parcel 60). A 100-foot open space buffer already established along the west boundary of parcel 60 is now providing suitable habitat areas (low, seasonally wet grasslands) for transplant in number of all *L. burkei* individuals which would otherwise have been destroyed through development of the remainder of parcel 58. The transplant effort has been initiated to allow new colonies to become established prior to the loss of existing populations. The effort has included collection of seeds, minor grading, transfer of some topsoil from colonies which will be lost, seeding, and monitoring by a qualified biologist.
3. To ensure that the 100-foot open space buffer along the west boundary of parcels 58 and 57 remains as a permanent habitat protection area, the buffer shall be dedicated to the County as a conservation easement or granted in fee simple to the County of Sonoma or its designees.
4. To protect *L. burkei* concentrations on parcel 58 and colonies established in the 100-foot open space buffer, access to these areas shall be restricted. Chain link fencing is recommended to control access and clearly identify protection area boundaries. These measures are intended to provide adequate protection for the *L. burkei* concentrations. The measures may be adjusted and revised by the Environmental Review Committee and the Planning Commission in response to the outcome of the current transplant effort, provided that an adequate measure of protection is maintained.

f. Existing Vegetation

Preservation of existing stands of mature native and naturalized vegetation is a primary goal of the plan. This applies particularly to stands of eucalyptus (*Eucalyptus* spp.) and valley oak (*Quercus lobata*) that are scattered throughout the planning area. The following standards shall apply to all developments:

1. Airport Boulevard improvements and alignments shall preserve existing oaks where feasible. Plans for improvements shall be submitted to the County Design Review Committee for review and approval.
2. Preservation of existing mature trees and shrubs shall be a prime consideration in the design of all development plans. All existing trees (exclusive of riparian areas unless proposed for development) and sizes shall be shown on all site plans. Tree removal is subject to the approval of the Design Review Committee which should specify suitable specimen replacement of trees.
3. Development under the drip line of oak trees will require special attention by the Design Review Committee, as oak trees can be damaged by pavement and water. Landscape plans shall incorporate preservation techniques.
4. Protective fencing shall be installed 6 feet outside the drip line during construction activities.
5. Any limbs, trunks, or exposed roots damaged during construction shall be painted immediately with a good grade of "tree paint." Limbs and roots larger than 3 inches shall not be cut without approval of the Design Review Committee.

Bennett Valley Area Plan

The Bennett Valley Area Plan contains the following policies related to biological resources that are relevant to the Cannabis Program Update (Sonoma County PRMD 2011):

Summary

With the Land Use Map, the Bennett Valley Area Plan integrates a Critical Open Space Plan, a set of Development Guidelines, and implementation tools. The Critical Open Space Plan establishes visual and riparian corridors within which the development is prohibited except in special cases. The Critical Open Space Plan also designates scenic landscape units, unique biotic features and critical habitats.

Goals and Policies

III. Conservation (Resources)

- (2) Unique scenic, visually and environmentally sensitive, and historic resources are important to the character of Bennett Valley and shall be protected.

IV. Open Space

A feeling of Open Space is a vital component of rural character in Bennett Valley. Where the standards below are less restrictive than the General Plan standards, compliance with the General Plan standards is required.

- (2) Development patterns and specific development shall be in harmony with natural surroundings, including, but not limited to topography and vegetation.
 - b. Planting of native vegetation should be encouraged to screen existing development from the road.
- (3) A scenic corridor shall be established to protect views from the road and the community should be encouraged to undertake tree-planting programs where appropriate along scenic corridors.

Land Use and Critical Open Space Plan

Resources and Rural Development category is characterized by low level of human activity. It includes mountainous areas and other open space and agriculture.

The Bennett Valley Area Plan contains a Land Use Plan Map and Critical Open Space Plan Map.

F. To Maintain Valuable Open Space

- (1) Prohibit structures in riparian corridors and unique biotic features as mapped in the Critical Open Space Plan.
- (2) Site and design structures in harmony with natural surroundings.

Bennett Valley Development Guidelines

Standards - Application

Review of any proposed development should consider each of the standards described below. Each standard should be applied to the maximum extent feasible, recognizing that in some cases these standards when applied to a particular project may be contradictory. General Plan policies shall apply where the development guidelines conflict with the General Plan. The Design Review Committee should consider the total impact of the project in determining the extent to which each standard should be applied.

- (1) It is the policy of this study to preserve the natural state of the land and vegetation.
- (2) Structures shall blend with the existing landscape and vegetation to the maximum feasible extent. Therefore, minimum setbacks shall be consistent with the Sonoma County Subdivision Ordinance, the General Plan, or where applicable, with the adopted Bennett Valley Area Plan, whichever is more restrictive. No new structure shall be sited within visual/scenic corridors, riparian corridors or unique biotic resource areas as designated on the Critical Open Space Plan Map of the Bennett Valley Area Plan, where applicable, except in the visual/scenic corridor where the entire parcel is included within such designation or except in the visual/scenic corridor where said structure is a fence or agricultural appurtenance. Where the entire parcel is included in a visual/scenic corridor area, or where said structure is an agricultural appurtenance greater than 200 sq. ft., the Bennett Valley/North Sonoma Mountain Design Review Committee shall condition the approval of such structure(s) to mitigate adverse effects to the open space resource. In considering

mitigation measures on agricultural appurtenances, the Design Review Committee will give priority to the needs of productive agriculture. A fence or agricultural appurtenance less than 200 square feet is permitted without design review.

- (3) Site plans shall be presented to the Bennett Valley/North Sonoma Mountain Design Review Committee including:
 - b. An existing vegetation plan.
- (5) All new structures shall be sited so that they harmonize with the natural surroundings, including but not limited to topography and vegetation; specifically
 - a. Roof lines shall follow established lines of land and/or tree forms;
 - b. Existing vegetation and landforms shall be utilized to screen structures from public view.

Franz Valley Area Plan

The Franz Valley Area Plan contains the following policies related to biological resources that are relevant to the Cannabis Program Update (Sonoma County PRMD 2012a):

Franz Valley Issues and Policies

Timber Resource Management

Preserve timber stands with unique biotic or scenic qualities.

Wildlife Management

Review proposed development with regard to its effects on plant and animal life.

Stability of the Ecological System

Encourage the preservation and enhancement of wildlife habitat areas representative of the flora and fauna of the area and necessary for preservation of rare and endangered species.

Recognize that replanting and good vegetation management of appropriate native vegetation will help restore and maintain the natural qualities of the area.

Enhance hunting and fishing opportunities in the area through effective management programs, issues and policies.

Constraints and Mitigation Measures: Natural Characteristics

Wildlife and Vegetation

1. Enforce protection of riparian vegetation through adoption of riparian standards in the revision of the County Zoning Ordinance.
2. Timber harvest plans and other construction activities should require the preservation of all riparian grown within a corridor of 200 feet on either side of streams. In the event that this standard conflicts with policies or standards for riparian corridors in the General Plan, the more restrictive policies or standards shall apply.
3. All snag trees and hardwoods should be retained.
4. Avoid construction of new access to remote areas.
6. For projects which could affect nesting raptors, prior to project construction the applicant shall have a qualified wildlife biologist conduct a pre-construction survey for nesting raptors within 800 feet of any area of proposed construction activity. A report containing the results of the pre-construction survey shall be submitted to the project Planner prior to the start of any proposed construction activity. If the biologist finds nesting raptors within 800 feet of any area of proposed construction activity during the pre-construction survey, the applicant shall do one of the following:
 - a. Delay construction activity until after July 15; or

- b. Delay construction activity until all juvenile raptors in the nests have fledged, as determined by a qualified wildlife biologist; or
- c. Establish a buffer of 800 feet around each raptor nest by installing exclusionary fencing to ensure that construction vehicles, equipment, and workers do not enter the area.

Open Space Plan

The Franz Valley Open Space Plan complements the Land Use Plan, providing implementation procedures to insure that environmental, recreation, and resource values are maintained. The Open Space Plan proposes the preservation of open space having the following characteristics:

1. Preservation of natural resources such as areas required for the preservation of plant and animal life, including fish and wildlife species, streams, and banks of streams.

Open Space Plan Map Riparian Corridors

Riparian corridors of two widths have been designated on the Open Space Plan Map. Major riparian corridors, with a 200-foot setback from the stream bank, have been designated according to the following criteria:

- a. if already a designated major riparian corridor in the General Plan
- b. if slope is greater than 50 percent (many creeks)
- c. if there are redwood groves (many creeks)
- d. if there are known archaeological sites (Little Briggs Creek)
- e. if stream channel is wide (Brooks Creek)

Minor riparian corridors have a 100-foot setback and include all other creeks in the plan area. A 100-foot setback is critical in affording minimal protection to not only the riparian setting but to archaeological sites which are frequently distributed near water sources. A riparian corridor helps maintain healthy aquatic habitat. Erosion and elimination of shade producing vegetation due to development too close to a stream are the major causes of stream degradation. Loss of riparian vegetation contributes to the loss of many wildlife species. Riparian vegetation also provides aesthetic enhancement and shade for stream banks. Where such standards are less restrictive than those of the General Plan, compliance with the General Plan standards is required.

Policies

1. Include the above riparian protection standards in the County Zoning Ordinance revision.

Biotic Habitat Areas Policies

1. Review all development and land conversion proposals in the vicinity of sensitive areas and unique features in order to mitigate potential adverse impacts.
2. Encourage open space land preservation activities and any scientific and educational activities which would protect and enhance the natural values of the area.

Where such policies are less restrictive than General Plan standards and policies, compliance with the General Plan is required.

Penngrove Area Plan

The Penngrove Area Plan contains the following policies related to biological resources that are relevant to the Cannabis Program Update (Sonoma County PRMD 2008a):

Other Goals and Policies

V. Open Space

Policies

1. Establish riparian corridor setbacks along Lichau Creek and Willow Brook.
2. Encourage retention of the eucalyptus hedgerows.

Constraints and Mitigation Measures

Natural Characteristics

Hydrology

3. Enforce protection of riparian corridors through adoption of riparian corridor setbacks of 2 1/2 times the height of the streambank plus 50 feet or 50 feet from the highest streambank as part of the Open Space Plan. Where such setback is less restrictive than required for General Plan designated riparian corridors, compliance with the General Plan standards is required. Replacement of existing buildings located within the setback is subject to the approval of the Sonoma County Water Agency and the Planning Director.

Vegetation and Wildlife

1. A setback of 2 1/2 times the height of the stream bank plus 50 feet from the top of the highest bank is required along Lichau Creek, Willow Brook and the intermittent streams. Where such setback is less restrictive than required for General Plan designated riparian corridors, compliance with the General Plan standards is required. Replacement of existing buildings located within the setback is subject to the approval of the Sonoma County Water Agency and the Planning Director.
2. Willow Brook and Lichau Creek shall be retained as natural waterways.
3. Require retention of hedgerows and all large specimen trees on all use permits, subdivision design review applications.
4. Enforce additional mitigation measures Numbers 4-8 listed in Section 8.40, Summary of Mitigation Measures, Vegetation and Wildlife, as appropriate on use permits, rezonings, subdivisions and design review applications.

Open Space Plan

Preservation of Natural Resources

Riparian Corridors

Lichau Creek, Willow Brook and several unnamed creeks in the Penngrove environs have significant riparian vegetation.

Implementation

1. Lichau Creek and Willow Brook are designated as major riparian corridors and the four intermittent streams as minor riparian corridors. A building setback of 2 1/2 times the height of the streambank plus 50 feet or 50 feet from the top of the highest bank shall be required along Lichau Creek, Willow Brook and the intermittent streams. Replacement of existing buildings located within the setback is subject to the approval of the Sonoma County Water Agency and the Planning Director. Where such setback is less than required for General Plan designated riparian corridors, compliance with the General Plan standards is required.
2. All creeks shall be retained as natural waterways.
3. Restoration and fencing shall be required on all subdivisions, use permits and Design Review applications unless waived by the Planning Director.

Summary of Mitigation Measures

Vegetation and Wildlife

1. A setback of 2 1/2 times the height of the bank plus 50 feet is required along Lichau Creek and Willow Brook.
2. Willow Brook and Lichau Creek shall be retained as natural waterways.
3. Require retention of hedgerows on all use permits, subdivisions and design review applications.
4. Design Review is required to minimize the removal of trees on the site and/or to assure the replacement of removed trees with appropriate native species.
5. Protective fencing to be installed along drip line of trees during construction activities.
6. Any limbs, trunks or exposed roots damaged during construction are to be painted immediately with a good grade of "tree paint."
7. If fill is to be placed over the root zone, subdrainage structures are to be installed.
8. Diseased and damaged trees previously identified are to be removed.

Petaluma Dairy Belt Area Plan

The Petaluma Dairy Belt Area Plan contains the following policies related to biological resources that are relevant to the Cannabis Program Update (Sonoma County PRMD 2008b):

Goals and Policies

The General Goal on Natural Resources

M. Plant and Animal Life

1. Review all proposed developments with regard to possible adverse or beneficial effects on plant and animal life.
2. Preserve the permanent wildlife habitat areas that are representative of this Area Plan's floral and faunal communities. Human uses of these areas should be adequately regulated to protect these communities, and land uses should be restricted to those that are compatible with the perpetuation of these communities. These habitat areas shall include but not be limited to the following: (1) remaining natural stream and river courses; (2) natural fresh water and salt water marshes; and (3) habitats necessary for the preservation of rare or endangered species.
3. Minimize future damage to fisheries, fish habitats, and spawning grounds, and, as far as possible, repair past damage.
4. Encourage the use of native plants for screening and landscaping.
5. In the case of conflict of policies or standards for Rare and Endangered Species between the Petaluma Dairy Belt Area Plan and the General Plan, the more restrictive policies or standards shall apply.

Constraints and Mitigation Measures

Natural Characteristics

Vegetation and Wildlife

1. For each of the plants and animals identified in this section, development would likely destroy their existence. They and their habitats are fragile and easily subject to destruction. All new development requiring discretionary approval should require a survey for rare and endangered species and require protection of the habitat if rare or endangered species are identified.

2. Surveys for rare and endangered species shall be required for all discretionary permits in the Dairy Belt Plan area. Waiver of this requirement may be permitted only if it can be demonstrated that there are no rare or endangered species on the affected site.

Open Space Plan

Riparian Corridors

Policies

Short-Term

Where such standards are less restrictive than required for General Plan designated riparian corridors, compliance with the General Plan standards is required.

1. A 200-foot building setback shall be maintained from the outer edge of the riparian vegetation for all development projects that involve grading or vegetation removal for the riparian corridors designated on the Open Space Plan Map.
2. A 100-foot building setback shall be maintained from the outer edge of riparian vegetation in riparian corridors of all perennial streams as defined by the U.S.G.S.
3. Agricultural uses, including cultivation of the land for agricultural use, shall maintain a 30 foot setback from the outer edge of the riparian vegetation.
4. Riparian vegetation shall not be removed to accommodate any residential or commercial development allowed by this plan.
5. Additional channeling shall be discouraged.
6. Dredging of the channel shall be discouraged. In cases where dredging can be demonstrated to be necessary to the satisfaction of the Planning Director, the bank shall be planted between the water's edge and the maintenance access road with low shrubbery, such as hazelnut, native blackberry, wild rose honeysuckle, elderberry and the like based on a planting and maintenance plan approved by the Planning Director.
7. In the case of conflict of policies or standards for Riparian Corridors between the Petaluma Dairy Belt Area Plan and the General Plan, the more restrictive policies or standards shall apply.

Long-Term

1. Other means to preserve riparian vegetation should be encouraged, through setback requirements, contract agreements between landowners and non-profit conservancy groups, or other means focused on preserving both agricultural viability and riparian corridor protection.

Biotic Habitat Areas

The General Plan Open Space and Resource Conservation Element designates several locations within the Petaluma Dairy Belt Area Plan area as "Biotic Habitat Areas," biotic resource communities which require special protection because they are highly sensitive to development. Development in or adjacent to these Biotic Habitat Areas is subject to applicable General Plan policies.

Sonoma Mountain Area Plan

The Sonoma Mountain Area Plan contains the following policies related to biological resources that are relevant to the Cannabis Program Update (Sonoma County PRMD 2012b):

Constraints and Mitigation Measures

Natural Characteristics

Wildlife and Vegetation

1. Adopt the proposed Sonoma Mountain Land Use Plan.
2. Enforce General and Area Plan open space policies to protect the area's riparian corridors from disruption.
3. Encourage greater public awareness and participation in wildlife management programs as suggested by CDFW.

Open Space Plan

Biotic Habitat Areas

The Petaluma Marsh and River Estuary is an example of tidal marshland and is recognized here as a sensitive floral and faunal habitat area providing a vital link in the complex food web of San Pablo Bay. It is designated in the General Plan as a Biotic Habitat Area. Development in or adjacent to this Biotic Habitat Area shall comply with the standards and policies of the General Plan Open Space and Resource Conservation Element.

Riparian Corridors

Portions of Lichau, Copeland, and Crane Creeks are designated as Riparian Corridors in the General Plan. Development along these corridors shall comply with the standards and policies of the General Plan Open Space Element. Several additional smaller streams are designated on this Area Plan Open Space Plan Map. Development along these corridors is subject to the following policies.

Policies

1. Review all development proposals in the vicinity of Area Plan riparian corridors with regard to their beneficial and adverse impacts.
2. Encourage greater public awareness relative to wildlife and wildlife management programs.
3. Encourage the use of Area Plan riparian corridors for educational purposes.
4. Enforce County Ordinance 1108 which provides criteria for stream maintenance and construction encroachments.

South Santa Rosa Area Plan

The South Santa Rosa Area Plan contains the following policies related to biological resources that are relevant to the Cannabis Program Update (Sonoma County PRMD 2008d):

Open Space Plan

Petaluma Hill Road Corridor

1. Require all development approvals in sensitive and unique biotic areas to mitigate potential adverse impacts to the maximum feasible extent.

Riparian Corridors

1. Where riparian setbacks below are less restrictive than required for general plan designated riparian corridors, compliance with the General Plan standard is required.

Goals and Policies

Issue: Wildlife Resources

Policies

1. Establish riparian corridor setbacks along all water courses including the Laguna de Santa Rosa.

2. Establish development standards that allow water courses to remain in a natural (unchanneled) state, planted with riparian species.
3. Preserve and restore the ecological, recreational and aesthetic benefits of the Laguna de Santa Rosa, through land use and open space designations and restoration programs.

Issue: Open Space

Policies

1. Establish development standards and development setbacks for those identified areas to insure their continued preservation.

Open Space Plan

Biotic Habitat Areas

Biotic habitat areas include a variety of special natural and cultural features which are particularly vulnerable to disruption by development. The Laguna de Santa Rosa, contains major habitats for known rare and endangered plants.

State Biotic Preserve/Vernal Pools

The area south of Ludwig Avenue west of Stony Point Road to the Laguna contains a number of vernal pools where there is a variety of rare and endangered plants. The two biotic reserve areas in this portion of the study area are: a 100 acre State preserve west of Llano Road along the north side of Todd Road and a wildlife/wetlands preserve recommended for creation west of the right angle bend of Todd Road at the Laguna. This unique biotic designation in fact extends for the full length of the Laguna and may cause additional mitigation considerations at the time of the development of the Todd Road extension westward to connect with Highway 116 south of Sebastopol.

Policies

1. Pursuant to the policies of the General Plan's Open Space Element, require all development approvals in critical habitat and unique biotic areas to mitigate potential adverse impacts to the maximum feasible extent.
2. Encourage preservation of scientific and educational activities which would protect and enhance the natural values in the area.

Riparian Corridors

Streams, both seasonal and year-round, provide outstanding wildlife habitat, combining elements, vegetation, food, shelter, and water supply. Development of or encroachment into these areas should be limited and where possible existing conditions enhanced. Setbacks of 200 feet are required on major or perennial streams and 100-foot setbacks are required on minor and ephemeral streams. Where the standards above are less restrictive than those of the General Plan, compliance with the General Plan standards is required.

Policies

1. Include riparian protection regulations in the County Zoning Ordinance.
2. Continue to implement the Subdivision Ordinance riparian corridor protection requirements and mitigation measures.

West Petaluma Area Plan

The West Petaluma Area Plan contains the following policies related to biological resources that are relevant to the Cannabis Update Program (Sonoma County PRMD 2008c):

Other Goals and Policies

I. Natural and Managed Resources

A. Conservation

Policies

1. Require setbacks from riparian corridors to preserve ecological, agricultural and aesthetic benefits of riparian corridors.
2. Encourage use of native plants for screening and landscaping purposes.

Constraints and Mitigation Measures

Natural Characteristics

Vegetation and Wildlife

Continue to refer development proposals within the area to the California Native Plant Society and the California Department of Fish and Game to insure regular update of knowledge relative to plants and wildlife.

Natural Resources

Riparian Corridors

Petaluma River is a major riparian corridor subject to the riparian corridor standards and policies of the General Plan.

Minor riparian corridors are recommended for all other creeks in the study area. A 100 foot setback is required for minor riparian corridors. Setbacks are critical in affording minimal protection to not only the riparian setting but to archaeological sites which are frequently distributed near water sources. A setback also affords the retention of agricultural lands where cattle are present.

Policies

1. Include riparian protection standards in the County Zoning Ordinance.
2. Review all development and land conversion proposals in the vicinity of sensitive areas in order to mitigate potential adverse impacts.
3. Where cattle are present, the stream or creek should be fenced or a stream crossing constructed.
4. Where severe erosion has occurred, native vegetation should be replaced.
5. Encourage any scientific and educational activities which would protect and enhance the natural values of the study area.
6. In the case of conflict of policies or standards for Riparian Corridors between the West Petaluma Area Plan and the General Plan, the more restrictive policies or standards shall apply.

Hedgerows

Some of the dominant features of the West Petaluma landscape are the eucalyptus and cypress (*Hesperocyparis* spp.) hedgerows. These hedgerows give form to the landscape, most of which is otherwise characterized by treeless grassland. They are worthy of preservation because of their role of giving a unique sense of identity as well as for their functional role of affording shade and wind protection.

Policies

1. Prohibit cutting of hedgerow trees unless sufficient reason to harvest is demonstrated to the California Department of Forestry and Fire Protection and the County Planning Department (referral via subdivision and building permit procedures).

Sonoma County Code

Sonoma County Code contains the following sections that apply to biological resources:

Chapter 11 Construction Grading and Drainage

Article 14: Standards

Sec. 11.14.090: Setbacks for lakes, ponds, and reservoirs

Construction grading shall be set back fifty feet (50') from the high water mark of lakes, ponds, and reservoirs, unless a greater setback is required by the general plan, local coastal program, or zoning code. The setback requirements in this section shall not apply to construction grading for construction drainage; trails; public projects; resource conservation, restoration, or enhancement projects; or lake, pond, or reservoir maintenance.

Sec. 11.14.100: Setbacks for streams

Construction grading shall be set back twenty-five feet (25') from the top of the higher bank of streams, unless a greater setback is required by the general plan, local coastal program, or zoning code. The setback requirements in this section shall not apply to construction grading for stream crossings and approaches; dams and reservoirs; construction drainage; trails; public projects; resource conservation, restoration, or enhancement projects; or stream bank restoration or stabilization.

Sec. 11.14.110: Setbacks for wetlands

Construction grading shall be set back from wetlands in compliance with the requirements in Table 11-3 (presented in Table 3.4-2 below), unless:

- (A) A greater setback is required by the general plan, local coastal program, or zoning code.
- (B) All necessary state and federal permits, approvals, or authorizations to fill the wetlands have been obtained.

Table 3.4-2 Wetland Setback Requirements

Type of Wetlands	Setback for Construction Grading
Wetlands designated as Biotic Habitat Areas in the general plan	100 feet from the wetland
All other wetlands	50 feet from the wetland, unless a wetlands report recommends a lesser or greater setback

Chapter 26 Sonoma County Zoning Regulations

Article 4: Glossary

Section 26-04-020: Definitions

(P) "P" Term.

(13) **Protected Tree.** The following tree species and any natural hybrids of these tree species are considered protected tree species:

- Hardwoods:** Big Leaf Maple (*Acer macrophyllum*), Black Oak (*Quercus kelloggii*), Blue Oak (*Quercus douglasii*), Boxelder (*Acer negundo*), California Black Walnut (*Juglans californica*), California Buckeye (*Aesculus californica*), Canyon Live Oak (*Quercus chrysolepis*), Coast Live Oak (*Quercus agrifolia*), Cottonwood species (*Populus fremontii*, *P. trichocarpa*), Interior Live Oak (*Quercus wislizenii*), Madrone (*Arbutus menziesii*), Oregon Ash (*Fraxinus latifolia*), Oregon Oak (*Quercus garryana*), Red or White Alder (*Alnus rubra*, *A. rhombifolia*), Valley Oak (*Quercus lobata*), Willow species (*Salix laevigata*, *S. lucida*)
- Softwoods:** Cypress species (*Hesperocyparis macrocarpa*, *H. macnabiana*), Grand Fir (*Abies grandis*), Pine species (*Pinus attenuata*, *P. contorta*, *P. lambertiana*, *P. muricata*, *P. ponderosa*, *P. sabiniana*), Redwood (*Sequoia sempervirens*), Western Hemlock (*Tsuga heterophylla*).

Article 65: RC Riparian Corridor Combining Zone

Section 26-65-005: Purpose

The RC combining zone is established to protect biotic resource communities, including critical habitat areas within and along riparian corridors, for their habitat and environmental value, and to implement the provisions of the General Plan Open Space and Resource Conservation and Water Resources Elements. These provisions are intended to protect and enhance riparian corridors and functions along designated streams, balancing the need for agricultural production, urban development, timber and mining operations, and other land uses with the preservation of riparian vegetation, protection of water resources, floodplain management, wildlife habitat and movement, stream shade, fisheries, water quality, channel stability, groundwater recharge, opportunities for recreation, education and aesthetic appreciation and other riparian functions and values.

Section 26-65-010: Applicability

The RC combining zone shall be applied to designated streams and include the stream bed and bank and an adjacent streamside conservation area on each side of the stream as measured from the top of the higher bank. The minimum streamside conservation area shall be shown in the zoning database followed by the minimum setback for agricultural cultivation (e.g., RC 100/50). Where the drip line of existing riparian trees with trunks located wholly or partially within the streamside conservation area extends beyond the streamside conservation area boundary, as indicated in the zoning database, the boundary shall be increased to include the outer drip line of the riparian trees.

Section 26-65-020: Determination of Streamside Conservation Areas and Setbacks for Agricultural Cultivation

The streamside conservation area indicated in the zoning database is approximate to allow for a parcel-specific determination of the boundary based upon the location of the top of the higher bank and existing riparian vegetation. The streamside conservation area shall be determined by the director. The setback for agricultural cultivation indicated in the zoning database is also approximate to allow for a site-specific determination of the boundary based upon the location of the top of the higher bank, existing riparian vegetation, and, for upland areas of 50-foot riparian corridors, the slope and soil types of the planting area. The setback for agricultural cultivation shall be determined by the agricultural commissioner.

Section 26-65-030: Prohibited Uses and Exceptions

Except as allowed by Section 26-65-040, grading, vegetation removal, agricultural cultivation, structures, roads, utility lines, and parking lots shall be prohibited within any stream channel or streamside conservation area.

- (A) An exception to this prohibition may be approved by the director with a zoning permit if:
- (2) The use involves the minor expansion of an existing legally established structure in conformance with Article 94 where it is demonstrated that the expansion will be accomplished with minimum vegetation removal and protection of riparian functions;
 - (3) The use involves only the maintenance, restoration, or reconstruction of an existing legally established structure or use in conformance with Article 94; or
 - (4) The director determines that the affected area has no substantial value for riparian functions.
- (B) An exception to this prohibition may be approved with a use permit if a conservation plan is adopted that provides for the appropriate protection of the biotic resources, water quality, floodplain management, bank stability, groundwater recharge, and other applicable riparian functions. Off-site mitigation will be considered only where on-site mitigation is infeasible or would provide superior ecological benefits, as determined by the director.

Section 26-65-040: Allowed Land Uses, Activities, and Permit Requirements

The following activities and uses may be allowed within a streamside conservation area, if allowed by the base zone and any combining zones, subject to any required permits and the standards specified in this section. These activities

and uses shall also be conducted and maintained in compliance with any prohibitions, permits, approvals, or authorizations required by applicable resource agencies.

- (H) The following agricultural activities, provided that they are conducted and maintained in compliance with agricultural best management practices developed or referenced by the agricultural commissioner, or defined in a farm or ranch water quality plan acceptable to the agricultural commissioner. The agricultural commissioner shall determine the applicable agricultural best management practices and shall enforce the provisions of this subsection.
- (2) Agricultural cultivation and related access roads, drainage, planting, seeding, fertilizing, weeding, tree trimming, irrigation, and harvesting that do not involve the removal of existing contiguous riparian vegetation within two hundred feet (200') of the top of the higher bank, and are located as follows:
 - (a) No closer than one hundred feet (100') from the top of the higher bank in the 200-foot riparian corridor for the Russian River;
 - (b) No closer than fifty feet (50') from the top of the higher bank in the 100-foot riparian corridors designated in the General Plan and the upland areas of the 50-foot riparian corridors;
 - (c) No closer than twenty-five feet (25') from the top of the higher bank in all other riparian corridors.
 - (3) Replanting existing cropland and related access roads, drainage, planting, seeding, fertilizing, weeding, tree trimming, irrigation, and harvesting that are located closer to the top of the higher bank than specified in Subsection 26-65-040.H.2, provided that the existing cropland is under active cultivation and the footprint of the planting area is not increased within the applicable setback for agricultural cultivation.
 - (4) Filter strips, equipment turnarounds, grassy avenues, and fencing associated with agricultural cultivation that does not involve the removal of existing contiguous riparian vegetation within two hundred feet (200') of the top of the higher bank.

Article 66: BH Biotic Habitat Combining Zone

Section 26-66-010: Applicability

The BH combining zone is applied to the areas that are designated as Biotic Habitat Areas in the General Plan Open Space and Resource Conservation Element. The BH combining district may also be applied to other biotic resource areas that are identified in adopted area or specific plans. Where such plans require greater protection of biotic resources, the more restrictive standards shall apply. As biotic resources are assessed and new occurrences are reported, additional areas may be considered for BH zoning.

Section 26-66-020: Standards for biotic habitats

The following requirements shall apply to properties within the BH combining zone that are designated as Biotic Habitat Areas on Open Space Plan Maps, of the General Plan Open Space and Resource Conservation Element.

- A. **Biotic resource assessment:** A biotic resource assessment to develop mitigation measures may be required where the Director determines that a discretionary project could adversely impact a designated critical habitat area.
- B. **Tentative map requirements:** Each tentative map shall include building envelopes that avoid biotic habitat areas.
- C. **Setback requirements:** Each proposed structure shall be set back a minimum of fifty feet (50') from the edge of any wetland within a designated biotic habitat area, with the following exceptions:
 1. Existing farm structures are exempt and may be expanded or modified, provided that the expansion or modification shall not encroach further into any wetland; and
 2. The director may modify the setback if, after preparation of a biotic resource assessment, the director determines that either:
 - a. Applying the setback makes an otherwise buildable parcel unbuildable; or

- b. The structure is a noncommercial agricultural structure and needs to be located adjacent to an existing farm complex for efficient farm operation.

Article 67: OAK Oak Woodland Combining District and VOH Valley Oak Habitat Combining District

Sec. 26-67-020: Applicability

- (2) Location: This article applies to the entirety of each parcel that intersects the Valley Oak Habitat combining zone and the entirety of each parcel containing at least one-half (0.5) acre of the Oak Woodland combining district.
- (3) Prohibition: No person shall cause a woodland impact or type conversion of oak woodlands as defined herein, located wholly or partially within the unincorporated county unless expressly permitted by this chapter and where any applicable permit(s) are first secured, and requirements of this chapter are met. Compliance with this article does not alleviate the need to comply with other local, state, or federal rules or regulations which may also be applicable to tree removal.

Article 88: General Exceptions and Special Use Standards

Sec. 26-88-015: Tree Protection Ordinance

(A) General Provisions:

(3) Except as otherwise provided in this ordinance, land uses shall be designed to avoid the destruction of protected trees.

(4) Permit requirement:

a. Unless a use permit is required per subsection A.4.b. or an exemption applies under subsection B., a ministerial zoning permit is required for removal of protected trees.

b. Unless an exemption applies under subsection B., a use permit is required for the following:

- 1. Removal of redwoods with single stem d.b.h. exceeding forty-eight inches (48").
- 2. Removal of oaks and other hardwoods with single stem d.b.h. exceeding thirty-six inches (36").

Use permits for large tree removal shall not be approved unless the decision maker makes the findings required by Section 26-92-080, mitigation is provided for as described in subsection E of this ordinance, and the tree removal is done in a manner that is in support of the intent of this ordinance.

(5) A permit application for removal of protected trees shall:

a. Include a site plan for that parcel that (1) identifies the area of the parcel that encompasses the protected perimeter of protected trees proposed for removal, and (2) within that area additionally identifies the following:

- 1. Protected trees greater than six inches (6") diameter at breast height (d.b.h.) proposed for removal or retention; and
- 2. Existing and proposed structures, including agricultural and residential accessory structures; and
- 3. Existing and proposed land uses; and
- 4. Existing and proposed accessory uses of the land; and
- 5. Existing and proposed building envelopes; and

b. Specify the proposed plan for complying with subsection E. for mitigation, including a description of and all locations of proposed plantings; and

c. Be accompanied by required application fees and include all other information that may be required on the application form or by the director, necessary to make determinations under this ordinance.

- (C) Construction Standards: Development permit applications proposing a project or activity involving disturbance on or within the protected perimeter of retained protected trees shall be subject to the following construction standards, unless the director waives one (1) or more standards and makes findings consistent with subsection A.6. of section 26-88-015:
- (1) Protected trees, their protected perimeter and whether they are to be retained or removed are to be clearly shown on all improvement plans. A note shall be placed on the improvement plans that "Construction is subject to requirements established by Sonoma County to protect certain trees."
 - (2) Before the start of any clearing, excavation, construction or other work on the site, every tree designated for protection on the approved site plan shall be clearly delineated with a substantial barrier (steel posts and barbed wire, chain link fencing, orange construction fencing, or other exclusionary barrier) at the protected perimeter or limits established during the permit process. The delineation markers shall remain in place for the duration of all work. All trees to be removed shall be clearly marked. A scheme shall be established for the removal and disposal of brush, earth and other debris as to avoid injury to any protected tree.
 - (3) Where proposed development or other site work must encroach upon the protected perimeter of a protected tree, special measures shall be incorporated to allow the roots to obtain oxygen, water and nutrients. Tree wells or other techniques may be used where advisable. No changes in existing ground level shall occur within the protected perimeter unless a drainage and aeration scheme approved by a certified arborist is utilized. No burning or use of equipment with an open flame shall occur near or within the protected perimeter (except for authorized controlled burns).
 - (4) No storage or dumping of oil, gasoline, chemicals or other substances that may be harmful to trees shall occur within the protected perimeter of any tree, or any other location on the site from which such substances might enter the protected perimeter.
 - (5) If any damage to a protected tree should occur during or as a result of work on the site, the county shall be promptly notified of such damage. If a protected tree is damaged so that it cannot be preserved in a healthy state, the planning director shall require replacement in accordance with the arboreal value chart. If on-site replacement is not feasible, the applicant shall pay the in-lieu fee to the tree replacement fund.
- (D) General Development Provisions. Development removing protected trees shall adhere to the following.
- (1) Underground trenching for utilities shall avoid tree roots within the protected perimeter. If avoidance is impractical, tunnels should be made below major roots. If tunnels are impractical and cutting roots is required, it shall be done by hand-sawn cuts after hand digging trenches. Trenches shall be consolidated to serve as many units as possible.
 - (2) Compaction within the protected perimeter shall be avoided.
 - (3) Paving with either concrete or asphalt over the protected perimeter should be avoided. If paving over the protected perimeter cannot be avoided, affected trees shall be treated as removed for purposes of calculating arboreal values.
 - (4) Wherever possible, septic systems and/or leachlines shall not be located on the uphill side of a protected tree.
 - (5) An application for a development permit that proposes removal of one (1) or more protected trees, or that would impact a protected tree, shall demonstrate that no feasible options are available to avoid removal or impacts to protected trees.
 - (6) Security posted for the purpose of insuring the proper construction of public or private improvements shall also include an amount sufficient to secure any requirements imposed pursuant to this section. In addition, security for potential tree damage shall be twenty-five percent (25%) of the amount posted for planned tree replacement. In lieu fees shall be paid prior to recording any maps. Such security shall not be released until protection requirements, including planting replacement trees, and any long term maintenance requirements have been satisfactorily discharged. The initial bond amount may be reduced to cover only the maintenance and replacement of trees after construction is completed.

- (7) The Valley Oak-*Quercus lobata* shall receive special consideration in the design review and other discretionary permit processes to the extent that mature specimens shall be retained to the fullest extent feasible. Valley Oaks contribute greatly to Sonoma County's visual character, landscape, habitat, carbon sequestration and they provide important visual relief in urban settings. On existing parcels created without the benefit of an accompanying EIR, review shall focus on the preservation of Valley Oaks to the fullest extent feasible. Where such preservation would render a lot unbuildable, partial protection with accompanying appropriate mitigations developed by a certified arborist shall be incorporated into the project design. In such cases where only partial protection can be achieved, full replacement in accordance with the arboreal value chart shall be required.
- (E) Required mitigations for removal of protected trees. Unless otherwise exempt, the removal of protected trees is subject to required mitigation, which shall be provided through tree replacements or in-lieu payment, consistent with the options provided in this subsection E.
 - (1) Option 1. Tree Replacement Using Arboreal Value Chart No. 1
 - (2) Option 2. In-lieu Payment. The following in-lieu payments apply:
 - (a) For tree removal requiring a use permit for the removal of redwoods with a single stem forty-eight inches (48") DBH or larger or the removal of protected hardwoods with a single stem thirty-six inches (36") DBH or larger, payment amount shall be determined using a methodology for tree replacement cost contained in the most recent version of "Guide for Plant Appraisal" published by the Council of Tree and Landscape Appraisers or an alternative methodology of common practice acceptable to the applicable decision maker issuing the permit. Appraisal of cost shall be conducted by a qualified professional certified or licensed to make such determinations.
 - (b) For protected tree removal not subject to the use permit requirements for the removal of redwoods with a single stem forty-eight inches (48") DBH or larger or the removal of protected hardwoods with a single stem thirty-six inches (36") DBH or larger, the in-lieu payment shall be five hundred ten dollars (\$510.00) per arboreal value point as determined by Arboreal Value Chart No. 1.late

Chapter 36 Agricultural Grading and Drainage

Chapter 36 of the Sonoma County Code regulates new vineyard and orchard development, vineyard and orchard replanting, and agricultural grading and drainage in the unincorporated area of the County and establishes a ministerial standard for those activities. Within Chapter 36, Sections 10, 12, and 20 are applicable to outdoor cultivation under the proposed Cannabis Program and are summarized below.

Chapter 36, Article 10, of the County Code contains the permit requirements for agricultural grading, including preparatory land clearing, vegetation removal, or other ground disturbance. An agricultural grading permit shall be required prior to commencing any agricultural grading or related work, including preparatory land clearing, vegetation removal, or other ground disturbance.

Chapter 36, Article 12, of the County Code contains requirements for agricultural drainage permits, involving construction or modification of drainage facilities or related working, involving construction or modification of drainage facilities or related work, including preparatory land clearing, vegetation removal, or other ground disturbance.

Chapter 36, Article 20, of the County Code contains standards for agricultural grading, drainage, protection of human remains and archaeological resources, protection of listed species, removal of trees and other vegetation, road network requirements, setbacks from certain soil conditions, and requirements for best management practices (BMPs). These requirements provide standards for slopes and terracing and drainage developed by cuts and well as standards for fill, including slope specifications, surface preparation, compaction and terracing. Under these standards, drainage patterns and runoff must be designed and constructed to maintain natural and existing drainage patterns, and to establish setbacks from waterways and ridgetops.

Article 10: Agricultural Grading Permits

Sec. 36.10.010: Permit requirements

- (A) Permit required: An agricultural grading permit shall be required prior to commencing any agricultural grading or related work, including preparatory land clearing, vegetation removal, or other ground disturbance, except where exempted from permit requirements by Subsection C. A separate agricultural grading permit shall be required for each site.
- (B) Designation and performance: Agricultural grading shall be designated "regular agricultural grading" or "engineered agricultural grading" in compliance with Table 36-3 (presented in Table 3.4-3 below), and shall be performed as follows:
- (1) Regular agricultural grading: Regular agricultural grading shall be performed in compliance with approved plans and specifications prepared by the property owner, an authorized agent of the property owner, or a licensed professional acting within the scope of their license.
 - (2) Engineered agricultural grading: Engineered agricultural grading shall be performed in compliance with approved plans and specifications prepared by a civil engineer.

Table 3.4-3 Agricultural Grading Designation

Parameter	Threshold	
	Regular Agricultural Grading	Engineered Agricultural Grading
Volume (cut or fill)	Does not exceed 5,000 cubic yards	Exceeds 5,000 cubic yards
Cut	No greater than 3 feet in depth and does not create a cut slope greater than 5 feet in height ¹	Greater than 3 feet in depth or creates a cut slope greater than 5 feet in height ¹
Fill	No greater than 3 feet in depth ¹	Greater than 3 feet in depth ¹
Fill inside the flood-prone urban area or special flood hazard areas	Does not exceed 50 cubic yards	Exceeds 50 cubic yards
Existing slope of grading area	No greater than 15 percent	Greater than 15 percent
Geologic Hazard Area Combining District designated in the zoning code	Grading area is not in a Geologic Hazard Area Combining District	Grading area is wholly or partially in a Geologic Hazard Area Combining District ²
Geologic hazards	Grading area contains no geologic hazards	Grading area contains geologic hazards ³

¹ The references to depths and heights for cuts and fills are between existing grade and proposed grade.

² The engineered agricultural grading designation shall apply only to the portion of the grading area in the Geologic Hazard Area Combining District.

³ The engineered agricultural grading designation shall apply only to the portion of the grading area that is directly affected by the geologic hazards.

Source: Data downloaded from Sonoma County in 2024; compiled by Ascent in 2024.

- (C) Exemptions from permit requirements. The following agricultural grading activities are exempt from the provisions of this section and may be conducted without obtaining an agricultural grading permit, provided that these activities shall still be subject to the standards in Article 20 and the department's best management practices for new vineyard and orchard development, vineyard and orchard replanting, and agricultural grading and drainage.
- (2) Emergency agricultural grading. Agricultural grading necessary to protect life or property, or to implement erosion prevention or control measures, where a situation exists that requires immediate action. Only the work necessary to abate an imminent hazard may be performed prior to obtaining an agricultural grading permit. The person performing the emergency work or the property owner shall notify the agricultural commissioner and provide evidence acceptable to the agricultural commissioner of the scope and necessity of the work on or before the next business day after the onset of the emergency situation. The property owner, an authorized agent of the property owner, or other person with the written consent of the property owner shall apply for an agricultural grading permit within ten (10) days after the commencement of the

emergency work. The agricultural commissioner may order work to be stopped or restricted in scope based upon the nature of the emergency.

- (5) Minor cut. A cut that does not exceed fifty (50) cubic yards, and:
 - (a) Is no greater than three feet (3') in depth; or
 - (b) Does not create a cut slope greater than 5 feet in height and greater than two feet (2') horizontal to one foot (1') vertical [fifty percent (50%)].
- (6) Minor fill outside the flood-prone urban area and special flood hazard areas. A fill outside the flood-prone urban area and any special flood hazard area that does not exceed fifty (50) cubic yards or alter or obstruct a watercourse or wetland, and is no greater than three feet (3') in depth and not intended to support structures or surcharges. This exemption shall not apply to any fill that is engineered agricultural grading.

Article 12: Agricultural Drainage Permits

Sec. 36.12.010: Permit requirements

- (A) Permit required: An agricultural drainage permit shall be required prior to commencing any agricultural drainage involving construction or modification of drainage facilities or related work, including preparatory land clearing, vegetation removal, or other ground disturbance, except where exempted from permit requirements by Subsection C. A separate agricultural drainage permit shall be required for each site.
- (B) Designation and performance: All agricultural drainage involving construction or modification of drainage facilities shall be designated "engineered agricultural drainage," and shall be performed in compliance with approved plans and specifications prepared by a civil engineer.
- (C) Exemptions from permit requirements. The following agricultural drainage activities are exempt from the provisions of this section and may be conducted without obtaining an agricultural drainage permit, provided that these activities shall still be subject to the standards in Article 20 and the department's best management practices for new vineyard and orchard development, vineyard and orchard replanting, and agricultural grading and drainage.
 - (2) Emergency agricultural drainage. Construction or modification of drainage facilities necessary to protect life or property, or to implement erosion prevention or control measures, where a situation exists that requires immediate action. Only the work necessary to abate an imminent hazard may be performed prior to obtaining an agricultural drainage permit. The person performing the emergency work or the property owner shall notify the agricultural commissioner and provide evidence acceptable to the agricultural commissioner of the scope and necessity of the work on or before the next business day after the onset of the emergency situation. The property owner, an authorized agent of the property owner, or other person with the written consent of the property owner shall apply for an agricultural drainage permit within ten (10) days after the commencement of the emergency work. The agricultural commissioner may order work to be stopped or restricted in scope based upon the nature of the emergency.
 - (4) Minor pipe and vee-ditch swale systems. Construction or modification of pipe and vee-ditch swale systems that meet all of the following criteria:
 - a. The drainage area is less than one-half (½) acre for a smooth-walled pipe or vee-ditch swale system, or less than one-quarter (¼) acre for a corrugated pipe system.
 - b. The pipe or vee-ditch swale system is not in the flood-prone urban area.
 - c. The pipe system is a single run, with a minimum diameter of eight inches (8") and installed slopes between two percent (2%) and four percent (4%), or the vee-ditch swale system is lined with grass or rock, with side slopes no greater than two feet (2') horizontal to one foot (1') vertical [fifty percent (50%)], maximum depth of nine inches (9"), and installed slopes between two percent (2%) and four percent (4%).
 - (6) Seasonal drainage swales. Construction or modification of seasonal drainage swales that meet all of the following criteria:

- a. The flowline slope of the drainage swale does not exceed four percent (4%).
- b. The drainage swale does not exceed one hundred fifty feet (150') in length.
- c. The drainage swale is lined with grass, with side slopes no greater than two feet (2') horizontal to one foot (1') vertical [fifty percent (50%)], and maximum depth of nine inches (9").
- d. The outlet for the drainage swale is protected to prevent erosion.

Article 20: Standards

Sec. 36.20.060: Removal of trees and other vegetation

Agricultural grading and drainage shall not remove or disturb trees and other vegetation except in compliance with the department's best management practices for new vineyard and orchard development, vineyard and orchard replanting, and agricultural grading and drainage and the approved plans and specifications. New vineyard and orchard development, vineyard and orchard replanting, and agricultural grading and drainage shall be conducted in compliance with the following requirements.

- (A) The limits of the development area shall be clearly identified and delineated on the approved plans and specifications, and defined and marked in the field to prevent damage to surrounding trees and other vegetation.
- (B) Trees and other vegetation within the limits of the development area that are to be retained shall be identified and protected from damage by marking, fencing, or other measures.

Sec. 36.20.090: Setbacks for lakes, ponds, and reservoirs

Agricultural grading shall be set back from lakes ponds, and reservoirs in compliance with the requirements in Table 36-5 (presented in Table 3.4-42 below), unless a greater setback is required by the general plan, local coastal program, or zoning code.

Table 3.4-4 Lake, Pond, and Reservoir Setback Requirements

Type of Waterbody	Setback for Development Areas for New Vineyard and Orchard Development	Setback for Development Areas for Vineyard and Orchard Replanting	Setback for Development Areas for Agricultural Grading
Lake	50 feet from the high water mark, unless a biotic resource assessment recommends a greater setback	Existing setback from the high water mark or 25 feet from the high water mark, whichever is greater, unless a focused species assessment recommends a greater setback	50 Feet from the high water mark
Pond	50 feet from the high water mark, unless a biotic resource assessment recommends a greater setback	Existing setback from the high water mark or 25 feet from the high water mark, whichever is	50 Feet from the high water mark
Reservoir	25 feet from the high water mark, unless a civil engineer recommends a lesser or greater setback	25 feet from the high water mark, unless a civil engineer recommends a lesser or greater setback	50 Feet from the high water mark

Source: Data downloaded from Sonoma County in 2024; compiled by Ascent in 2024.

Sec. 36.20.110: Setbacks for streams

Agricultural grading and drainage shall be set back from streams in compliance with the requirements in Table 36-6 (presented in Table 3.4-53 below), unless a greater setback is required by the general plan, local coastal program, or zoning code.

Table 3.4-5 Stream Setback Requirements

Type of Stream	Setback for Development Areas for New Vineyard and Orchard Development	Setback for Development Areas for Vineyard and Orchard Replanting	Setback for Development Areas for Agricultural Grading and Drainage
Streams designated as Riparian Corridors in the zoning code	Setback for agricultural cultivation required by the zoning code	Existing setback from the top of the higher bank or 25 feet from the top of the higher bank, whichever is greater, unless a focused species assessment recommends a greater setback	Setback for agricultural cultivation required by the zoning code
All other Streams	25 feet from the top of the higher bank, unless a biotic resource assessment recommends a greater setback	25 feet from the top of the higher bank, unless a focused species assessment recommends a greater setback	25 feet from the top of the higher bank

Source: Data downloaded from Sonoma County in 2024; compiled by Ascent in 2024.

Sec. 36.20.120: Setbacks for wetlands

Agricultural grading and drainage shall be set back from wetlands in compliance with the requirements in Table 36-7 (presented in Table 3.4-64 below), unless:

- (A) A greater setback is required by the general plan, local coastal program, or zoning code;
- (B) All necessary state and federal permits, approvals, or authorizations to fill the wetlands have been obtained; or
- (C) The filling of the wetlands is exempt from state and federal permits, approvals, or authorizations.

Table 3.4-6 Wetland Setback Requirements

Type of Wetland	Setback for Development Areas for New Vineyard and Orchard Development, Vineyard and Orchard Replanting, and Agricultural Grading and Drainage
Wetlands designated as Biotic Habitat Areas in the general plan	100 feet from the wetland
All other wetlands	50 feet from the wetland, unless a wetlands report recommends a lesser or greater setback

Source: Data downloaded from Sonoma County in 2024; compiled by Ascent in 2024.

Sonoma County Best Management Practices for Cannabis Cultivation

The following best management practices (BMPs) are designed for in-ground cultivation, but shall be applied to container-grown cannabis as applicable (Sonoma County Department of Agriculture n.d.-a). Sonoma County Code Section 26-18-115(C)(4)(d) and Section 26-18-115(C)(5)(a) require both commercial and personal cultivation to follow these BMPs. The BMPs for water quality shall apply to all cultivators not required to enroll in the North Coast Regional Water Quality Control Board Waste Discharge program for cannabis.

Outdoor Cultivation

4. Riparian Protection

1. Observe riparian corridor setbacks for agricultural cultivation as applicable. These shall be maintained as “no touch” areas. The removal of vegetation is prohibited within the setback.
2. No equipment, vehicles, or other materials shall be stored in the riparian setback.
3. Composting areas shall not be located in the riparian setback area.

6. Erosion Control/Grading and Drainage

1. Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.
2. Avoid soil disturbance between November 1 and April 15.

Best Management Practices and Technical Report Guidelines for New Vineyard and Orchard Development, Vineyard and Orchard Replanting, and Agricultural Grading and Drainage

The *Best Management Practices and Technical Report Guidelines for New Vineyard and Orchard Development, Vineyard and Orchard Replanting, and Agricultural Grading and Drainage* (VESCO) contains the following policies related to biological resources that are relevant to the Cannabis Program Update (though this is an extensive document, so not all measures that help protect biological resources are included, such as project design and erosion control) (Sonoma County Department of Agriculture n.d.-b):

Chapter 4: Project Design - Tree Removal

Prohibitions

Tree removal is prohibited in the following areas:

- ▶ In mapped areas of potentially non-cohesive soils, where existing slopes are between 25 and 40 percent and a geologic report, prepared in accordance with the guidelines in Appendix 1 of this manual, concludes that the factor of safety after tree removal will be less than 1.5 under saturated conditions;
- ▶ On existing slopes steeper than 40 percent with non-cohesive soils; or
- ▶ On identified areas of instability – unless the area is repaired in accordance with VESCO and details of the repairs are shown on the project plans.

General Requirements

All tree removal projects must adhere to the setbacks from the areas of instability and ridgetops detailed in Sections 36.20.080 and 36.20.100 of VESCO. In addition, project engineers must determine existing tree canopy and ground cover, as follows.

Pre-Development Tree Canopy

For projects that have removed trees or other vegetation since November 2008, pre-development cover (canopy) levels will be determined using the aerial photos available at www.sonoma-county.org/prmd/activemap, or alternative aerial photos as approved by the agricultural commissioner. Pre-development tree canopy can be determined using one of the two following methods:

- ▶ Canopy cover determined and reported prior to operations by a Registered Professional Forester; or
- ▶ The area determined from an existing aerial photograph.

Pre-Development Ground Cover

Ground cover can be considered all materials in contact with the soil surface. This mainly consists of rock fragments, portions of live vegetation including basal area and plant leaves that touch the soil, plants and plantlike organisms, such as mosses, algae, ferns, fungi, duff, plant litter, crop residue, applied materials, including manure, mulch, and manufactured erosion control products.

A sampling procedure placed in a uniform grid shall be used to determine the ground cover of the area prior to operations. Plots shall be placed on a 50 foot x 50 foot grid or a minimum of 10 plots per contiguous area. Ground cover shall be measured from the percent bare soil covering the circle relative to the area absent of bare soil within a 1/300th acre circle (6 feet 8 inches). Ground cover shall be determined from the average amount of cover within each plot, within the project area.

Tree Removal Operations

All sites proposing tree removal must adhere to the following standards when carrying out tree removal operations. Tree removal is permitted only between April 1st and October 15th, however at all times, erosion control measures must be employed as required by Sections 36.20.130, 36.20.140, and 36.20.150 of VESCO and detailed in Chapter 5 of this manual.

All trees and vegetation to be preserved during construction must be protected and marked at a height visible to equipment operators. To the extent feasible, protect existing ground cover and surrounding vegetation to be

preserved. Remove debris from tree removal operations from locations in which it could potentially enter watercourses. Debris from tree removal must not be staged in a setbacks or riparian areas.

Monitoring and Reporting

Annual site monitoring shall occur for a minimum of three years following the final inspection. The project owner shall inspect the site for significant erosion or instability prior to October 15th and monthly from October to May. Annual monitoring reports shall be prepared and submitted to the agricultural commissioner on June 30th of each monitoring year.

Chapter 5: Project Construction

Non-Structural BMPs

Preservation of Existing Vegetation

Preservation of existing vegetation involves the identification and protection of existing vegetation to be preserved. Per section 36.20.060 of VESCO, the limits of the development area shall be clearly identified and delineated on the approved plans and specifications, as well as defined and clearly marked at the site prior to beginning any construction activities. Vegetation located in any area outside the development area must be preserved and undisturbed. Within the limits of work-related ground disturbance, any trees and vegetation to be preserved must be identified and protected from damage by marking, fencing, or other measures.

Equipment Staging

When storing equipment on-site, locate away from drainage facilities and streams and on level ground, if possible. Place secondary containment beneath equipment to prevent the potential discharge of pollutants.

Santa Rosa Plain Conservation Strategy

The purpose of the Santa Rosa Plain Conservation Strategy (Goude et al. 2005) is to create a long-term conservation program sufficient to mitigate potential adverse effects on listed species due to future development on the Santa Rosa Plain (Plain). The program will contribute to the recovery of the Sonoma County distinct population segment of the California tiger salamander (*Ambystoma californiense*), Burke's goldfield, Sonoma sunshine (*Blennosperma bakeri*), Sebastopol meadowfoam (*Limnanthes vinculans*), and the many-flowered navarretia (*Navarretia leucocephala* ssp. *pliantha*) (listed plants), and to the conservation of their sensitive habitat. The Conservation Strategy accomplishes the above in a manner that protects 'interested parties' (both public and private) land use interests and supports issuance of an authorization for incidental take of California tiger salamander and listed plants that may occur in the course of carrying out project activities on the Plain.

The listing of California tiger salamander caused uncertainty for local jurisdictions, landowners, and developers about how the listing would affect their activities. Private and local public interests met with USFWS to discuss possible cooperative approaches to protecting the species while allowing planned land uses to occur within the range of California tiger salamander. These discussions led to the formation of the Santa Rosa Plain Conservation Strategy Team, consisting of representatives of the appropriate government agencies and interested parties.

Conservation Areas

The Conservation Strategy identifies eight conservation areas for California tiger salamander and listed plants, one California tiger salamander and listed plant preserve system, and one listed plant conservation area. The designation of these areas is based on current available information on the occurrence and habitat needs of the listed species. The conservation areas were designated to conserve the species throughout their distribution range. These conservation areas identify lands where mitigation for project-related impacts to listed species will be directed. Designation of an individual property as being within a conservation area does not change that property's land use designation or zoning, or otherwise restrict the use of that property.

The Conservation Strategy plan area is divided into different categories determined by conditions on the ground. The plan area identifies areas that are already developed where there is no potential for impacts on California tiger salamander. In addition, there are areas located within 1.3 miles of known California tiger salamander breeding

occurrences and areas with potential for California tiger salamander presence. Furthermore, there are areas where California tiger salamander presence is unlikely but listed plants have potential to occur.

Vital Lands Initiative

Vital Lands Initiative is a Sonoma County Agricultural Preservation and Open Space District (Sonoma County Ag + Open Space) long-term strategic plan that will guide the work of the district through 2031 (Sonoma County Ag + Open Space n.d.). Building on 30 years of land conservation work and using the best available science and data, the Vital Lands Initiative outlines how the district will prioritize conservation of Sonoma County's agricultural and natural lands, scenic viewsheds and greenbelt areas, and land for recreation, education, and urban open space within communities. Vital Lands Initiative goals and objectives, some of which would be accomplished by establishing conservation easements, include the following:

- ▶ Protect areas with multiple conservation features.
- ▶ Protect properties that increase connectivity between protected areas.
- ▶ Protect areas most threatened with development or conversion.
- ▶ Protect areas important for climate change and extreme event resiliency and adaptation, including projects that promote carbon sequestration and avoided emissions.
- ▶ Protect areas that achieve the open space goals outlined in the Sonoma County General Plan.
- ▶ Protect a variety of lands that ensure an equitable distribution of benefits to our diverse communities.

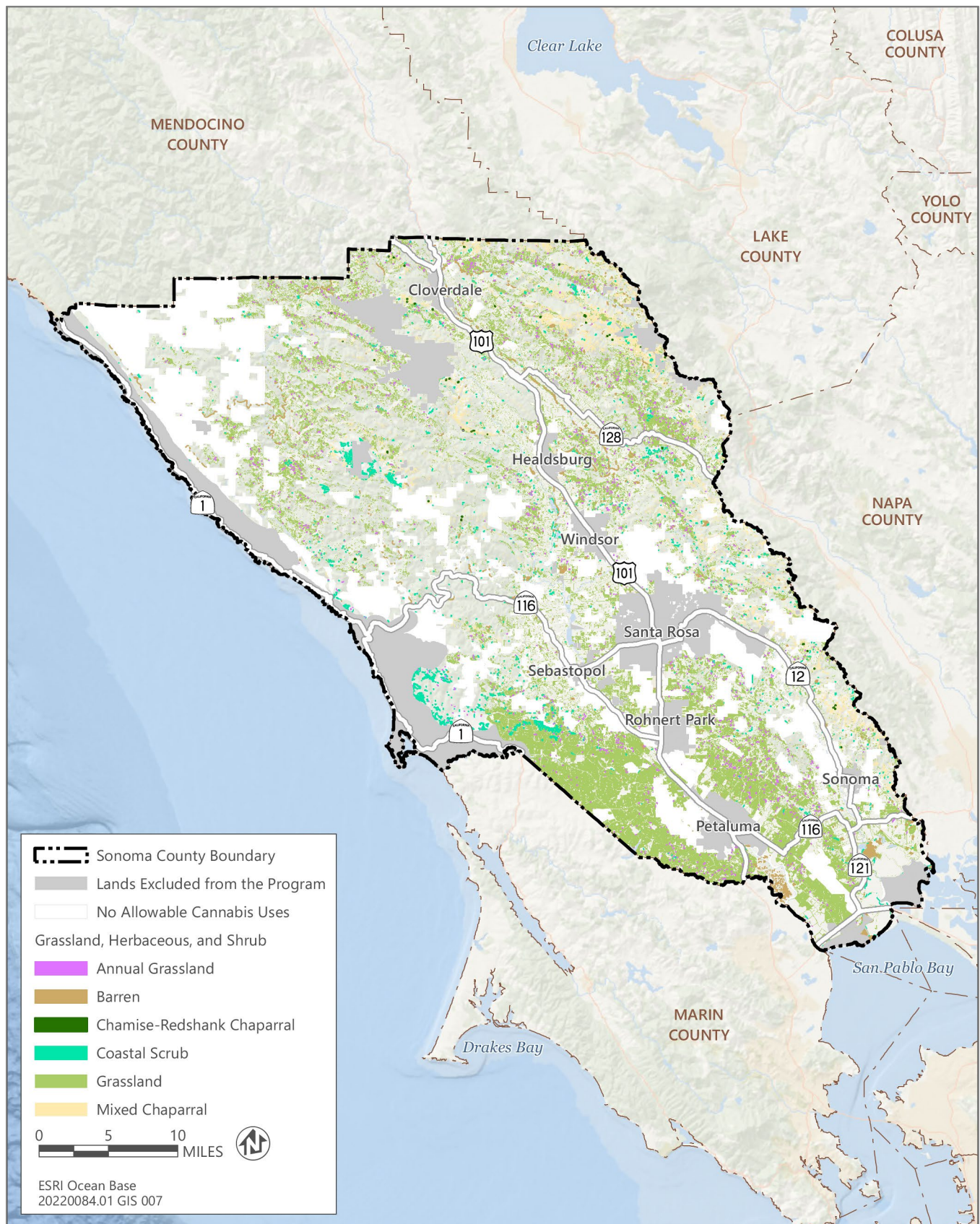
3.4.2 Environmental Setting

As outlined in Chapter 2, "Project Description," the Program area consists of unincorporated Sonoma County, outside of the coastal zone (see Figure 2-1). This environmental setting section contains information regarding the following biological resources:

- ▶ land cover types and associated biological habitat uses,
- ▶ aquatic habitats,
- ▶ special-status species,
- ▶ critical habitat,
- ▶ sensitive natural communities,
- ▶ invasive wildlife and plant species and noxious weeds,
- ▶ cannabis priority watersheds,
- ▶ wildlife movement corridors,
- ▶ native wildlife nursery sites,
- ▶ habitat conservation plans,
- ▶ existing stressors on biological resources in Sonoma County, and
- ▶ projected alteration of habitat conditions attributable to climate change.

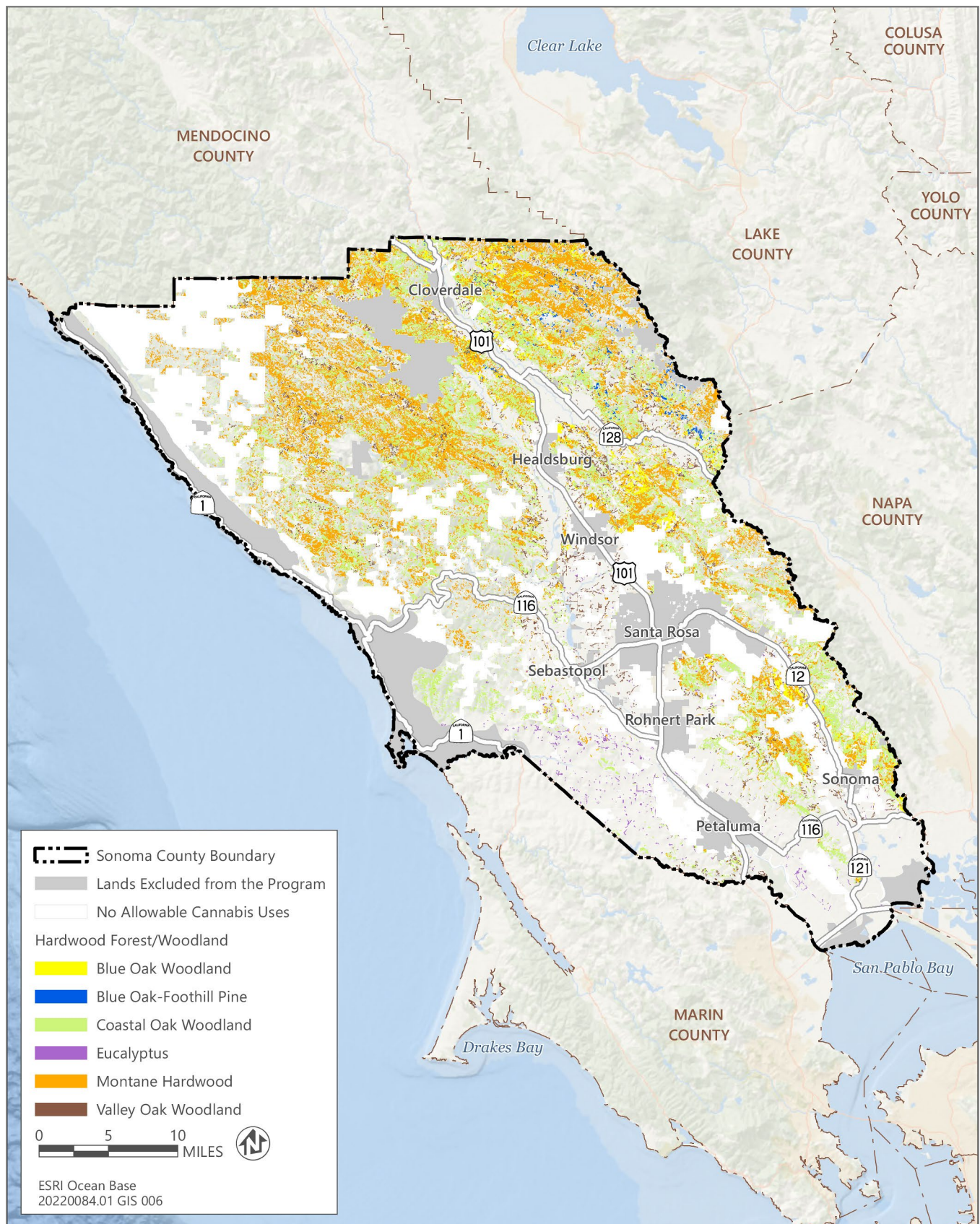
LAND COVER TYPES

Land cover types within the Program area are summarized in Table 3.4-7 and Figures 3.4-1 through 3.4-5. Almost 27 percent of land cover present in the Program area is grassland (mapped as annual and perennial grassland), approximately 16 percent is montane hardwood habitat, approximately 13 percent is coastal oak woodland, approximately 11 percent is Douglas-fir, approximately 9 percent is vineyard, and approximately 6 percent is mapped as redwood forest. Just over 2 percent contains urban land cover. Total acreages of each land cover type are presented in Table 3.4-7, and land cover types are described below in order of abundance.



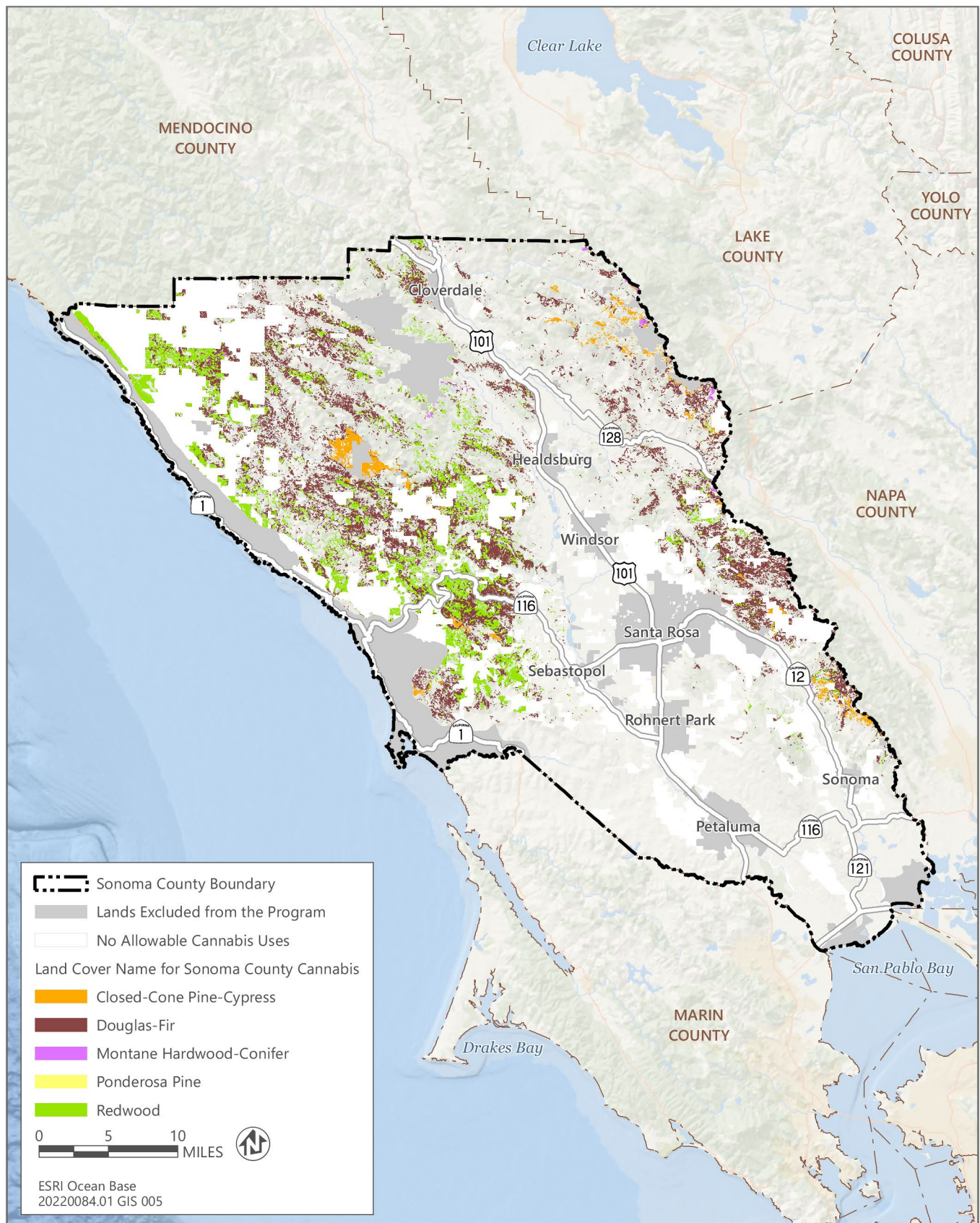
Sources: Data downloaded from USFS in 2018 and CDFW in 2023; adapted by Ascent in 2024.

Figure 3.4-1 Grassland, Herbaceous, and Shrub Land Cover



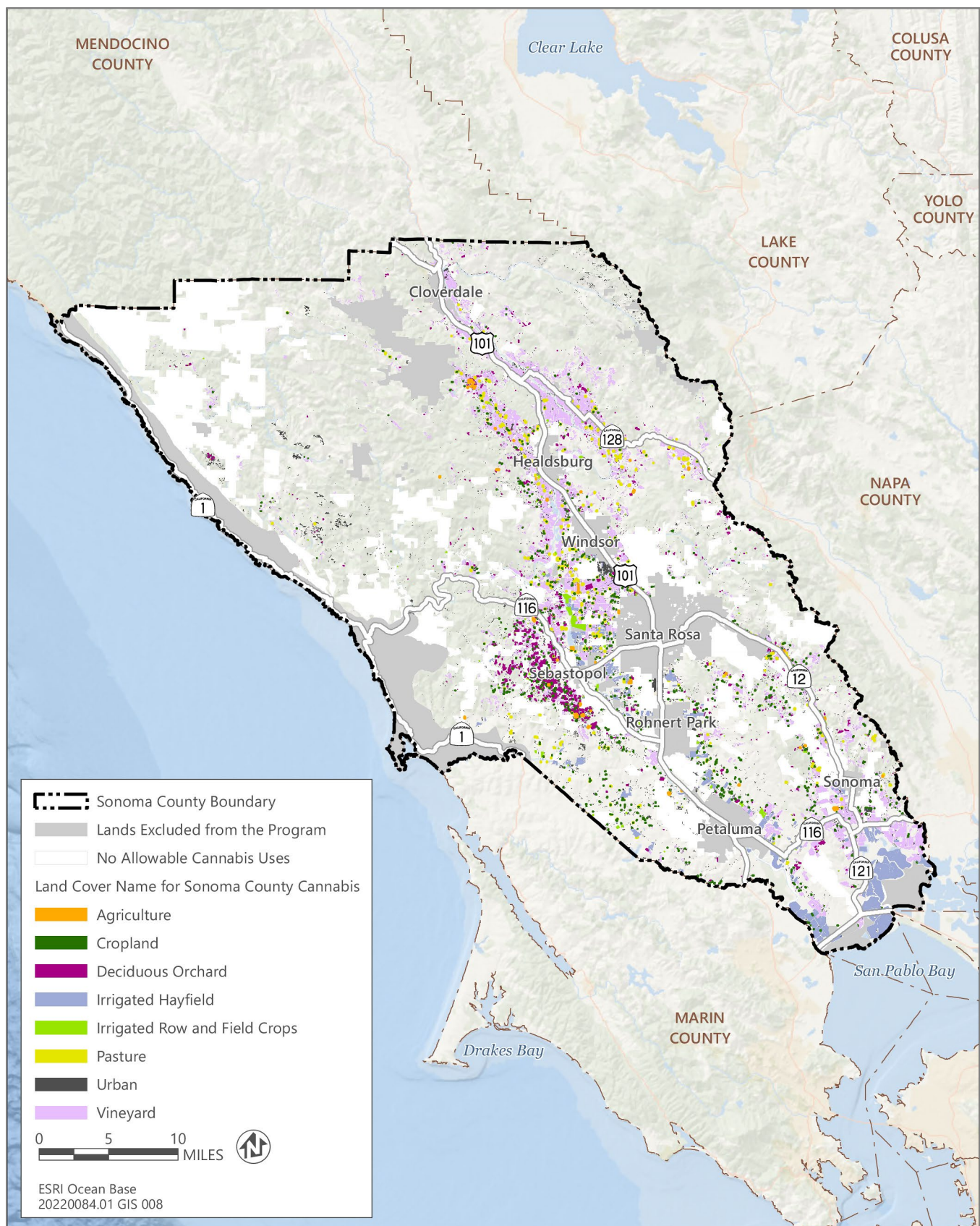
Sources: Data downloaded from USFS in 2018 and CDFW in 2023; adapted by Ascent in 2024.

Figure 3.4-2 Hardwood Forest/Woodland Land Cover



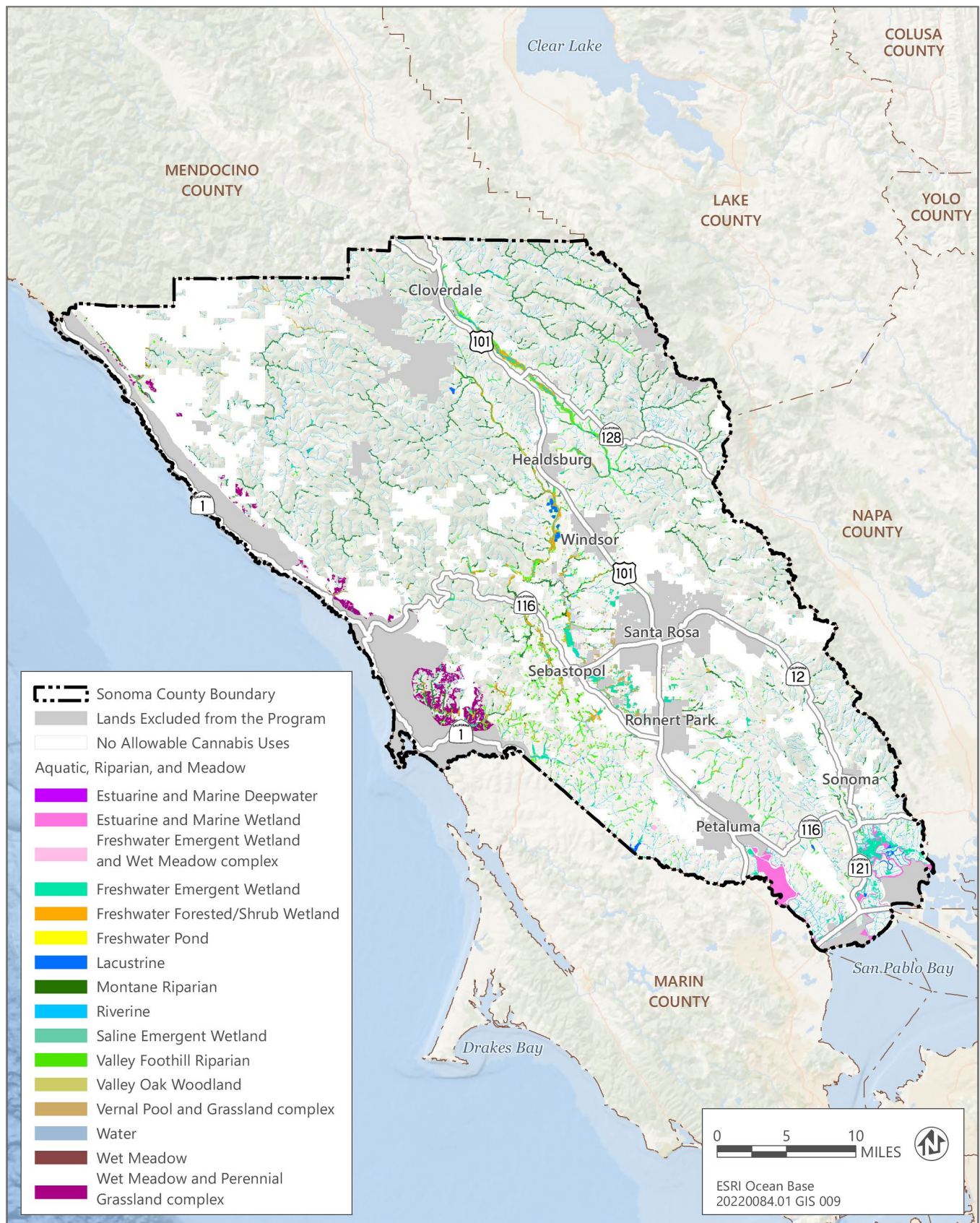
Sources: Data downloaded from USFS in 2018 and CDFW in 2023; adapted by Ascent in 2024.

Figure 3.4-3 Conifer Forest/Woodland Land Cover



Sources: Data downloaded from USFS in 2018 and CDFW in 2023; adapted by Ascent in 2024.

Figure 3.4-4 Agricultural and Developed Land Cover



Sources: Data downloaded from USFS in 2018, CDFW in 2023, and USFWS in 2023; adapted by Ascent in 2024.

Figure 3.4-5 Aquatic, Riparian, and Meadow Land Cover

Table 3.4-7 Area of Land Cover Types within the Program Area

Land Cover Type	Acres in Agricultural and Resources Districts	Acres in Industrial and Commercial Districts	Total Acres
Grassland	181,145	625	181,770
Montane Hardwood	110,119	10	110,129
Coastal Oak Woodland	87,006	39	87,045
Douglas-Fir	76,372	20	76,392
Vineyard	60,264	6	60,270
Redwood	42,151	44	42,194
Mixed Chaparral	22,691	0.4	22,691
Irrigated Hayfield	15,911	25	15,935
Urban	12,450	1,824	14,274
Valley Oak Woodland	8,809	44	8,854
Closed-Cone Pine-Cypress	7,998	1	7,998
Blue Oak Woodland	6,629	<0.1	6,629
Valley Foothill Riparian	6,507	70	6,577
Wet Meadow & Perennial Grassland complex	4,626	4	4,630
Saline Emergent Wetland	4,390	7	4,396
Montane Riparian	4,306	26	4,331
Coastal Scrub	3,436	14	3,450
Deciduous Orchard	3,114	1	3,115
Water	3,049	17	3,066
Freshwater Emergent Wetland & Wet Meadow complex	2,948	14	2,963
Barren	2,900	39	2,940
Blue Oak-Foothill Pine	1,739	0	1,739
Eucalyptus	1,606	6	1,612
Annual Grassland	1,095	3	1,098
Irrigated Row and Field Crops	961	2	962
Montane Hardwood-Conifer	796	0	796
Vernal Pool & Grassland complex	543	<0.1	543
Cropland	375	2	377
Freshwater Emergent Wetland	306	0	306
Pasture	158	<0.1	158
Agriculture	148	0	148
Lake	92	0	92
Chamise-Redshank Chaparral	22	0	22
Riverine	5	0	5
Ponderosa Pine	0.1	0	0.1
Total	674,666	2,840	677,508

Note: Totals may not sum exactly due to independent rounding.

Source: Data downloaded from Sonoma Open Space in 2017 and USFS in 2018; compiled by Ascent in 2024.

Grassland

Grassland habitat within the Program area is composed of grassland (annual grassland and perennial grasslands; 99.3 percent of grassland habitat), annual grassland (approximately 0.7 percent of grassland habitat), and perennial grassland (approximately 0.0003 percent of grassland habitat) and occurs throughout the Program area with large continuous areas present in the southern portion of the County (Figure 3.4-1). Annual grasses include oats (*Avena* spp.), soft brome (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), Chinook brome (*Bromus laevipes*), and wild barley (*Hordeum* spp.). Perennial grasses include species such as California oatgrass (*Danthonia californica*), purple needle grass (*Stipa pulchra*), and Kentucky bluegrass (*Poa pratensis*). Although dominated by grasses, grassland habitats are often interspersed with forb species (i.e., herbaceous flowering plants that are not grasses). Grasslands provide habitat for many wildlife species, including garter snakes (*Thamnophis* spp.), western fence lizard (*Sceloporus occidentalis*), voles (*Microtus* spp.), mice (*Reithrodontomys* spp. and *Peromyscus* spp.), and various bird species.

Montane Hardwood

Montane hardwood habitats in the Program area are dominated by broad-leaved hardwood tree species; primarily canyon live oak (*Quercus chrysolepis*) on canyon slopes and huckleberry oak (*Quercus vacciniifolia*) at higher elevations in the northeastern portions of the Program area. Other species associated with montane hardwood habitat include white fir (*Abies concolor*), Douglas-fir (*Pseudotsuga menziesii* var. *menziesii*), tanoak (*Notholithocarpus densiflorus*), Pacific madrone (*Arbutus menziesii*), California bay (*Umbellularia californica*), California black oak (*Quercus kelloggii*), knobcone pine (*Pinus attenuata*), foothill pine (*Pinus sabiniana*), and Oregon white oak (*Quercus garryana*). Montane hardwood habitat in the Program area is widespread and intergrades with coastal oak woodland, Douglas-fir forest, and redwood forest habitat within the Program area (Figure 3.4-2, Figure 3.4-3). Wildlife species that use acorns as a food source include Steller's jay (*Cyanocitta stelleri*); acorn woodpecker (*Melanerpes formicivorus*); California quail (*Callipepla californica*); western gray squirrel (*Sciurus griseus*); black bear (*Ursus americanus*); wild turkey (*Meleagris gallopavo*), and Columbian black-tailed deer (*Odocoileus hemionus columbianus*), a subspecies of mule deer (*Odocoileus hemionus*).

Coastal Oak Woodland

Coastal oak woodland composition is extremely variable, with the overstory consisting of deciduous and evergreen hardwoods (mostly oaks [*Quercus* spp.]), sometimes mixed with scattered conifers. Coastal oak woodland is present throughout most of the Program area although absent from areas such as the southern and northwestern portions of the Program area (Figure 3.4-2). In this location, coastal oak woodlands are usually dominated by coast live oak, (*Quercus agrifolia*) and in many coastal regions, coast live oak is the only overstory species. In mesic sites, trees are dense and form a closed canopy with characteristic species of mixed evergreen forests mixing with coast live oak, including California bay, Pacific madrone, tanoak, and canyon live oak. In drier sites (i.e., interior sites), trees are more widely spaced, forming an open woodland or savannah with coast live oak mixing with valley oak, blue oak (*Quercus douglasii*), and foothill pine. Many wildlife species can be found within coastal oak woodland in the Program area, including wildlife species that use acorns as a food source, which include Steller's jay, acorn woodpecker, California quail, western gray squirrel, black bear, wild turkey, and Columbian black-tailed deer.

Douglas-Fir

Douglas-fir forest composition varies depending on soil, moisture, topography, and disturbance of the habitat (e.g., history of logging). In addition, Douglas-fir forests in dry habitats often contain canyon live oak, tanoak, Pacific madrone, sugar pine (*Pinus lambertiana*), ponderosa pine (*Pinus ponderosa*), and California black oak. In wetter habitats, Douglas-fir can be associated with species like Pacific yew (*Taxus brevifolia*). Douglas-fir forest habitat is widespread throughout the Program area, concentrated in the western and eastern portions of the County (Figure 3.4-3). Many wildlife species can be found within Douglas-fir forests in the Program area, including bird species (e.g., northern spotted owl [*Strix occidentalis caurina*], western flycatcher [*Empidonax difficilis*], chestnut-backed chickadee [*Poecile rufescens*]), amphibians (e.g. California giant salamander [*Dicamptodon ensatus*], Ensatina salamander [*Ensatina* spp.]), and various mammal species (e.g., dusky-footed woodrat [*Neotoma fuscipes*], Douglas squirrel [*Tamiasciurus douglasii*]).

Redwood

Redwood habitat is typically associated with coastal environments and usually occurs within approximately 30 miles of the coast. In addition to redwood (*Sequoia sempervirens*), species within this habitat include grand fir (*Abies grandis*), red alder (*Alnus rubra*), and Douglas-fir. In more interior areas, redwood is also associated with tanoak and Pacific madrone. Understory species within redwood forests often include sword fern (*Polystichum californicum*), chainfern (*Woodwardia fimbriata*), salal (*Gaultheria shallon*), coast rhododendron (*Rhododendron macrophyllum*), huckleberry (*Vaccinium* spp.), fireweed (*Chamerion angustifolium*), oceanspray (*Holodiscus discolor*), salmonberry (*Rubus spectabilis*), poison oak (*Toxicodendron diversilobum*), western thimbleberry (*Rubus parviflorus*), and redwood sorrel (*Oxalis smilliana*). There are still intact old-growth redwood forests in the Program area, including in west Sonoma County in Armstrong Woods State Park. Old-growth and late-successional habitat (which includes old-growth redwood forest) within the Program area is discussed below in "Late Successional Forest." Many wildlife species can be found in redwood forest habitat, and several species, such as marbled murrelet (*Brachyramphus marmoratus*) and Ensatina salamanders prefer, or depend almost entirely, on redwood forests.

Agricultural

Agricultural land cover types within the Program area, which are presented in this section using land cover mapping and do not reflect zoning districts (minimal agricultural land cover types are mapped within the industrial and commercial districts), include pasture, croplands, orchards, and vineyards. Agricultural land in the Program area is largely concentrated along US 101, State Route (SR) 128, SR 12, and the western portion of SR 116 that is west of Sebastopol (Figure 3.4-3). The largest concentration of agricultural land is located near highway corridors and sometimes urban areas, particularly vineyards along US 101, SR 128, between Santa Rosa and Sebastopol, and around Sonoma. Although these are along highway corridors, some agricultural land is located in more remote areas of the County. In addition, less concentrated agricultural areas are interspersed throughout the Program area. Approximately 72 percent of agricultural land in the Program area is composed of vineyards. Deciduous orchards, cropland, irrigated row and field crops, and pasture for livestock make up a small portion of the total agricultural land mapped in the Program area (approximately 6.5 percent of agricultural land). Migrating waterfowl and shorebirds forage within pastureland in the Program area, including greater white-fronted goose (*Anser albifrons*), tundra swan (*Cygnus columbianus*), marbled godwit (*Limosa fedoa*), long-billed curlew (*Numenius americanus*), sandpipers (*Calidris* spp.), and willet (*Tringa semipalmata*).

Urban

In the Program area, urban habitat makes up approximately 4 percent of the total land cover and occurs mainly along US 101, SR 128, SR 12, and SR 116, with large areas existing between Windsor and Santa Rosa, Sebastopol and Santa Rosa, Rohnert Park and Santa Rosa, and Petaluma and Rohnert Park (Figure 3.4-4). Incorporated areas in Sonoma County are not part of the Program area, but urban land cover exists in the Program area partially in unincorporated areas adjacent to these cities, as well as throughout the Program area with some of the concentrations occurring along roadways and in unincorporated towns, such as Guerneville. There are also very small areas of urban habitat interspersed throughout the Program area (Figure 3.4-4). Urban habitat includes urban landscaping, lawns, parks, and green zones. Common urban wildlife species include rock pigeon (*Columba livia*), house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), and raccoon (*Procyon lotor*). Because much of the urban areas in the Program area are located adjacent to more natural habitats, species such as gray fox (*Urocyon cinereoargenteus*), Columbian black-tailed deer, striped skunk (*Mephitis mephitis*), and a variety of resident and migratory songbirds are also common within suburban areas.

Chaparral

Chaparral habitat within the Program area includes mostly mixed chaparral (approximately 99.9 percent of chaparral habitat) and a minimal amount of chamise-redshank chaparral (approximately 0.1 percent of chaparral habitat). Chaparral habitat is present in most of the Program area but is concentrated in the eastern portion of the Program area and is mostly absent in the southern portion. Chaparral frequently occurs in areas with steep slopes (Figure 3.4-1). Plant assemblages for this habitat type vary based on elevation and geographic area; however, chaparral habitat generally includes manzanita (*Arctostaphylos* spp.), ceanothus (*Ceanothus* spp.), giant chinquapin (*Chrysolepis chrysophylla*), and

birchleaf mountain mahogany (*Cercocarpus betuloides*). Chamise-redshank chaparral can contain these species but generally contain mostly chamise (*Adenostoma fasciculatum*). Chaparral provides important foraging habitat for mammals (e.g., deer and rabbits), as well as for many bird species. The physical structure of chaparral habitat also provides protection, cover, and nesting habitat for many wildlife species.

Valley Oak Woodland

Valley oak woodland varies from a savanna-like structure to forest-like stands with partially closed canopies, composed mostly of winter-deciduous, broad-leaved species. Denser stands typically grow in valley soils along natural drainages. Canopies of these woodlands are dominated almost exclusively by valley oaks, and in the coast range, this community is often associated with foothill pine and coast live oak. Valley oak woodland is interspersed throughout the Program area and often intergrades with coastal oak woodland, blue oak woodland, and montane hardwood (Figure 3.4-2). Many wildlife species can be found within valley oak woodland in the Program area, including wildlife species that use acorns as a food source, which include Steller's jay, acorn woodpecker, California quail, western gray squirrel, black bear, wild turkey, and Columbian black-tailed deer.

Closed-Cone Pine-Cypress

Closed-cone pine-cypress is typically dominated by a single species of one of the closed-cone pines or cypress species; few stands contain both pines and cypress. The dominant tree species within these habitats in the Program area can be species including knobcone pine and bishop pine (*Pinus muricata*). Closed-cone pine-cypress occurs in the eastern and western portions of the Program area but is absent from the northwestern corner with a large contiguous area of closed-cone pine-cypress located west of Healdsburg (Figure 3.4-3). Various wildlife species use this habitat for foraging and cover, and great horned owl (*Bubo virginianus*) and red-tailed hawk (*Buteo jamaicensis*) have been known to nest within closed-cone pine habitats.

Riparian

Riparian habitat within the Program area consists of valley foothill riparian and montane riparian habitat. Riparian habitat occurs throughout the Program area adjacent to aquatic habitat (Figure 3.4-5). Valley foothill riparian habitat contains Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), white alder (*Alnus rhombifolia*), and Oregon ash (*Fraxinus latifolia*). Montane riparian habitat contains bigleaf maple (*Acer macrophyllum*), mountain dogwood (*Cornus nuttallii*), box-elder (*Acer negundo*), and California bay. Riparian habitat provides very important habitat for wildlife species and often supports a great diversity of species. Sensitive species that utilize riparian habitat include foothill yellow-legged frog (*Rana boylei*), bank swallow (*Riparia riparia*), and white-tailed kite (*Elanus leucurus*).

Blue Oak Woodland

Blue oak woodland generally have an overstory of scattered trees although the canopy can be nearly closed on better quality sites. The canopy is dominated by broad-leaved trees, commonly forming open savanna-like stands on dry ridges and gentle slopes. Shrubs are often present but rarely extensive, often occurring on rock outcrops. Typical understory is composed of an extension of annual grassland vegetation. Blue oak woodland is mainly located in the northern and northeastern portions of the Program area and often intergrades with valley oak woodland, coastal oak woodland, and montane hardwood (Figure 3.4-2). Many wildlife species can be found within blue oak woodland in the Program area, including wildlife species that use acorns as a food source, which include Steller's jay, acorn woodpecker, California quail, western gray squirrel, black bear, wild turkey, and Columbian black-tailed deer.

Waterbody

Waterbodies within the Program area in the land cover mapping are mapped as water (lacustrine [e.g., lake, pond], riverine [i.e., river, creek], estuarine [i.e., formed in or related to an estuary], marine [e.g., bay, ocean]; 98.6 percent of waterbody habitat in the Program area), lacustrine (1.4 percent of waterbody habitat in the Program area), and riverine (less than 1 percent of waterbody habitat in the Program area). Because mapped upland land cover types are often co-located with aquatic habitats, such as forest habitat overlapping a river, waterbody habitat and wetland habitat are more extensive in the Program area than is captured in the land cover mapping. For a more accurate representation of the aquatic habitat, including wetlands and waterbodies(i.e., other waters), see the "Aquatic Habitats" section below. Lake

Sonoma is the majority of the lacustrine habitat in the Program area although there are also many human-made ponds associated with urban and agricultural development (Figure 3.4-5). Warm Springs Dam is at the southeastern shore of Lake Sonoma, which collects water from waterways including Dry Creek, Cherry Creek, and Warm Springs Creek. Other riverine features in the Program area are the Russian River, Gualala River, and Petaluma River (Figure 3.4-5). Estuarine and marine habitat is located in the southern portion of the Program area (Figure 3.4-5). Sensitive species that utilize lacustrine habitat include California giant salamander, northwestern pond turtle (*Actinemys marmorata*), American peregrine falcon (*Falco peregrinus anatum*), and bald eagle (*Haliaeetus leucocephalus*). Sensitive species that utilize riverine habitat include Chinook salmon (*Oncorhynchus tshawytscha*), Coho salmon (*Oncorhynchus kisutch*), California red-legged frog (*Rana draytonii*), and foothill yellow-legged frog (*Rana boylei*). Sensitive species that utilize estuarine habitat include California black rail (*Laterallus jamaicensis coturniculus*), California Ridgway's rail (*Rallus obsoletus obsoletus*), and saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*).

Freshwater Wetlands

Freshwater wetland habitat in the Program area consists of freshwater emergent wetland and wet meadow complex community, wet meadow and perennial grassland complex community, vernal pool and grassland complex community, fresh emergent wetland, and wet meadow. Many different plant species can be associated with these wetland habitats, including sedges, rushes, willows, and various grasses. Black-tailed deer often feed in wet meadows, and waterfowl and other bird species also use this and other wetland habitat. Special-status amphibian species, such as foothill yellow-legged frog and California red-legged frog, can also be found in these wetland habitats.

Saline Wetlands

Saline emergent wetlands (also known as estuarine and marine wetlands) in the Program Area are located along the San Pablo Bay coastline, San Pablo Bay National Wildlife Refuge, and Petaluma River near the mouth of San Pablo Bay (Figure 3.4-5). Saline emergent wetland habitat contains plant species, including California cord grass (*Spartina foliosa*), invasive dense flowered cord grass (*Spartina densiflora*), Pacific swampfire (*Salicornia pacifica*), broad-leaved cattail (*Typha latifolia*), and various other grasses and forbs. A wide variety of wildlife species occur in saline emergent wetland habitats, including Virginia rail (*Rallus limicola*), sora (*Porzana carolina*), common yellowthroat (*Geothlypis trichas*), various shorebird species, and American mink (*Neogale vison*).

Coastal Scrub

Coastal scrub habitat is interspersed mostly in small areas throughout the Program area with the exception of a large area of coastal scrub located east of Healdsburg (Figure 3.4-1). Coastal scrub in the Program area ranges from a patchy oceanside cover of nearly prostrate (i.e., trailing on the ground) subshrubs (i.e., small shrubs) surrounded by grassland to a dense and continuous cover of two layers comprising an overstory of shrubs and a perennial herb/subshrub understory. Plant species associated with coastal scrub include lupine (*Lupinus* spp.), coyote brush (*Baccharis pilularis*), California coffeeberry (*Frangula californica*), blackberry (*Rubus* spp.), and poison oak.

Barren

Barren habitat is devoid of vegetation and can include rocky outcroppings, riverbanks, canyon walls, and areas associated with urbanization. Within the Program area, barren habitats are interspersed in small areas throughout the Program area, as well as present along the riverine and lacustrine features, including Russian River, Gualala River, and Lake Sonoma (Figure 3.4-1). Barren habitats vary widely in their composition, and wildlife associations are also variable.

Eucalyptus

Eucalyptus-dominated habitats in the Program area most commonly contain blue gum (*Eucalyptus globulus*). Blue gum is an invasive species from Australia that has become widespread in California. Eucalyptus is mostly concentrated in the southern portion of the Program area (Figure 3.4-2). Eucalyptus stands are typically associated with urban development or disturbed areas. Although blue gum is not a California native species, several bird species, including American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), barn owl (*Tyto alba*), red-tailed hawk, and red-shouldered hawk (*Buteo lineatus*), use the trees to nest.

Blue Oak-Foothill Pine

Blue oak and foothill pine dominate the overstory of this habitat, and other species can include interior live oak (*Quercus wislizeni*), California buckeye (*Aesculus californica*), ceanothus, and manzanita. Blue oak-foothill pine habitat in the Program area intergrades with coastal oak woodland and montane hardwood and is mostly located in the northern portion of the Program area (Figure 3.4-2). Wildlife associations are similar to montane hardwood habitats in the Program area.

Montane Hardwood-Conifer

Montane hardwood-conifer habitats contain at least one-third conifer and one-third broad-leaved hardwood trees. Species assemblages often include ponderosa pine, Douglas-fir, incense cedar (*Calocedrus decurrens*), black oak, tanoak, Pacific madrone, and Oregon white oak. Other potential species within this habitat type that are more specific to California North Coast regions include giant chinquapin, canyon live oak, white fir, red alder, and knobcone pine. Montane hardwood-conifer habitat is present in several concentrated areas in the northern portion of the Program area, including along the Sonoma-Napa County line and near Lake Sonoma, and is sparsely present in the northern and middle portions of the Program area (Figure 3.4-3). Species assemblages likely vary widely depending on location within the Program area.

Ponderosa Pine

Ponderosa pine habitat is very minimal in the Program area (1 acre). Ponderosa pine habitat is dominated by ponderosa pine but is often also associated with other conifer species, such as sugar pine, white fir, and incense cedar. Common understory species include huckleberry, scrub oak (*Quercus berberidifolia*), manzanita, ceanothus, Fremont's silk tassel (*Garrya fremontii*), mountain dogwood, and California coffeeberry. Wildlife species, such as squirrels and Columbian black-tailed deer, depend on pine nuts as a major food source. Species that use pine habitats include nuthatches (*Sitta* spp.), brown creeper (*Certhia americana*), and woodpeckers.

LATE SUCCESSIONAL FOREST

Late successional forest is preferred or required by a large number of wildlife species, including several sensitive wildlife species (e.g., northern spotted owl [*Strix occidentalis caurina*], marbled murrelet [*Brachyramphus marmoratus*], bald eagle [*Haliaeetus leucocephalus*]). Late successional forests contain large trees and a high degree of canopy cover, and these habitats are classified under the CWHR classification system based on these features (CWHR 1988). Habitats with small trees (i.e., 11–24 inches diameter at breast height (DBH), 12–24 feet crown diameter) are designated as CWHR size class 4, and habitats with medium/large trees (i.e., greater than 24 inches DBH, greater than 24 feet crown diameter) are designated as CWHR size class 5 (CWHR 1988). Within each of these classifications, habitats can be further described based on forest canopy cover as “moderate (M)” (40 to 59 percent canopy cover) or “dense (D)” (60 to 100 percent canopy cover). The Program area contains a significant amount of late-successional (i.e., forest with multilayered tree canopy, large-diameter trees, complex understory, and coarse woody debris) and old-growth forest (i.e., forest that is usually 180–220 years old with large trees, large snags, and complex structure and that has not undergone significant disturbance), with approximately 37 percent of the Program area mapped as late-successional or old-growth forest (Table 3.4-8; Figure 3.4-6).

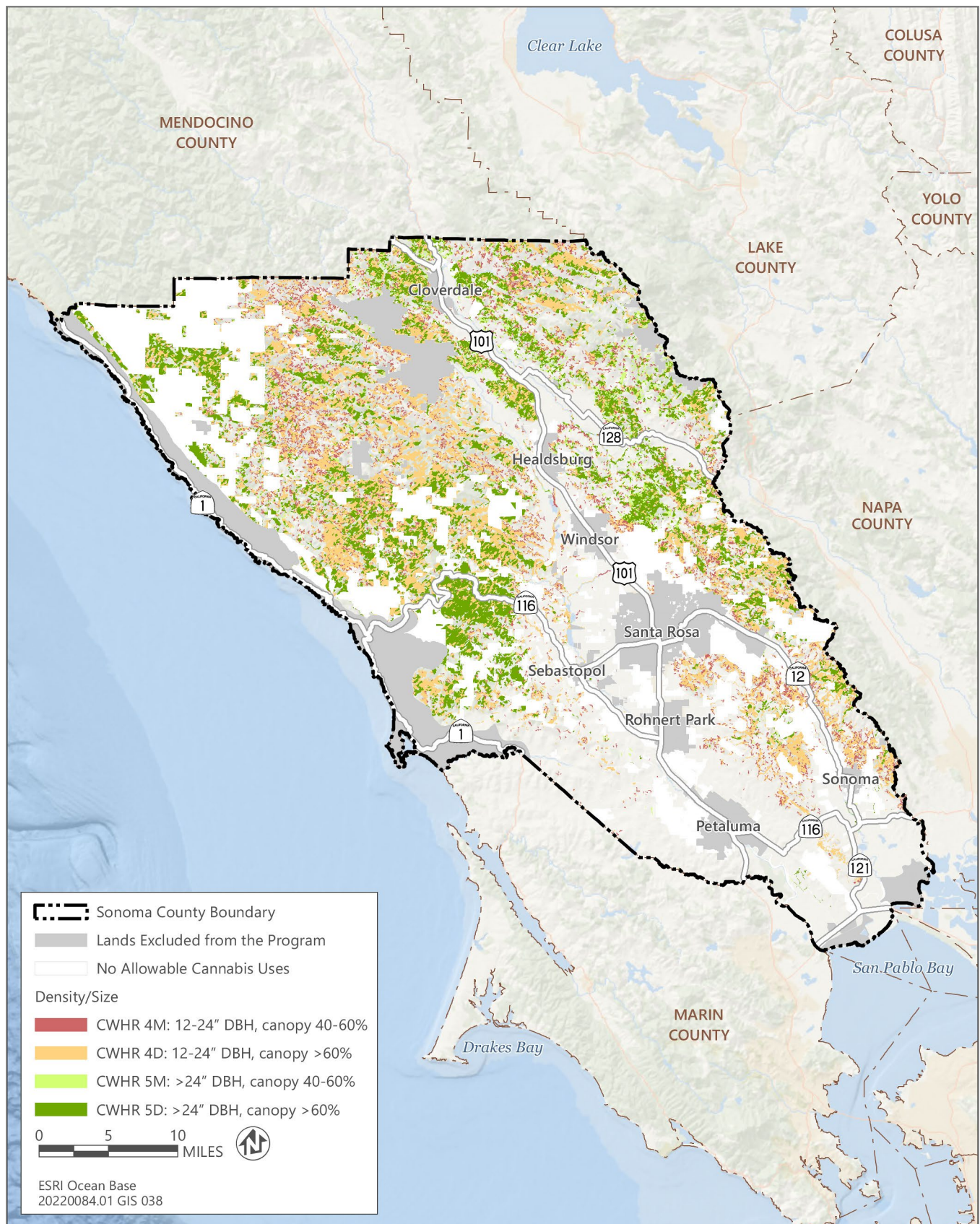
Table 3.4-8 Late Successional Forest within the Program Area

Late Successional Habitat Classes ¹	Agricultural and Resources Districts (acres)	Industrial and Commercial Districts (acres)	Total (acres)
4D	118,607	21	118,629
5D	91,975	37	92,013
4M	27,216	26	27,242
5M	11,385	11	11,396
Total	249,184	95	249,279

Note: Totals may not sum exactly due to independent rounding.

¹ 4D = 11–24 inches diameter at breast height (dbh), 12–24 feet crown diameter, 60- to 100-percent canopy cover; 5D = greater than 24 inches dbh, greater than 24 feet crown diameter, 60- to 100-percent canopy cover; 4M = 11–24 inches dbh, 12–24 feet crown diameter, 40- to 59-percent canopy cover; 5M = greater than 24 inches dbh, greater than 24 feet crown diameter, 40- to 59-percent canopy cover.

Source: Data downloaded from USFS in 2018; compiled by Ascent in 2025.



Sources: Data downloaded from USFS in 2018; adapted by Ascent in 2024.

Figure 3.4-6 Late-Successional and Old-Growth Forest

AQUATIC HABITATS

The preeminent aquatic features in the Program area are the Russian River (approximately 61 miles); Gualala River (approximately 25 miles), which includes the North Fork Gualala River, South Fork Gualala River, and Wheatfield Fork Gualala River; Mark West Creek (approximately 26 miles); Dry Creek (approximately 23 miles); and Sonoma Creek (approximately 21 miles). These features are mapped under riverine types, including artificial path, ephemeral stream/river, intermittent stream/river, and perennial stream/river in Table 3.4-9, which also presents other riverine-type mileage. Many of these aquatic features have nearby associated wetland habitat, including saline wetlands (i.e., estuarine and marine wetlands) and freshwater wetlands, and approximately 14,488 acres of mapped sensitive riparian habitat (see "Land Cover Types" section). Other major aquatic features in the Program area in the County include Lake Sonoma and Laguna de Santa Rosa, which are mapped under aquatic types, including lake and freshwater wetland in Table 3.4-10, which also presents other aquatic types, including freshwater ponds and freshwater forested/shrub wetland.

Table 3.4-9 Length of Riverine Types within the Program Area

Riverine Types	Agricultural and Resources Districts (miles)	Industrial and Commercial Districts (miles)	Total (miles)
Ephemeral Stream/River	2,461	2.0	2,463
Intermittent Stream/River	991	3.5	994
Perennial Stream/River	485	2.3	487
Artificial Path	161	0.6	162
Canal Ditch	102	1.4	103
Stream/River ¹	0.2	0	0.2
Drainageway	0.2	0	0.2
Total	4,200	10	4,209

Notes: Totals may not sum exactly due to independent rounding.

¹ No flow rating so these could be ephemeral, intermittent, or perennial.

Source: Data downloaded from USGS in 2024; compiled by Ascent in 2024.

Table 3.4-10 Area of Aquatic Types within the Program Area

Aquatic Types	Agricultural and Resources Districts (acres)	Industrial and Commercial Districts (acres)	Total (acres)
Riverine ¹	6,564	31	6,564
Estuarine and Marine Wetland ²	4,192	1	4,192
Freshwater Emergent Wetland	3,749	16	3,749
Freshwater Pond	2,788	14	2,788
Freshwater Forested/Shrub Wetland	2,644	24	2,644
Lake	757	0	757
Estuarine and Marine Deepwater	215	0.1	215
Total	20,822	86	20,909

Note: Due to overlapping land cover types including aquatic habitat, such as forest habitat overlapping aquatic features, some aquatic features listed in this table have differing acreage when compared to Table 3.4-7. In addition, totals may not sum exactly due to independent rounding.

¹ Include riverine wetlands.

² Synonymous with saline wetland.

Source: Data downloaded from USFWS in 2023; compiled by Ascent in 2024.

SENSITIVE BIOLOGICAL RESOURCES

Special-Status Species

Special-status species are plants and animals that are legally protected under CESA (California Fish and Game Code Section 2050 et seq.), the federal ESA, or other regulations, as well as species considered sufficiently rare by the scientific community to qualify for such listing. For this EIR, special-status species are defined as:

- ▶ species listed or proposed for listing as threatened or endangered under ESA (50 CFR 17.12 for listed plants and 50 CFR 17.11 for listed animals) and in various notices in the Federal Register;
- ▶ species that are candidates for possible future listing as threatened or endangered under ESA (75 CFR 69222);
- ▶ species that are listed or proposed for listing by the State of California as threatened or endangered under CESA (CCR, Title 14, Section 670.5);
- ▶ plants considered by CDFW to be “rare, threatened, or endangered in California” and assigned a California Rare Plant Rank (CRPR) 1A, 1B, 2A, or 2B;
- ▶ species that meet the definition of rare or endangered under State CEQA Guidelines Section 15380;
- ▶ animals fully protected in California (Fish and Game Code Section 3511 for birds, Section 4700 for mammals, and Section 5050 for reptiles and amphibians); or
- ▶ animals identified by CDFW as species of special concern.

Special-Status Plants

Special-status plant species that have potential to occur in the Program area are presented in Table 3.4-11. Given the number of special-status plants that may occur in the Program area and the specific microhabitat requirements of these species, all special-status plants that have been documented in the County or in a USGS 7.5-minute quadrangle directly adjacent to the County are assumed to potentially occur in the Program area, though there may be some species that only occur in the coastal zone, which would not be subject to the proposed Cannabis Program Update.

Table 3.4-11 Special-Status Plant Species Known to Occur in the Program Area

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
Pink sand-verbena <i>Abronia umbellata</i> var. <i>breviflora</i>	—	—	1B.1	Foredunes and interdunes with sparse cover. <i>Abronia umbellata</i> var. <i>breviflora</i> is usually the plant closest to the ocean. 0–40 feet in elevation. Blooms June–October. Perennial.
Blasdale’s bent grass <i>Agrostis blasdalei</i>	—	—	1B.2	Coastal dunes, coastal bluff scrub, coastal prairie. Sandy or gravelly soil close to rocks; often in nutrient-poor soil with sparse vegetation. 10–1,200 feet in elevation. Blooms May–July. Geophyte.
Sonoma alopecurus <i>Alopecurus aequalis</i> var. <i>sonomensis</i>	FE	—	1B.1	Wet areas, marshes, and riparian banks, with other wetland species. 15–1,180 feet in elevation. Blooms May–July. Perennial.
Napa false indigo <i>Amorpha californica</i> var. <i>napensis</i>	—	—	1B.2	Openings in forest or woodland or in chaparral. 100–2,410 feet in elevation. Blooms April–July. Perennial.
Franciscan onion <i>Allium peninsulare</i> var. <i>franciscanum</i>	—	—	1B.2	Clay soils; often on serpentine; sometimes on volcanics. Dry hillsides. 10–1,150 feet in elevation. Blooms May–June. Geophyte.
Bent-flowered fiddleneck <i>Amsinckia lunaris</i>	—	—	1B.2	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. 10–2,610 feet in elevation. Blooms March–June. Annual.
Baker’s manzanita <i>Arctostaphylos bakeri</i> ssp. <i>bakeri</i>	—	SR	1B.1	Broadleafed upland forest, chaparral. Entire species state-listed Rare. Often on serpentine. This is the state-listed Rare taxon, also known as <i>Arctostaphylos bakeri</i> in Title 14. 245–755 feet in elevation. Blooms February–April. Perennial.

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
The Cedars manzanita <i>Arctostaphylos bakeri</i> ssp. <i>sublaevis</i>	—	SR	1B.2	Chaparral, closed-cone coniferous forest. In serpentine chaparral and Sargent cypress woodland; typically in canyons and on slopes. 600–2,500 feet in elevation. Blooms February–May. Perennial.
Vine Hill manzanita <i>Arctostaphylos densiflora</i>	—	SE	1B.1	Chaparral. Acid marine sand. 160–400 feet in elevation. Blooms February–April. Perennial.
Konocti manzanita <i>Arctostaphylos manzanita</i> ssp. <i>elegans</i>	—	—	1B.3	Chaparral, cismontane woodland, lower montane coniferous forest. Volcanic soils. 740–6,010 feet in elevation. Blooms January–May. Perennial.
Mt. Tamalpais manzanita <i>Arctostaphylos montana</i> ssp. <i>montana</i>	—	—	1B.3	Chaparral, valley and foothill grassland. Serpentine slopes in chaparral and grassland. 490–2,230 feet in elevation. Blooms February–April. Perennial.
Pygmy manzanita <i>Arctostaphylos nummularia</i> ssp. <i>mendocinoensis</i>	—	—	1B.2	Closed-cone coniferous forest. Acidic, sandy-clay soils in dwarf coniferous forest. 290–610 feet in elevation. Blooms January. Perennial.
Pallid manzanita <i>Arctostaphylos pallida</i>	FT	SE	1B.1	Broad-leaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub. Grows on uplifted marine terraces on siliceous shale or thin chert. May require fire. 590–1,510 feet in elevation. Blooms December–March. Perennial.
Rincon Ridge manzanita <i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i>	—	—	1B.1	Chaparral, cismontane woodland. Highly restricted endemic to red rhyolites in Sonoma County. 290–1,230 feet in elevation. Blooms February–April. Perennial.
Raiche's manzanita <i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	—	—	1B.1	Chaparral, lower montane coniferous forest. Rocky, serpentine sites. Slopes and ridges. 1,590–3,510 feet in elevation. Blooms February–April. Perennial.
Marin manzanita <i>Arctostaphylos virgata</i>	—	—	1B.2	Broad-leaved upland forest, closed-cone coniferous forest, chaparral, North Coast coniferous forest. On sandstone or granitic. 5–2,625 feet in elevation. Blooms January–March. Perennial.
Humboldt County milk-vetch <i>Astragalus agnicidus</i>	—	SE	1B.1	Disturbed openings in partially timbered forest lands, also along ridgelines, south aspects. 520–2,200 feet in elevation. Blooms April–September. Perennial.
Clara Hunt's milk-vetch <i>Astragalus claranus</i>	FE	SE	1B.1	Cismontane woodland, valley and foothill grassland, chaparral. Open grassy hillsides, especially on exposed shoulders in thin, volcanic clay soil moist in spring. 245–900 feet in elevation. Blooms March–May. Annual.
Coastal marsh milk-vetch <i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	—	—	1B.2	Coastal dunes, marshes and swamps, coastal scrub. Mesic sites in dunes or along streams or coastal salt marshes. 0–510 feet in elevation. Blooms April–October. Perennial.
Jepson's milk-vetch <i>Astragalus rattanii</i> var. <i>jepsonianus</i>	—	—	1B.2	Cismontane woodland, valley and foothill grassland, chaparral. Commonly on serpentine in grassland or openings in chaparral. 570–3,300 feet in elevation. Blooms March–June. Annual.
Alkali milk-vetch <i>Astragalus tener</i> var. <i>tener</i>	—	—	1B.2	Alkali playa, valley and foothill grassland, vernal pools. Low ground, alkali flats, and flooded lands; in annual grassland or in playas or vernal pools. 0–550 feet in elevation. Blooms March–June. Annual.
Big-scale balsamroot <i>Balsamorhiza macrolepis</i>	—	—	1B.2	Chaparral, valley and foothill grassland, cismontane woodland. Sometimes on serpentine. 115–4,805 feet in elevation. Blooms March–June. Perennial.
Sonoma sunshine <i>Blennosperma bakeri</i>	FE	SE	1B.1	Vernal pools and swales. 30–360 feet in elevation. Blooms March–May. Annual. Species covered in the Santa Rosa Plain Conservation Strategy.
Point Reyes blennosperma <i>Blennosperma nanum</i> var. <i>robustum</i>	—	SR	1B.2	Coastal prairie, coastal scrub. On open coastal hills in sandy soil. 10–410 feet in elevation. Blooms February–April. Annual.

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
Big tarplant <i>Blepharizonia plumosa</i>	—	—	1B.1	Dry hills and plains in annual grassland. Clay to clay-loam soils; usually on slopes and often in burned areas. 100–1,655 feet in elevation. Blooms July–October. Annual.
Watershield <i>Brasenia schreberi</i>	—	—	2B.3	Freshwater marshes and swamps. Aquatic from water bodies both natural and artificial in California. 100–7,220 feet in elevation. Blooms June–September. Geophyte.
Narrow-anthered brodiaea <i>Brodiaea leptandra</i>	—	—	1B.2	Broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Volcanic substrates. 100–1,940 feet in elevation. Blooms May–July. Geophyte.
Thurber's reed grass <i>Calamagrostis crassiglumis</i>	—	—	2B.1	Coastal scrub, marshes and swamps. Usually in marshy swales surrounded by grassland or coastal scrub. 10–170 feet in elevation. Blooms May–August. Geophyte.
Mt. Diablo fairy-lantern <i>Calochortus pulchellus</i>	—	—	1B.2	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. On wooded and brushy slopes. 100–3,000 feet in elevation. Blooms April–June. Geophyte.
The Cedars fairy-lantern <i>Calochortus raichei</i>	—	—	1B.2	Closed-cone coniferous forest, chaparral. On serpentine. Usually on shaded slopes, but also on barrens and talus. 830–1,410 feet in elevation. Blooms May–August. Geophyte.
Tiburon mariposa-lily <i>Calochortus tiburonensis</i>	FT	ST	1B.1	Valley and foothill grassland. On open, rocky slopes in serpentine grassland. 165–490 feet in elevation. Blooms March–June. Geophyte.
Small-flowered calycadenia <i>Calycadenia micrantha</i>	—	—	1B.2	Chaparral, valley and foothill grassland, meadows and seeps. Rocky talus or scree; sparsely vegetated areas. occasionally on roadsides; sometimes on serpentine. 1,420–4,610 feet in elevation. Blooms June–September. Annual.
Three-fingered morning-glory <i>Calystegia collina</i> ssp. <i>tridactylosa</i>	—	—	1B.2	Chaparral, cismontane woodland. Rocky, gravelly openings in serpentine. 1,980–2,320 feet in elevation. Blooms April–June. Geophyte.
Coastal bluff morning-glory <i>Calystegia purpurata</i> ssp. <i>saxicola</i>	—	—	1B.2	Coastal dunes, coastal scrub, coastal bluff scrub, North Coast coniferous forest. 30–350 feet in elevation. Blooms April–September. Perennial.
Grassland suncup <i>Camissonia lacustris</i>	—	—	1B.2	Valley and foothill grassland, cismontane woodland, lower montane coniferous forest, chaparral. Gravelly, serpentine, granitic. 590–4,010 feet in elevation. Blooms April–June. Annual.
Swamp harebell <i>Campanula californica</i> (synonym: <i>Eastwoodiella californica</i>)	—	—	1B.2	Bogs and marshes in a variety of habitats; uncommon where it occurs. 5–1,330 feet in elevation. Blooms June–October. Perennial.
Seaside bittercress <i>Cardamine angulata</i>	—	—	2B.1	North Coast coniferous forest, lower montane coniferous forest. Wet areas, streambanks. 290–510 feet in elevation. Blooms March–July. Perennial.
California sedge <i>Carex californica</i>	—	—	2B.2	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, marshes and swamps. Meadows, drier areas of swamps, marsh margins. 290–1,100 feet in elevation. Blooms May–August. Geophyte.
Bristly sedge <i>Carex comosa</i>	—	—	2B.1	Marshes and swamps, coastal prairie, valley and foothill grassland. Lake margins, wet places; site below sea level is on a delta island. 10–5,320 feet in elevation. Blooms May–September. Geophyte.
Bristle-stalked sedge <i>Carex leptalea</i>	—	—	2B.2	Bogs and fens, meadows and seeps, marshes and swamps. Mostly known from bogs and wet meadows. 10–4,575 feet in elevation. Blooms March–July. Geophyte.
Lyngbye's sedge <i>Carex lyngbyei</i>	—	—	2B.2	Marshes and swamps (brackish or freshwater). 0–660 feet in elevation. Blooms April–August. Geophyte.
Northern meadow sedge <i>Carex praticola</i>	—	—	2B.2	Meadows and seeps. Moist to wet meadows. 50–10,500 feet in elevation. Blooms May–July. Perennial.
Deceiving sedge <i>Carex saliniformis</i>	—	—	1B.2	Coastal prairie, coastal scrub, meadows and seeps, marshes and swamps (coastal salt). Mesic sites. 10–760 feet in elevation. Blooms June. Geophyte.

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
Tiburon paintbrush <i>Castilleja affinis</i> var. <i>neglecta</i>	FE	ST	1B.2	Valley and foothill grassland. Rocky serpentine sites. 395–1,310 feet in elevation. Blooms April–June. Perennial.
Humboldt Bay owl's-clover <i>Castilleja ambigua</i> var. <i>humboldtensis</i>	—	—	1B.2	Marshes and swamps. In coastal saltmarsh with <i>Spartina</i> , <i>Distichlis</i> , <i>Salicornia</i> , <i>Jaumea</i> . 0–70 feet in elevation. Blooms April–August. Annual.
Mead's owls-clover <i>Castilleja ambigua</i> var. <i>meadii</i>	—	—	1B.1	Vernal pools, meadows and seeps. Soils of volcanic origin and tend to have high clay content and be gravelly. 1,475–1,560 feet in elevation. Blooms April–May. Annual.
Point Reyes paintbrush <i>Castilleja lescheana</i>	—	—	1A	Marshes and swamps (coastal). 0–80 feet in elevation. Blooms June. Perennial.
Mendocino Coast paintbrush <i>Castilleja mendocinensis</i>	—	—	1B.2	Coastal bluff scrub, coastal scrub, coastal prairie, closed-cone coniferous forest, coastal dunes. Often on sea bluffs or cliffs in coastal bluff scrub or prairie. 0–530 feet in elevation. Blooms April–August. Perennial.
Pink creamsacs <i>Castilleja rubicundula</i> var. <i>rubicundula</i>	—	—	1B.2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland. Openings in chaparral or grasslands. On serpentine. 60–3,000 feet in elevation. Blooms April–June. Annual.
Pitkin Marsh paintbrush <i>Castilleja uliginosa</i>	—	SE	1A	Freshwater marsh. Last known remaining plant died in 1987; was known from overgrown freshwater marsh. 195 feet in elevation. Blooms June–July. Perennial.
Rincon Ridge ceanothus <i>Ceanothus confusus</i>	—	—	1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland. Known from volcanic or serpentine soils, dry shrubby slopes. 240–3,500 feet in elevation. Blooms February–June. Perennial.
Nicasio ceanothus <i>Ceanothus decornutus</i>	—	—	1B.2	Maritime chaparral; serpentinite, rocky, sometimes clay. 770–950 feet in elevation. Blooms March–May. Perennial.
Calistoga ceanothus <i>Ceanothus divergens</i>	—	—	1B.2	Chaparral. Rocky, serpentine, or volcanic sites. 560–3,120 feet in elevation. Blooms February–April. Perennial.
Vine Hill ceanothus <i>Ceanothus foliosus</i> var. <i>vineatus</i>	—	—	1B.1	Chaparral. Sandy, acidic soil in chaparral. 150–1,000 feet in elevation. Blooms March–May. Perennial.
Mt. Vision ceanothus <i>Ceanothus gloriosus</i> var. <i>porrectus</i>	—	—	1B.3	Closed-cone coniferous forest, coastal prairie, coastal scrub, valley and foothill grassland. Low shrub in a variety of habitats on Pt. Reyes; sandy soils. 35–1,100 feet in elevation. Blooms February–May. Perennial.
Mason's ceanothus <i>Ceanothus masonii</i>	—	SR	1B.2	Chaparral. Serpentine ridges or slopes in chaparral or transition zone. 590–1,510 feet in elevation. Blooms March–April. Perennial.
Holly-leaved ceanothus <i>Ceanothus purpureus</i>	—	—	1B.2	Chaparral, cismontane woodland. Rocky, volcanic slopes. 475–2,560 feet in elevation. Blooms February–June. Perennial.
Sonoma ceanothus <i>Ceanothus sonomensis</i>	—	—	1B.2	Chaparral. Sandy, serpentine or volcanic soils. 460–2,610 feet in elevation. Blooms February–April. Perennial.
Congdon's tarplant <i>Centromadia parryi</i> ssp. <i>congonii</i>	—	—	1B.1	Valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay. 0–755 feet in elevation. Blooms May–October. Annual.
Pappose tarplant <i>Centromadia parryi</i> ssp. <i>parryi</i>	—	—	1B.2	Chaparral, coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. Vernal mesic, often alkaline sites. 5–1,380 feet in elevation. Blooms May–November. Annual.
Dwarf soaproot <i>Chlorogalum pomeridianum</i> var. <i>minus</i>	—	—	1B.2	Chaparral. Serpentine. 1,000–3,280 feet in elevation. Blooms May–August. Geophyte.
Point Reyes salty bird's-beak <i>Chloropyron maritimum</i> ssp. <i>palustre</i>	—	—	1B.2	Coastal salt marsh. Usually in coastal salt marsh with <i>Salicornia</i> , <i>Distichlis</i> , <i>Jaumea</i> , and <i>Spartina</i> . 0–375 feet in elevation. Blooms June–October. Annual.

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
Soft salty bird's-beak <i>Chloropyron molle</i> ssp. <i>molle</i>	FE	SR	1B.2	Coastal salt marsh. In coastal salt marsh with <i>Distichlis</i> spp., <i>Salicornia</i> spp., <i>Frankenia</i> spp., etc. 0–15 feet in elevation. Blooms July–November. Annual.
San Francisco Bay spineflower <i>Chorizanthe cuspidata</i> var. <i>cuspidata</i>	—	—	1B.2	Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub. Sandy soil on terraces and slopes. 10–705 feet in elevation. Blooms April–July. Annual.
Woolly-headed spineflower <i>Chorizanthe cuspidata</i> var. <i>villosa</i>	—	—	1B.2	Coastal scrub, coastal dunes, coastal prairie. Sandy places near the beach. 15–195 feet in elevation. Blooms May–July. Annual.
Sonoma spineflower <i>Chorizanthe valida</i>	FE	SE	1B.1	Coastal prairie. Sandy soil. 15–165 feet in elevation. Blooms June–August. Annual.
Bolander's water-hemlock <i>Cicuta maculata</i> var. <i>bolanderi</i>	—	—	2B.1	Marshes and swamps, fresh or brackish water. 0–655 feet in elevation. Blooms July–September. Perennial.
Franciscan thistle <i>Cirsium andrewsii</i>	—	—	1B.2	Coastal bluff scrub, broad-leaved upland forest, coastal scrub, coastal prairie. Sometimes serpentine seeps. 0–490 feet in elevation. Blooms March–July. Perennial.
Mt. Tamalpais thistle <i>Cirsium hydrophilum</i> var. <i>vaseyi</i>	—	—	1B.2	Broad-leaved upland forest, chaparral, meadows and seeps. Serpentine seeps and streams in chaparral and woodland. 590–2,000 feet in elevation. Blooms May–August. Perennial.
Raiche's red ribbons <i>Clarkia concinna</i> ssp. <i>raichei</i>	—	—	1B.1	Coastal bluff scrub. Highly exposed rocky bluffs with a near-vertical slope. 0–330 feet in elevation. Blooms April–May. Annual.
Vine Hill clarkia <i>Clarkia imbricata</i>	FE	SE	1B.1	Chaparral, valley and foothill grassland. Acidic, sandy soil. 195–260 feet in elevation. Blooms June–August. Annual.
Round-headed collinsia <i>Collinsia corymbosa</i>	—	—	1B.2	Coastal dunes. 30–100 feet in elevation. Blooms April–June. Annual.
Soft salty bird's-beak <i>Chloropyron molle</i> ssp. <i>molle</i>	FE	SR	1B.2	Coastal salt marsh. In coastal salt marsh with <i>Distichlis</i> spp., <i>Salicornia</i> spp., <i>Frankenia</i> spp., etc. 0–15 feet in elevation. Blooms July–November. Annual.
Pennell's bird's-beak <i>Cordylanthus tenuis</i> ssp. <i>capillaris</i>	FE	SR	1B.2	Closed-cone coniferous forest, chaparral. In open or disturbed areas on serpentine within forest or chaparral. 290–710 feet in elevation. Blooms June–September. Annual.
Serpentine cryptantha <i>Cryptantha dissita</i>	—	—	1B.2	Chaparral. Serpentine outcrops. 440–2,410 feet in elevation. Blooms April–June. Annual.
Peruvian dodder <i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	—	—	2B.2	Marshes and swamps (freshwater). Freshwater marsh. 50–920 feet in elevation. Blooms July–October. Annual.
Mendocino dodder <i>Cuscuta pacifica</i> var. <i>papillata</i>	—	—	1B.2	Coastal dunes. Interdune depressions. Annual parasitic vine observed on <i>Gnaphalium</i> spp., <i>Silene</i> spp., and <i>Lupinus</i> spp. 0–165 feet in elevation. Blooms July–October. Annual.
Baker's larkspur <i>Delphinium bakeri</i>	FE	SE	1B.1	Broad-leaved upland forest, coastal scrub, valley and foothill grassland. Only site occurs on northwest-facing slope, on decomposed shale. Historically known from grassy areas along fence lines too. 345–675 feet in elevation. Blooms March–May. Perennial. Critical habitat for this species is present within the Program area (see "Critical Habitat" section, below, and Figure 3.4-7).
Golden larkspur <i>Delphinium luteum</i>	FE	SR	1B.1	Chaparral, coastal prairie, coastal scrub. North-facing rocky slopes. 0–330 feet in elevation. Blooms March–May. Perennial.
Silverskin lichen <i>Dermatocarpon meiophyllizum</i>	—	—	2B.3	Usually aquatic to semiaquatic, within splash zone of lakes or streams. Preferred habitat is undisturbed, exposed streams with large rocks or bedrock at high elevations, but it is also found in cold, deep canyons at lower elevations. 195–7,545 feet in elevation. Lichen.
Western leatherwood <i>Dirca occidentalis</i>	—	—	1B.2	Broad-leaved upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, North Coast coniferous forest, riparian forest, riparian woodland. On

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
				brushy slopes, mesic sites; mostly in mixed evergreen and foothill woodland communities. 80–1,395 feet in elevation. Blooms January–March. Perennial.
Dwarf downingia <i>Downingia pusilla</i>	—	—	2B.2	Valley and foothill grassland (mesic sites), vernal pools. Vernal lake and pool margins with a variety of associates. In several types of vernal pools. 5–1,610 feet in elevation. Blooms March–May. Annual.
Cascade downingia <i>Downingia willamettensis</i>	—	—	2B.2	Cismontane woodland, valley and foothill grasslands, vernal pools. Lake margins. 50–3,640 feet in elevation. Blooms June–July. Annual.
Koch's cord moss <i>Entosthodon kochii</i>	—	—	1B.3	Cismontane woodland. Moss growing on soil on riverbanks. 600–1,200 feet in elevation. Perennial.
Brandegee's eriastrum <i>Eriastrum brandegeae</i>	—	—	1B.1	Chaparral, cismontane woodland. On barren volcanic soils; often in open areas. 1,340–2,770 feet in elevation. Blooms April–August. Annual.
Greene's narrow-leaved daisy <i>Erigeron greenii</i>	—	—	1B.2	Chaparral. Serpentine and volcanic substrates, generally in shrubby vegetation. 290–2,740 feet in elevation. Blooms May–September. Perennial.
Serpentine daisy <i>Erigeron serpentinus</i>	—	—	1B.3	Ultramafic. Chaparral. Serpentine seeps. 390–1,310 feet in elevation. Blooms May–August. Perennial.
Supple daisy <i>Erigeron supplex</i>	—	—	1B.2	Coastal bluff scrub, coastal prairie. Usually in grassy sites. 10–610 feet in elevation. Blooms May–July. Perennial.
The Cedars buckwheat <i>Eriogonum cedrorum</i>	—	—	1B.3	Closed-cone coniferous forest. Serpentine. Barren rock and talus steep slopes. 1,200–1,810 feet in elevation. Blooms June–September. Perennial.
Tiburon buckwheat <i>Eriogonum luteolum</i> var. <i>caninum</i>	—	—	1B.2	Chaparral, valley and foothill grassland, cismontane woodland, coastal prairie. Serpentine soils; sandy to gravelly sites. 0–2,295 feet in elevation. Blooms May–September. Annual.
Snow Mountain buckwheat <i>Eriogonum nervulosum</i>	—	—	1B.2	Chaparral. Dry serpentine outcrops, balds, and barrens. 1,460–6,910 feet in elevation. Blooms June–September. Geophyte.
Loch Lomond button-celery <i>Eryngium constancei</i>	FE	SE	1B.1	Vernal pools, wetland. Volcanic ash flow vernal pools. 1,510–2,810 feet in elevation. Blooms April–June. Annual/Perennial.
Jepson's coyote-thistle <i>Eryngium jepsonii</i>	—	—	1B.2	Vernal pools, valley and foothill grassland. Clay. 10–985 feet in elevation. Blooms April–August. Perennial.
Bluff wallflower <i>Erysimum concinnum</i>	—	—	1B.2	Coastal dunes, coastal bluff scrub, coastal prairie. More or less a coastal generalist within coastal habitat types. 10–200 feet in elevation. Blooms February–July. Annual/Perennial.
San Joaquin spearscale <i>Extriplex joaquinana</i>	—	—	1B.2	Chenopod scrub, alkali meadow, playas, valley and foothill grassland. In seasonal alkali wetlands or alkali sink scrub with species including <i>Distichlis spicata</i> and <i>Frankenia</i> spp. 5–2,740 feet in elevation. Blooms April–October. Annual.
Minute pocket moss <i>Fissidens pauperculus</i>	—	—	1B.2	North Coast coniferous forest. Moss growing on damp soil along the coast. In dry streambeds and on stream banks. 30–3,360 feet in elevation. Perennial.
Marin checker lily <i>Fritillaria lanceolata</i> var. <i>tristulis</i>	—	—	1B.1	Coastal bluff scrub, coastal scrub, coastal prairie. Occurrences reported from canyons and riparian areas, as well as rock outcrops; often on serpentine. 50–490 feet in elevation. Blooms February–May. Geophyte.
Fragrant fritillary <i>Fritillaria liliacea</i>	—	—	1B.2	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland. Often on serpentine; various soils reported though usually on clay, in grassland. 10–1,310 feet in elevation. Blooms February–April. Geophyte.
Adobe-lily <i>Fritillaria pluriflora</i>	—	—	1B.2	Chaparral, cismontane woodland, foothill grassland. Usually on clay soils; sometimes serpentine. 150–3,100 feet in elevation. Blooms February–April. Geophyte.
Roderick's fritillary <i>Fritillaria roderickii</i>	—	SE	1B.1	Coastal bluff scrub, coastal prairie, valley and foothill grassland. Grassy slopes, mesas. 50–2,000 feet in elevation. Blooms March–May. Geophyte.
Blue coast gilia <i>Gilia capitata</i> ssp. <i>chamissonis</i>	—	—	1B.1	Coastal dunes, coastal scrub. 10–655 feet in elevation. Blooms April–July. Annual.

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
Pacific gilia <i>Gilia capitata</i> ssp. <i>pacifica</i>	—	—	1B.2	Coastal bluff scrub, chaparral, coastal prairie, valley and foothill grassland. 15–4,420 feet in elevation. Blooms April–August. Annual.
Woolly-headed gilia <i>Gilia capitata</i> ssp. <i>tomentosa</i>	—	—	1B.1	Coastal bluff scrub, valley and foothill grassland. Rocky outcrops on the coast, serpentine. 60–410 feet in elevation. Blooms May–July. Annual.
Dark-eyed gilia <i>Gilia millefoliata</i>	—	—	1B.2	Coastal dunes. 5–200 feet in elevation. Blooms April–July. Annual.
American manna grass <i>Glyceria grandis</i>	—	—	2B.3	Bogs and fens, meadows and seeps, marshes and swamps. Wet meadows, ditches, streams, and ponds, in valleys and lower elevations in the mountains. 190–6,710 feet in elevation. Blooms June–August. Geophyte.
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	—	SE	1B.2	Marshes and swamps (freshwater), vernal pools. Clay soils; usually in vernal pools, sometimes on lake margins. 30–7,790 feet in elevation. Blooms April–August. Annual.
Toren's grimmia <i>Grimmia torenii</i>	—	—	1B.3	Cismontane woodland, lower montane coniferous forest, chaparral. Openings, rocky, boulder and rock walls, carbonate, volcanic. 1,060–3,810 feet in elevation. Blooms. Perennial.
Guggolz's harmonia <i>Harmonia guggolziorum</i>	—	—	1B.1	Chaparral. Open areas on serpentine. 520–640 feet in elevation. Blooms April–May. Annual.
Hall's harmonia <i>Harmonia hallii</i>	—	—	1B.2	Chaparral. Serpentine hills and ridges. Open, rocky areas within chaparral. 1,100–3,050 feet in elevation. Blooms April–June. Annual.
Diablo helianthella <i>Helianthella castanea</i>	—	—	1B.2	Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Usually in chaparral/oak woodland interface in rocky, azonal soils. Often in partial shade. 150–3,510 feet in elevation. Blooms March–June. Perennial.
Congested-headed hayfield tarplant <i>Hemizonia congesta</i> ssp. <i>congesta</i>	—	—	1B.2	Valley and foothill grassland. Grassy valleys and hills, often in fallow fields; sometimes along roadsides. 60–2,140 feet in elevation. Blooms April–November. Annual.
Short-leaved evax <i>Hesperovax sparsiflora</i> var. <i>brevifolia</i>	—	—	1B.2	Coastal bluff scrub, coastal dunes, coastal prairie. Sandy bluffs and flats. 0–710 feet in elevation. Blooms March–June. Annual.
Pygmy cypress <i>Hesperocyparis pygmaea</i>	—	—	1B.2	Closed-cone coniferous forest. On podzol-like blacklock soil in pygmy cypress forest community. 100–1,970 feet in elevation. Perennial.
Glandular western flax <i>Hesperolinon adenophyllum</i>	—	—	1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Serpentine soils; generally found in serpentine chaparral. 490–4,315 feet in elevation. Blooms May–August. Annual.
Two-carpellate western flax <i>Hesperolinon bicarpellatum</i>	—	—	1B.2	Serpentine chaparral. Serpentine barrens at edge of chaparral. 190–3,300 feet in elevation. Blooms May–July. Annual.
Brewer's western flax <i>Hesperolinon breweri</i>	—	—	1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Often in rocky serpentine soil in serpentine chaparral and serpentine grassland. 640–2,905 feet in elevation. Blooms May–July. Annual.
Marin western flax <i>Hesperolinon congestum</i>	FT	ST	1B.1	Chaparral, valley and foothill grassland. In serpentine barrens and in serpentine grassland and chaparral. 195–1,215 feet in elevation. Blooms April–July. Annual.
Lake County western flax <i>Hesperolinon didymocarpum</i>	—	SE	1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Serpentine soil in open grassland and near chaparral. 1,065–1,310 feet in elevation. Blooms May–July. Annual.
Drymaria-like western flax <i>Hesperolinon drymarioides</i>	—	—	1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland, valley and foothill grassland. Serpentine soils, mostly within chaparral. 1,290–6,560 feet in elevation. Blooms May–August. Annual.
Sharsmith's western flax <i>Hesperolinon sharsmithiae</i>	—	—	1B.2	Chaparral. Serpentine substrates. 885–985 feet in elevation. Blooms May–July. Annual.

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
Water star-grass <i>Heteranthera dubia</i>	—	—	2B.2	Marshes and swamps. Alkaline, still or slow-moving water. Requires a pH of 7 or greater, usually in slightly eutrophic waters. 50–4,955 feet in elevation. Blooms July–October. Perennial.
Loma Prieta hoita <i>Hoita strobilina</i>	—	—	1B.1	Chaparral, cismontane woodland, riparian woodland. Serpentine; mesic sites. 195–3,200 feet in elevation. Blooms May–July. Perennial.
Santa Cruz tarplant <i>Holocarpha macradenia</i>	FT	SE	1B.1	Coastal prairie, coastal scrub, valley and foothill grassland. Light, sandy soil or sandy clay; often growing with nonnatives. 35–720 feet in elevation. Blooms June–October. Annual.
Bolander's horkelia <i>Horkelia bolanderi</i>	—	—	1B.2	Lower montane coniferous forest, chaparral, meadows and seeps, valley and foothill grassland. Grassy margins of vernal pools and meadows. 1,490–2,810 feet in elevation. Blooms June–August. Perennial.
Kellogg's horkelia <i>Horkelia cuneata</i> var. <i>sericea</i>	—	—	1B.1	Closed-cone coniferous forest, coastal scrub, coastal dunes, chaparral. Old dunes, coastal sandhills; openings. 15–705 feet in elevation. Blooms April–September. Perennial.
Point Reyes horkelia <i>Horkelia marinensis</i>	—	—	1B.2	Coastal dunes, coastal prairie, coastal scrub. Sandy flats and dunes near coast; in grassland or scrub plant communities. 5–2,550 feet in elevation. Blooms May–September. Perennial.
Thin-lobed horkelia <i>Horkelia tenuiloba</i>	—	—	1B.2	Broad-leafed upland forest, chaparral, valley and foothill grassland. Sandy soils; mesic openings. 160–1,640 feet in elevation. Blooms May–July. Perennial.
Island tube lichen <i>Hypogymnia schizidiata</i>	—	—	1B.3	Chaparral, closed-cone coniferous forest. On bark and wood of hardwoods and conifers. 1,180–1,330 feet in elevation. Perennial.
California satintail <i>Imperata brevifolia</i>	—	—	2B.1	Coastal scrub, chaparral, riparian scrub, Mojavean desert scrub, meadows and seeps (alkali), riparian scrub. Mesic sites, alkali seeps, riparian areas. 10–4,910 feet in elevation. Blooms September–May. Geophyte.
Carquinez goldenbush <i>Isocoma arguta</i>	—	—	1B.1	Valley and foothill grassland. Alkaline soils, flats, lower hills. On low benches near drainages and on tops and sides of mounds in swale habitat. 5–165 feet in elevation. Blooms August–December. Perennial.
Santa Lucia dwarf rush <i>Juncus luciensis</i>	—	—	1B.2	Vernal pools, ephemeral drainages, wet meadow habitats and stream sides. 985–6,695 feet in elevation. Blooms April–July. Annual.
Small groundcone <i>Kopsiopsis hookeri</i>	—	—	2B.3	North Coast coniferous forest. Open woods, shrubby places, generally on <i>Gaultheria shallon</i> . 390–4,710 feet in elevation. Blooms April–August. Geophyte.
Burke's goldfields <i>Lasthenia burkei</i>	FE	SE	1B.1	Vernal pools, meadows and seeps, wetland. Most often in vernal pools and swales. 50–1,970 feet in elevation. Blooms April–June. Annual. Species covered in the Santa Rosa Plain Conservation Strategy.
Baker's goldfields <i>Lasthenia californica</i> ssp. <i>bakeri</i>	—	—	1B.2	Closed-cone coniferous forest, coastal scrub, meadows and seeps, marshes and swamps. Openings. 190–1,710 feet in elevation. Blooms April–October. Perennial.
Perennial goldfields <i>Lasthenia californica</i> ssp. <i>macrantha</i>	—	—	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. 10–610 feet in elevation. Blooms January–November. Perennial.
Contra Costa goldfields <i>Lasthenia conjugens</i>	FE	—	1B.1	Valley and foothill grassland, vernal pools, alkaline playás, cismontane woodland. Vernal pools, swales, low depressions, in open grassy areas. 5–1,480 feet in elevation. Blooms March–June. Annual.
Delta tule pea <i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	—	—	1B.2	Freshwater and brackish marshes. Often found with species including <i>Typha</i> spp., <i>Aster lentus</i> , <i>Rosa californica</i> , <i>Juncus</i> spp., and <i>Scirpus</i> spp. Usually on marsh and slough edges. 0–15 feet in elevation. Blooms May–July. Perennial.
Marsh pea <i>Lathyrus palustris</i>	—	—	2B.2	Bogs and fens, lower montane coniferous forest, marshes and swamps, North Coast coniferous forest, coastal prairie, coastal scrub. Moist coastal areas. 5–460 feet in elevation. Blooms March–August. Perennial.

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
Beach layia <i>Layia carnosa</i>	FE	ST	1B.1	Coastal dunes, coastal scrub. On sparsely vegetated, semi-stabilized dunes, usually behind foredunes. 0–100 feet in elevation. Blooms March–July. Annual.
Colusa layia <i>Layia septentrionalis</i>	—	—	1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Scattered colonies in fields and grassy slopes in sandy or serpentine soil. 50–3,610 feet in elevation. Blooms April–May. Annual.
Legenere <i>Legenere limosa</i>	—	—	1B.1	In beds of vernal pools. 5–2,890 feet in elevation. Blooms April–June. Annual.
Jepson's leptosiphon <i>Leptosiphon jepsonii</i>	—	—	1B.2	Chaparral, cismontane woodland. Open to partially shaded grassy slopes. On volcanics or the periphery of serpentine substrates. 180–2,810 feet in elevation. Blooms March–May. Annual.
Rose leptosiphon <i>Leptosiphon rosaceus</i>	—	—	1B.1	Coastal bluff scrub. 35–460 feet in elevation. Blooms April–July. Annual.
Crystal Springs lessingia <i>Lessingia arachnoidea</i>	—	—	1B.2	Coastal sage scrub, valley and foothill grassland, cismontane woodland. Grassy slopes on serpentine; sometimes on roadsides. 295–655 feet in elevation. Blooms July–October. Annual.
Tamalpais lessingia <i>Lessingia micradenia</i> var. <i>micradenia</i>	—	—	1B.2	Chaparral, valley and foothill grassland. Usually on serpentine, in serpentine grassland or serpentine chaparral. Often on roadsides. 195–1,000 feet in elevation. Blooms July–October. Annual.
Mason's lilaeopsis <i>Lilaeopsis masonii</i>	—	SR	1B.1	Freshwater and brackish marshes, riparian scrub. Tidal zones, in muddy or silty soil formed through river deposition or riverbank erosion. 0–35 feet in elevation. Blooms April–November. Geophyte.
Coast lily <i>Lilium maritimum</i>	—	—	1B.1	Closed-cone coniferous forest, coastal prairie, coastal scrub, broadleaved upland forest, North Coast coniferous forest, marshes and swamps. Historically in sandy soil, often on raised hummocks or bogs; today mostly in roadside ditches. 15–1,560 feet in elevation. Blooms May–August. Geophyte.
Pitkin Marsh lily <i>Lilium pardalinum</i> ssp. <i>pitkinense</i>	FE	SE	1B.1	Cismontane woodland, meadows and seeps, marshes and swamps. Saturated, sandy soils with grasses and shrubs. 150–215 feet in elevation. Blooms June–July. Geophyte.
Point Reyes meadowfoam <i>Limnanthes douglasii</i> ssp. <i>sulphurea</i>	—	SE	1B.2	Marshes and swamps (freshwater), vernal pools, coastal prairie, meadows and seeps. Vernal wet depressions in open rolling, coastal prairies and meadows; typically in dark clay soil. 35–410 feet in elevation. Blooms March–May. Annual.
Sebastopol meadowfoam <i>Limnanthes vinculans</i>	FE	SE	1B.1	Meadows and seeps, vernal pools, valley and foothill grassland. Swales, wet meadows and marshy areas in valley oak savanna; on poorly drained soils of clays and sandy loam. 50–380 feet in elevation. Blooms April–May. Annual. Species covered in the Santa Rosa Plain Conservation Strategy.
Lassics lupine <i>Lupinus constancei</i>	FP	SE	1B.1	Lower montane coniferous forest. Serpentine barrens. 4,920–6,560 feet in elevation. Blooms July. Perennial.
Cobb Mountain lupine <i>Lupinus sericatus</i>	—	—	1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, broad-leaved upland forest. In stands of knobcone pine-oak woodland, on open wooded slopes in gravelly soils; sometimes on serpentine. 900–5,010 feet in elevation. Blooms March–June. Perennial.
Tidestrom's lupine <i>Lupinus tidestromii</i>	FE	SE	1B.1	Partially stabilized dunes, immediately near the ocean. 15–80 feet in elevation. Blooms April–June. Geophyte.
Marsh microseris <i>Microseris paludosa</i>	—	—	1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 10–990 feet in elevation. Blooms April–June. Perennial.
Northern curly-leaved monardella <i>Monardella sinuata</i> ssp. <i>nigrescens</i>	—	—	1B.2	Coastal dunes, coastal scrub, chaparral, lower montane coniferous forest. Sandy soils. 0–985 feet in elevation. Blooms May–July. Annual.

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
Baker's navarretia <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	—	—	1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Vernal pools and swales; adobe or alkaline soils. 10–5,710 feet in elevation. Blooms April–July. Annual.
Few-flowered navarretia <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	FE	ST	1B.1	Volcanic ash flow, and volcanic substrate vernal pools. 1,390–2,810 feet in elevation. Blooms May–June. Annual.
Many-flowered navarretia <i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	FE	SE	1B.2	Volcanic ash flow vernal pools. 100–3,000 feet in elevation. Blooms May–June. Annual. Species covered in the Santa Rosa Plain Conservation Strategy.
Small pincushion navarretia <i>Navarretia myersii</i> ssp. <i>deminuta</i>	—	—	1B.1	Vernal pools, wetland. Currently known from only one site in Lake County in vernal pool habitat on clay-loam soil; also in roadside depressions. 60–1,165 feet in elevation. Blooms April–May. Annual.
Porter's navarretia <i>Navarretia paradoxinota</i>	—	—	1B.3	Meadows and seeps. Serpentine, openings, vernal mesic, often drainages. 540–2,755 feet in elevation. Blooms May–June. Annual.
Marin County navarretia <i>Navarretia rosulata</i>	—	—	1B.2	Closed-cone coniferous forest, chaparral. Dry, open rocky places; can occur on serpentine. 655–2,085 feet in elevation. Blooms May–July. Annual.
Wolf's evening-primrose <i>Oenothera wolffii</i>	—	—	1B.1	Coastal bluff scrub, coastal dunes, coastal prairie, lower montane coniferous forest. Sandy substrates; usually mesic sites. 0–410 feet in elevation. Blooms May–October. Perennial.
Slender Orcutt grass <i>Orcuttia tenuis</i>	FT	SE	1B.1	Vernal pools, wetland. Often in gravelly substrate. 80–5,760 feet in elevation. Blooms May–September. Annual.
Geysers panicum <i>Panicum acuminatum</i> var. <i>thermale</i>	—	SE	1B.2	Closed-cone coniferous forest, riparian forest, valley and foothill grassland. Usually around moist, warm soil in the vicinity of hot springs. 1,490–8,110 feet in elevation. Blooms June–August. Annual/Perennial.
Sonoma beardtongue <i>Penstemon newberryi</i> var. <i>sonomensis</i>	—	—	1B.3	Chaparral. Crevices in rock outcrops and talus slopes. 590–4,610 feet in elevation. Blooms April–August. Perennial.
White-rayed pentachaeta <i>Pentachaeta bellidiflora</i>	FE	SE	1B.1	Valley and foothill grassland, cismontane woodland. Open dry rocky slopes and grassy areas, often on soils derived from serpentine bedrock. 115–2,000 feet in elevation. Blooms March–May. Annual.
North Coast phacelia <i>Phacelia insularis</i> var. <i>continentis</i>	—	—	1B.2	Coastal bluff scrub, coastal dunes. Open maritime bluffs, sandy soil, sometimes rocky habitats. 0–510 feet in elevation. Blooms March–May. Annual.
White-flowered rein orchid <i>Piperia candida</i>	—	—	1B.2	North Coast coniferous forest, lower montane coniferous forest, broad-leaved upland forest. Sometimes on serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. 150–5,300 feet in elevation. Blooms May–September. Perennial.
Point Reyes rein orchid <i>Piperia elegans</i> ssp. <i>decurtata</i>	—	—	1B.1	Coastal bluff scrub, coastal prairie. 50–510 feet in elevation. Blooms July–October. Perennial.
Hairless popcornflower <i>Plagiobothrys glaber</i>	—	—	1A	Meadows and seeps, marshes and swamps. Coastal salt marshes and alkaline meadows. 15–590 feet in elevation. Blooms March–May. Annual.
Petaluma popcornflower <i>Plagiobothrys mollis</i> var. <i>vestitus</i>	—	—	1A	Valley and foothill grassland, marshes and swamps. Wet sites in grassland, possibly coastal marsh margins. 35–165 feet in elevation. Blooms June–July. Perennial.
Calistoga popcornflower <i>Plagiobothrys strictus</i>	FE	ST	1B.1	Meadows and seeps, valley and foothill grassland, vernal pools. Alkaline sites near thermal springs and on margins of vernal pools in heavy, dark, adobe-like clay. 295–410 feet in elevation. Blooms March–June. Annual.
North Coast semaphore grass <i>Pleuropogon hooverianus</i>	—	ST	1B.1	Broad-leaved upland forest, meadows and seeps, North Coast coniferous forest. Wet grassy, usually shady areas, sometimes freshwater marsh; associated with forest environments. 150–3,810 feet in elevation. Blooms April–June. Geophyte.

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
Napa blue grass <i>Poa napensis</i>	FE	SE	1B.1	Meadows and seeps, valley and foothill grassland. Moist alkaline meadows fed by runoff from nearby hot springs. 330–395 feet in elevation. Blooms May–August. Perennial.
Oregon polemonium <i>Polemonium carneum</i>	—	—	2B.2	Coastal prairie, coastal scrub, lower montane coniferous forest. 0–6,005 feet in elevation. Blooms April–September. Perennial.
Nuttall's ribbon-leaved pondweed <i>Potamogeton epihydrus</i>	—	—	2B.2	Marshes and swamps. Shallow water, ponds, lakes, streams, irrigation ditches. 970–8,660 feet in elevation. Blooms July–September. Geophyte.
Eel-grass pondweed <i>Potamogeton zosteriformis</i>	—	—	2B.2	Marshes and swamps. Ponds, lakes, streams. 290–7,010 feet in elevation. Blooms June–July. Annual.
Cunningham Marsh cinquefoil <i>Potentilla uliginosa</i>	—	—	1A	Freshwater marshes and swamps. Found in permanent, oligotrophic wetlands. 100–130 feet in elevation. Blooms May–August. Perennial.
California alkali grass <i>Puccinellia simplex</i>	—	—	1B.2	Meadows and seeps, chenopod scrub, valley and foothill grasslands, vernal pools. Alkaline, vernal mesic. Sinks, flats, and lake margins. 5–3,000 feet in elevation. Blooms March–May. Annual.
Tamalpais oak <i>Quercus parvula</i> var. <i>tamalpaisensis</i>	—	—	1B.3	Lower montane coniferous forest. 330–2,460 feet in elevation. Blooms March–April. Perennial.
Angel's hair lichen <i>Ramalina thrausta</i>	—	—	2B.1	North Coast coniferous forest. On dead twigs and other lichens. 240–1,410 feet in elevation. Perennial.
White beaked-rush <i>Rhynchospora alba</i>	—	—	2B.2	Bogs and fens, meadows and seeps, marshes and swamps. Freshwater marshes and sphagnum bogs. 190–6,700 feet in elevation. Blooms June–August. Geophyte.
California beaked-rush <i>Rhynchospora californica</i>	—	—	1B.1	Bogs and fens, marshes and swamps, lower montane coniferous forest, meadows and seeps. Freshwater seeps and open marshy areas. 150–3,315 feet in elevation. Blooms May–July. Geophyte.
Brownish beaked-rush <i>Rhynchospora capitellata</i>	—	—	2B.2	Lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest. Mesic sites. 150–5,610 feet in elevation. Blooms July–August. Perennial.
Round-headed beaked-rush <i>Rhynchospora globularis</i>	—	—	2B.1	Freshwater marsh. 150–200 feet in elevation. Blooms July–August. Geophyte.
Sanford's arrowhead <i>Sagittaria sanfordii</i>	—	—	1B.2	In standing or slow-moving freshwater ponds, marshes, and ditches. 0–2,135 feet in elevation. Blooms May–October. Geophyte.
Lake County stonecrop <i>Sedella leiocarpa</i>	FE	SE	1B.1	Level areas that are seasonally wet and dry out in late spring; substrate usually of volcanic origin. 1,690–2,100 feet in elevation. Blooms April–May. Annual.
Chaparral ragwort <i>Senecio aphanactis</i>	—	—	2B.2	Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. 65–2,805 feet in elevation. Blooms January–April. Annual.
Point Reyes checkerbloom <i>Sidalcea calycosa</i> ssp. <i>rhizomata</i>	—	—	1B.2	Freshwater marshes near the coast. 15–310 feet in elevation. Blooms April–September. Geophyte.
Napa checkerbloom <i>Sidalcea hickmanii</i> ssp. <i>napensis</i>	—	—	1B.1	Chaparral. Rhyolitic substrates. 1360–2,000 feet in elevation. Blooms April–June. Perennial.
Marin checkerbloom <i>Sidalcea hickmanii</i> ssp. <i>viridis</i>	—	—	1B.1	Chaparral. Serpentine or volcanic soils; sometimes appears after burns. 165–1,410 feet in elevation. Blooms May–June. Perennial.
Keck's checkerbloom <i>Sidalcea keckii</i>	FE	—	1B.1	Grassy slopes in blue oak woodland. On serpentine-derived, clay soils, at least sometimes. 280–1,655 feet in elevation. Blooms April–May. Annual.
Purple-stemmed checkerbloom <i>Sidalcea malviflora</i> ssp. <i>purpurea</i>	—	—	1B.2	Broad-leaved upland forest, coastal prairie. 50–280 feet in elevation. Blooms May–June. Geophyte.

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
Marsh checkerbloom <i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	—	—	1B.2	Wet soil of stream banks, meadows. 3,610–7,545 feet in elevation. Blooms July–August. Perennial.
Kenwood Marsh checkerbloom <i>Sidalcea oregana</i> ssp. <i>valida</i>	FE	SE	1B.1	Edges of freshwater marshes. 375–410 feet in elevation. Blooms June–September. Geophyte.
Scouler's catchfly <i>Silene scouleri</i> ssp. <i>scouleri</i>	—	—	2B.2	Coastal bluff scrub, coastal prairie, valley and foothill grassland. 0–1,970 feet in elevation. Blooms June–August. Perennial.
Long-styled sand-spurrey <i>Spergularia macrotheca</i> var. <i>longistyla</i>	—	—	1B.2	Marshes and swamps, meadows and seeps. Alkaline. 0–835 feet in elevation. Blooms February–May. Perennial.
Santa Cruz microseris <i>Stebbinsoseris decipiens</i>	—	—	1B.2	Open areas in loose or disturbed soil, usually derived from sandstone, shale or serpentine, on seaward slopes. 35–1,640 feet in elevation. Blooms April–May. Annual.
Mount Burdell jewelflower <i>Streptanthus anomalus</i>	—	—	1B.1	Grassy openings, serpentinite. 165–490 feet in elevation. Blooms March–May. Annual.
Tamalpais jewelflower <i>Streptanthus batrachopus</i>	—	—	1B.3	Closed-cone coniferous forest, chaparral. Talus serpentine outcrops. 1,100–2,200 feet in elevation. Blooms April–July. Annual.
Socrates Mine jewelflower <i>Streptanthus brachiatus</i> ssp. <i>brachiatus</i>	—	—	1B.2	Chaparral, closed-cone coniferous forest. Serpentine areas and serpentine chaparral. 1,985–6,400 feet in elevation. Blooms May–June. Perennial.
Freed's jewelflower <i>Streptanthus brachiatus</i> ssp. <i>hoffmanii</i>	—	—	1B.2	Chaparral, cismontane woodland. Serpentine rock outcrops, primarily in geothermal development areas. 1,610–4,005 feet in elevation. Blooms May–July. Perennial.
Hoffman's bristly jewelflower <i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i>	—	—	1B.3	Moist, steep rocky banks, in serpentine and non-serpentine soil. 195–2,510 feet in elevation. Blooms March–July. Annual.
Tiburon jewelflower <i>Streptanthus glandulosus</i> ssp. <i>niger</i>	FE	SE	1B.1	Valley and foothill grassland. Shallow, rocky, serpentine slopes. 100–490 feet in elevation. Blooms May–June. Annual.
Mt. Tamalpais bristly jewelflower <i>Streptanthus glandulosus</i> ssp. <i>pulchellus</i>	—	—	1B.2	Chaparral, valley and foothill grassland. Serpentine slopes. 490–2,625 feet in elevation. Blooms May–July. Annual.
Green jewelflower <i>Streptanthus hesperidis</i>	—	—	1B.2	Chaparral, cismontane woodland. Openings in chaparral or woodland; serpentine, rocky sites. 785–2,510 feet in elevation. Blooms May–July. Annual.
Three Peaks jewelflower <i>Streptanthus morrisonii</i> ssp. <i>elatus</i>	—	—	1B.2	Chaparral. Serpentine barrens, outcrops, and talus. 260–2,675 feet in elevation. Blooms June–September. Perennial.
Dorr's Cabin jewelflower <i>Streptanthus morrisonii</i> ssp. <i>hirtiflorus</i>	—	—	1B.2	Chaparral and closed-cone coniferous forest. On the serpentine barrens at the head of Austin Creek. 605–2,690 feet in elevation. Blooms June. Perennial.
Kruckeberg's jewelflower <i>Streptanthus morrisonii</i> ssp. <i>kruckebergii</i>	—	—	1B.23	Cismontane woodland. Scattered serpentine outcrops near the Lake/Napa County line. 705–3,395 feet in elevation. Blooms April–July. Perennial.
Morrison's jewelflower <i>Streptanthus morrisonii</i> (synonym: <i>Streptanthus morrisonii</i> ssp. <i>morrisonii</i>)	—	—	1B.2	Chaparral. Serpentine outcrops in the Austin Creek area. 490–3,610 feet in elevation. Blooms May–September. Perennial.
Early jewelflower <i>Streptanthus vernalis</i>	—	—	1B.2	Chaparral, closed-cone coniferous forest. On serpentine. 1,960–2,960 feet in elevation. Blooms March–May. Annual.

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
Northern slender pondweed <i>Stuckenia filiformis</i> ssp. <i>alpina</i>	—	—	2B.2	Marshes and swamps. Shallow, clear water of lakes and drainage channels. 985–7,055 feet in elevation. Blooms May–July. Geophyte.
California seablite <i>Suaeda californica</i>	FE	—	1B.1	Marshes and swamps. Margins of coastal salt marshes. 0–15 feet in elevation. Blooms July–October. Perennial.
Twisted horsehair lichen <i>Sulcaria spiralifera</i>	—	—	1B.2	North Coast coniferous forest (immediate coast), coastal dunes. Usually on conifers. 0–295 feet in elevation. Perennial.
Suisun Marsh aster <i>Symphyotrichum lentum</i>	—	—	1B.2	Marshes and swamps (brackish and freshwater). Most often seen along sloughs with species including <i>Phragmites</i> spp., <i>Scirpus</i> spp., <i>Rubus</i> spp., and <i>Typha</i> spp. 0–100 feet in elevation. Blooms May–November. Geophyte.
Whiteworm lichen <i>Thamnolia vermicularis</i>	—	—	2B.1	Chaparral, valley and foothill grassland. On rocks derived from Wilson Ranch formation sandstone. 295 feet in elevation. Perennial.
Beaked tracyina <i>Tracyina rostrata</i>	—	—	1B.2	Cismontane woodland, valley and foothill grassland. Open grassy meadows within oak woodland and grassland habitats. 295–2,590 feet in elevation. Blooms May–June. Annual.
Napa bluecurls <i>Trichostema ruygtii</i>	—	—	1B.2	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest. Often in open, sunny areas. Also has been found in vernal pools. 100–2,230 feet in elevation. Blooms June–October. Annual.
Two-fork clover <i>Trifolium amoenum</i>	FE	—	1B.1	Valley and foothill grassland, coastal bluff scrub. Sometimes on serpentine soil, open sunny sites, swales. Most recently cited on roadside and eroding cliff face. 15–1,015 feet in elevation. Blooms April–June. Annual.
Santa Cruz clover <i>Trifolium buckwestiorum</i>	—	—	1B.1	Coastal prairie, broad-leaved upland forest, cismontane woodland. Moist grassland. Gravelly margins. 345–2,000 feet in elevation. Blooms April–October. Annual.
Saline clover <i>Trifolium hydrophilum</i>	—	—	1B.2	Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 0–985 feet in elevation. Blooms April–June. Annual.
Pacific Grove clover <i>Trifolium polyodon</i>	—	SR	1B.1	Closed-cone coniferous forest, meadows and seeps, coastal prairie, valley and foothill grassland. Along small springs and seeps in grassy openings. 15–395 feet in elevation. Blooms April–June. Annual.
Monterey clover <i>Trifolium trichocalyx</i>	FE	SE	1B.1	Closed-cone coniferous forest. Openings, burned areas, and roadsides. Sandy soils. 195–690 feet in elevation. Blooms April–June. Annual.
San Francisco owl's-clover <i>Triphysaria floribunda</i>	—	—	1B.2	Coastal prairie, coastal scrub, valley and foothill grassland. On serpentine and non-serpentine substrate. 5–490 feet in elevation. Blooms April–June. Annual.
Coastal triquetrella <i>Triquetrella californica</i>	—	—	1B.2	Coastal bluff scrub, coastal scrub. Grows within approximately 100 feet from the coast in coastal scrub, grasslands and in open gravels on roadsides, hillsides, rocky slopes, and fields. On gravel or thin soil over outcrops. 35–330 feet in elevation. Perennial.
Oval-leaved viburnum <i>Viburnum ellipticum</i>	—	—	2B.3	Chaparral, cismontane woodland, lower montane coniferous forest. 705–4,595 feet in elevation. Blooms May–June. Perennial.

Notes: CRPR = California Rare Plant Rank.

¹ Legal Status Definitions

Federal:

FE Federally Listed as Endangered (legally protected by ESA)

FT Federally Listed as Threatened (legally protected by ESA)

State:

SE State Listed as Endangered (legally protected by CESA)

ST State Listed as Threatened (legally protected by CESA)

SR State Rare (legally protected under the NPPA)

California Rare Plant Ranks (CRPR):

1A Plant species that are presumed extirpated or extinct because they have not been seen or collected in the wild in California for many years. A plant is extinct if it no longer occurs anywhere. A plant that is extirpated from California has been eliminated from California but may still

occur elsewhere in its range (protected under CEQA and meet the definition of CESA. If rediscovered, species would be eligible for state listing under CESA).

- 1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA).
- 2B Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA).

CRPR Threat Ranks:

- 0.1 Seriously threatened in California (over 80 percent of occurrences threatened; high degree and immediacy of threat)
- 0.2 Moderately threatened in California (20-80 percent occurrences threatened; moderate degree and immediacy of threat)
- 0.3 Not very threatened in California (less than 20 percent of occurrences threatened / low degree and immediacy of threat or no current threats known)

Sources: CNDDDB 2024; CNPS 2024a; Jepson 2024.

Special-Status Wildlife

Special-status wildlife species that have potential to occur in the Program area are presented in Table 3.4-12.

Table 3.4-12 Special-Status Wildlife Species Known to Occur in the Program area and Their Potential to Occur

Species	Listing	Status ¹	Habitat	Potential for Occurrence ²
	Federal	State		
Amphibians and Reptiles				
Alameda whipsnake <i>Masticophis lateralis euryxanthus</i>	FT	ST	Typically found in chaparral and scrub habitats but will also use adjacent grassland or oak savanna and woodland habitats. Mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.	Not expected to occur. Alameda whipsnake is known to occur from only five populations within Contra Costa County, Alameda County, and small portions of northern Santa Clara and western San Joaquin Counties.
California giant salamander <i>Dicamptodon ensatus</i>	–	SSC	Meadow and seep, North Coast coniferous forest, and riparian forest. Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	Known to occur. The range of California giant salamander includes the Program area. The species has many documented occurrences reported in the County and is known to occur in upland habitat and aquatic habitat including streams, ponds, lakes, and seeps throughout the Program area (CNDDDB 2024). Meadow, forest, and riparian forest areas near aquatic habitat in other portions of the Program area provide habitat potentially suitable for this species.
California red-legged frog <i>Rana draytonii</i>	FT	SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. Requires 11–20 weeks of permanent water for larval development. Must have access to estivation habitat.	Known to occur. The range of California red-legged frog includes the Program area. The species is known to occur in aquatic habitat including streams, ponds, lakes, and marsh and upland habitat with occurrences dispersed within the Program area although none are recorded in the northeastern portion of the County (CNDDDB 2024). Aquatic habitat including streams, ponds, lakes, and marsh in other portions of the Program area provides habitat potentially suitable for this species. Critical habitat for this species is present within the Program area (see “Critical Habitat” section, below, and Figure 3.4-7).

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
California tiger salamander - Sonoma County DPS pop. 3 <i>Ambystoma californiense</i>	FE	ST	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Known to occur. The California tiger salamander Sonoma County DPS is endemic to Sonoma County. The species is known to occur in grassland and woodlands with aquatic habitat present from Santa Rosa south to Two Rock and Petaluma, with many occurrences present within the Program area (CNDDDB 2024). Grasslands and woodlands with appropriate aquatic habitat and underground burrows throughout the Program area provide habitat potentially suitable for this species. Critical habitat for this species is present within the Program area (see "Critical Habitat" section, below, and Figure 3.4-7). Species covered in the Santa Rosa Plain Conservation Strategy.
Foothill yellow-legged frog North Coast DPS pop. 1 <i>Rana boylei</i>	—	SSC	Northern Coast Ranges north of San Francisco Bay Estuary, Klamath Mountains, and Cascade Range including watershed subbasins (HUC 8) Lower Pit, Battle Creek, Thomes Creek, and Big Chico Creek in Lassen, Shasta, Tehama, and Butte Counties. Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.	Known to occur. The North Coast DPS of foothill yellow-legged frog is known to occur in aquatic habitat including streams, ponds, and springs throughout the Program area (CNDDDB 2024). Rocky streams throughout the Program area provide habitat potentially suitable for this species.
Green turtle <i>Chelonia mydas</i>	FT	—	Green sea turtles are found worldwide, primarily in subtropical and temperate regions of the Atlantic, Pacific, and Indian Oceans and in the Mediterranean Sea. In the United States, nesting green turtles are found primarily in the Hawaiian Islands, US Pacific Island territories (i.e., Guam, the Commonwealth of the Northern Mariana Islands, American Samoa), Puerto Rico, the Virgin Islands, and Florida. Nesting also occurs annually in Georgia, South Carolina, North Carolina, and Texas. This species is completely herbivorous and needs adequate supply of seagrasses and algae.	Not expected to occur. Although green turtle may occasionally occur in marine habitats off the coast of Sonoma County, the coastal zone is not part of the Program area.
Pacific leatherback sea turtle <i>Dermochelys coriacea</i>	FE	SE	The Pacific leatherback sea turtle has the widest global distribution of any reptile, occurring in the Atlantic, Pacific, and Indian Oceans. This species nests mainly on tropical or subtropical beaches. Pacific leatherback sea turtles undertake the longest migrations between breeding and feeding areas of any sea turtle, some averaging 3,700 miles each way.	Not expected to occur. Although Pacific leatherback sea turtle may occasionally occur in marine habitats off the coast of Sonoma County, the coastal zone is not part of the Program area.
Pacific tailed frog <i>Ascaphus truei</i>	—	SSC	Klamath/North Coast flowing waters, lower montane coniferous forest, North Coast coniferous forest, redwood, and riparian forest. Occurs in montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats. Restricted to perennial montane streams. Tadpoles require water below 15 degrees Celsius.	May occur. Pacific tailed frog is known to occur approximately 9 miles north of the Program area (CNDDDB 2024). Streams within the Program area provide habitat potentially suitable for this species.

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Red-bellied newt <i>Taricha rivularis</i>	—	SSC	Broad-leafed upland forest, North Coast coniferous forest, redwood, riparian forest, and riparian woodland. Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County. Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 kilometer (approximately 0.6 miles) to breed, typically in streams with moderate flow and clean, rocky substrate.	Known to occur. Red-bellied newt is known to occur in upland habitat including redwood forest and aquatic habitat including streams throughout the Program area although occurrences are sparser in the southern portion of the Program area (CNDDDB 2024). Forest and riparian forest and woodland areas within approximately 0.6 miles of streams throughout the Program area provide habitat potentially suitable for this species.
Southern torrent salamander <i>Rhyacotriton variegatus</i>	—	SSC	Lower montane coniferous forest, old-growth, redwood, and riparian forest. Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old-growth forest. Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rock within trickling water.	Not expected to occur. The range of southern torrent salamander in California is from Point Arena, CA in Mendocino County north to the California-Oregon border, which is outside of the program area.
Northwestern pond turtle <i>Actinemys marmorata</i>	FP	SSC	Ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.3 miles from water for egg-laying.	Known to occur. Northwestern pond turtle is known to occur in aquatic habitat including streams, rivers, lakes, and ponds and surrounding upland habitat throughout the Program area although occurrences are sparser in the northwestern portion of the County (CNDDDB 2024). Aquatic habitat including ponds, marshes, rivers, streams, and irrigation ditches throughout the Program area provide habitat potentially suitable for this species.
Western spadefoot <i>Spea hammondi</i>	FP	SSC	Cismontane woodland, coastal scrub, valley and foothill grassland, vernal pool, and wetlands. Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Not expected to occur. The range of western spadefoot in northern California is mostly restricted to counties in the Central Valley and also includes the southeastern corner of Napa County, which is outside of the Program area.
Birds				
Alameda song sparrow <i>Melospiza melodia pusillula</i>	—	SSC	Resident of salt marshes bordering south arm of San Francisco Bay. Inhabits pickleweed (<i>Salicornia</i> spp.) marshes; nests low in <i>Grindelia</i> bushes (high enough to escape high tides) and in pickleweed.	Not expected to occur. The range of Alameda song sparrow is restricted to Contra Costa, Alameda, Santa Clara, and San Mateo Counties along the San Francisco Bay, which is outside of the Program area.
American goshawk <i>Accipiter atricapillus</i>	—	SSC	Nests primarily in conifer forest and aspen stands with high canopy closure (typically greater than 70 percent), relatively high density of large live and dead trees, low density of small trees, and low shrub/sapling and ground cover. Reuses old nests and maintains alternate nest sites. Often nests on gentle to moderate north slopes and near water. Forages in moderately dense, mature forests and younger forests, some openings, and along forest edges. Red fir, lodgepole pine, Jeffrey pine, and quaking aspen (<i>Populus tremuloides</i>) are typical nest trees.	Not expected to occur. The range of American goshawk in northern coastal California is from Mendocino County north to the California-Oregon border, which is outside of the Program area.

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
American peregrine falcon <i>Falco peregrinus anatum</i>	FD	SD	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Known to occur. The yearlong range of American peregrine falcon overlaps the entire Program area. American peregrine falcon has been documented east of Windsor, CA, near the Sonoma-Napa County line (CNDDDB 2024). The location of this occurrence is not specific due to the sensitivity of falcon nest sites; however, the occurrence as it is mapped overlaps the Program area, and it is possible that the nest is in or adjacent to the Program area (CNDDDB 2024). American peregrine falcons have been observed throughout the County, with most observations occurring in the southern portion of the Program area (eBird 2024). Perch habitat including cliffs, banks, and human structures in proximity to water throughout the Program area provide nesting habitat potentially suitable for this species.
Ashy storm-petrel <i>Hydrobates homochroa</i>	—	SSC	Protected deepwater coastal communities. Colonial nester on offshore islands. Usually nests on driest part of islands. Forages over open ocean. Nest sites on islands are in crevices beneath loosely piled rocks or driftwood, or in caves.	Not expected to occur. Though the range of ashy storm-petrel includes Sonoma County, it is restricted the coast, which is not part of the Program area.
Bald eagle <i>Haliaeetus leucocephalus</i> (winter range)	FD	SE; FP	Lower montane coniferous forest, old-growth. Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Known to occur. The winter range of bald eagle overlaps the entire Program area. Bald eagles have been observed throughout the Program area (eBird 2024). Forest areas near aquatic habitat throughout the Program area provide wintering habitat potentially suitable for this species.
Bank swallow <i>Riparia riparia</i>	—	ST	Riparian scrub, riparian woodland. Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	May occur. Bank swallow has a documented occurrence near Sonoma, CA, in the Program area (CNDDDB 2024). There is also a documented occurrences near Jenner, CA, overlapping the Program area, just outside of the coastal zone (CNDDDB 2024). In addition, there are several observations of the species in the Program area, mostly concentrated in the southern part of the County (eBird 2024). The Program area is outside of the current documented range of this species; however, there are some historic occurrences and recent sightings, so it is possible that the species could occur as an infrequent visitor. Riparian areas near perch and aquatic habitat throughout the Program area provide nesting habitat potentially suitable for this species.

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Black swift <i>Cypseloides niger</i>	—	SSC	Coastal belt of Santa Cruz and Monterey Counties; central and southern Sierra Nevada; San Bernardino and San Jacinto Mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely	May occur. Black swift has a documented occurrence near the Sonoma-Napa County line east of Glen Ellen, CA (CNDDDB 2024). In addition, black swift have been observed throughout the Program area, mostly concentrated in the southern portion of the County (eBird 2024). The Program area is outside of the current documented range of this species; however, there are some historic occurrences and recent sightings, so it is possible that the species could occur as an infrequent visitor. Cliff or other perch habitat in throughout the Program area provide habitat potentially suitable for this species.
Burrowing owl <i>Athene cunicularia</i>	—	SC; SSC	Coastal prairie, coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, and valley and foothill grassland. Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Known to occur. The winter range of the burrowing owl overlaps with most of the Program area, minus the southeastern portion. In addition, the southeastern tip of the County in the Program area is part of the year-round range of the species. Documented occurrences are mostly concentrated within the middle and southern portion of the Program area (CNDDDB 2024). Grasslands and agricultural areas in the Program area may provide habitat suitable for this species.
California black rail <i>Laterallus jamaicensis coturniculus</i>	—	ST; FP	Brackish marsh, freshwater marsh, marsh and swamp, salt marsh, wetland. Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Known to occur. The yearlong range of California black rail includes the southern tip of the Program area. Documented occurrences in the Program area include occurrences along the Petaluma River near the mouth of San Pablo Bay, which is fed by the Petaluma River, and the shore of the San Pablo Bay (CNDDDB 2024). Marsh and other wetland areas in the Program area may provide habitat suitable for this species.
California least tern <i>Sternula antillarum browni</i> (synonym: <i>Sterna albifrons browni</i>)	FE	SE; FP	Alkali playa, wetland. Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	Not expected to occur. The range of California least tern in northern California is restricted to Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco Counties, which is outside of the Program area.
California Ridgway's rail <i>Rallus obsoletus obsoletus</i> (synonym: <i>Rallus longirostris obsoletus</i>)	FE	SE; FP	Brackish marsh, marsh and swamp, salt marsh, wetlands. Salt-water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	Known to occur. The current yearlong range of California Ridgway's rail includes the southern portion of the Program area. Documented occurrences in the Program area include occurrences along the Petaluma River near the mouth of San Pablo Bay, which is fed by the Petaluma River, and the shore of the San Pablo Bay (CNDDDB 2024). Marsh and other wetland areas in the Program area may provide habitat suitable for this species.

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Golden eagle <i>Aquila chrysaetos</i>	—	FP	Broad-leafed upland forest, cismontane woodland, coastal prairie, Great Basin grassland, Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodlands, upper montane coniferous forest, and valley and foothill grassland. Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Known to occur. The yearlong range of golden eagle overlaps all of the Program area. There is a documented occurrence in the Program area east of Cotati in the Sonoma Mountains (CNDDDB 2024). In addition, there have been many reported sightings of golden eagle throughout the Program area (eBird 2024). Large trees and cliffed areas in the Program area may provide habitat suitable for this species.
Grasshopper sparrow <i>Ammodramus savannarum</i>	—	SSC	Valley and foothill grassland. Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	Known to occur. The breeding range of grasshopper sparrow overlaps most of the Program area, with the exception of two small areas in the southern portion of the County. There is a documented occurrence in the Program area east of Cotati in the Sonoma Mountains (CNDDDB 2024). In addition, there have been reported sightings of grasshopper sparrow throughout the Program area, mostly concentrated in the southern part of the County (eBird 2024). Grassland areas in the Program area may provide habitat suitable for this species.
Hawaiian petrel <i>Pterodroma sandwichensis</i>	FE	—	Nests in the mountains on several of the main Hawaiian Islands. Since the 1990s, it has been found year-round in small numbers on offshore trips from Oregon and northern California, and less regularly north to British Columbia and south to southern California.	Not expected to occur. Although Hawaiian petrels may forage in open ocean environments offshore of Sonoma County, the coastal zone is not included in the Program area.
Loggerhead shrike <i>Lanius ludovicianus</i>	—	SSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, shrub, and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs for nesting.	Known to occur. The range of loggerhead shrike overlaps most of the Program area, except for some of the northwestern portion. In addition, the winter range of this species is present along the northwest Sonoma County coastline, though this is mostly in the coastal zone and therefore outside of the Program area. Loggerhead shrikes have been observed in the Program area (eBird 2024). Woodlands and shrublands near open areas in the Program area may provide habitat suitable for this species.
Long-eared owl <i>Asio otus</i>	—	SSC	Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	Known to occur. The range of long-eared owl overlaps the entire Program area. Long-eared owls have been observed in the Program area, mostly in the southern portion but also in the north and western portions of the Program area (eBird 2024). Riparian and adjacent open land in the Program area may provide habitat suitable for this species.

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Marbled murrelet <i>Brachyramphus marmoratus</i>	FT	SE	Lower montane coniferous forest, old-growth, redwood. Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to 6 miles inland, often in Douglas-fir.	Known to occur. The range of marbled murrelet overlaps the western edge of the Program area. This species has a documented occurrence in the Program area west of Stewarts Point (CNDDDB 2024). In addition, marbled murrelets have been observed along the Sonoma County coastline (eBird 2024), but they typically occur in the greatest concentrations onshore in areas with intact old-growth forests in the Program area. Critical habitat for this species is present within the Program area (see “Critical Habitat” section, below, and Figure 3.4-7).
Northern harrier <i>Circus hudsonius</i>	—	SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	Known to occur. The yearlong range of northern harrier includes the northwestern, lower middle, and southern portions of the Program area. The winter range of the species covers the northern, northeastern, and upper middle portions of the County. There have been many reported sightings of the species throughout the Program area, with observations being the least numerous in the northwestern portion of the Program area (eBird 2024). Marsh, riparian, and grassland habitats within the range of this species may provide nesting habitat suitable for northern harriers.
Northern spotted owl <i>Strix occidentalis caurina</i>	FT	ST; SSC	North Coast coniferous forest, old-growth, redwood. Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees. High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris and space under canopy.	Known to occur. Northern spotted owl has documented occurrences heavily concentrated in the western portion of the Program area, but also along the eastern boundary of the Program area (CNDDDB 2024). Critical habitat for this species is present within the Program area (see “Critical Habitat” section, below, and Figure 3.4-7).
Purple martin <i>Progne subis</i>	—	SSC	Broad-leaved upland forest, lower montane coniferous forest. Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly, also in human-made structures. Nest often located in tall, isolated tree/snag.	Known to occur. The range of purple martin overlaps the entire County. Documented occurrences of this species in the Program area are located in the northeastern corner near Big Sulphur Creek, close to the Sonoma-Napa County line (CNDDDB 2024). In addition, this species has been observed throughout the Program area (eBird 2024).

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Saltmarsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	—	SSC	Marsh and swamp. Resident of the San Francisco Bay region, in fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	Known to occur. Saltmarsh common yellowthroat has documented occurrences in the southern portion of the Program area including occurrences along the Petaluma River near the mouth of San Pablo Bay, which is fed by the Petaluma River, Hideman Slough, and the shore of the San Pablo Bay (CNDDDB 2024). Marsh areas in the Program area may provide habitat suitable for this species.
San Pablo song sparrow <i>Melospiza melodia samuelis</i>	—	SSC	Salt marsh. Resident of salt marshes along the north side of San Francisco and San Pablo bays. Inhabits tidal sloughs in the pickleweed (<i>Salicornia</i> spp.) marshes; nests in <i>Grindelia</i> spp. bordering slough channels.	Known to occur. San Pablo song sparrow has documented occurrences in the southern portion of the Program area including occurrences along the Petaluma River near the mouth of San Pablo Bay, which is fed by the Petaluma River, Skaggs Island, and the shore of the San Pablo Bay (CNDDDB 2024). Salt marsh and slough areas in the Program area may provide habitat suitable for this species.
Short-eared owl <i>Asio flammeus</i>	—	SSC	Great Basin grassland, marsh and swamp, meadow and seep, valley and foothill grassland, and wetlands. Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	Known to occur. The winter range of short-eared owl encompasses the western border, south, and southeastern portions of the Program area. The yearlong range of this species overlaps one area in the southern portion of the Program area. Short-eared owl has been observed throughout the Program area, with observations concentrated in the southern portion of the County (eBird 2024). Grasslands and wetlands including marsh and wet meadows in the Program area may provide nesting habitat suitable for this species.
Short-tailed albatross <i>Phoebastria albatrus</i>	FE	SSC	The species breeds primarily on remote islands in the western Pacific. During the nonbreeding season, short-tailed albatross range along the Pacific Rim, from southern Japan to the west coast of Canada and the United States, primarily along the continental shelf margin.	Not expected to occur. Although short-tailed albatross may forage in open ocean environments offshore of Sonoma County, the coastal zone is not included in the Program area.
Suisun song sparrow <i>Melospiza melodia maxillaris</i>	—	SSC	Marsh and swamp, wetlands. Resident of brackish-water marshes surrounding Suisun Bay. Inhabits cattails, tules and other sedges, and pickleweed (<i>Salicornia</i> spp.); also known to frequent tangles bordering sloughs.	Not expected to occur. The range of Suisun song sparrow is restricted to brackish-water marshes surrounding Suisun Bay, which is outside of the Program area.

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Swainson's hawk <i>Buteo swainsoni</i>	—	ST	Great Basin grassland, riparian forest, riparian woodland, valley and foothill grassland. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas, such as grasslands, or alfalfa or grain fields supporting rodent populations.	May occur. Swainson's hawk has documented occurrences in the Program area, one of which is still presumed extant and was recorded along Sonoma Creek in the southern portion of the Program area (CNDDDB 2024). In addition, Swainson's hawk has been observed throughout the County, with most observations occurring in the southern Program area (eBird 2024). The Program area is outside of the current documented range of this species; however, there have been some extralimital nesting occurrences in Sonoma County, so the species could occur in the Program area as an infrequent visitor. Grasslands, riparian, agricultural, and ranch land areas in the Program area may provide nesting habitat suitable for this species.
Tricolored blackbird <i>Agelaius tricolor</i>	—	ST; SSC	Freshwater marsh, marsh and swamp, swamp, wetland. Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	Known to occur. The yearlong range of tricolored blackbird overlaps the southern half of the Program area. This species has documented occurrences concentrated in the southern portion of the Program area (CNDDDB 2024). In addition, tricolored blackbird has been observed throughout the County, with most observations occurring in the southern portion of the Program area (eBird 2024). Marsh and other wetland areas in the Program area may provide nesting habitat suitable for this species.
Tufted puffin <i>Fratercula cirrhata</i>	—	SSC	Protected deepwater coastal communities. Open-ocean bird; nests along the coast on islands, islets, or (rarely) mainland cliffs. Requires sod or earth into which the birds can burrow, on island cliffs or grassy island slopes.	Not expected to occur. Although the range of tufted puffin overlaps with the Sonoma County coast and the species has been documented near Goat Rock near Jenner, CA (CNDDDB 2024), the coastal zone is not included in the Program area.
Vaux's swift <i>Chaetura vauxi</i>	—	SSC	Redwood, Douglas-fir, and other coniferous forests. Nests in large hollow trees and snags. Often nests in flocks. Forages over most terrains and habitats but shows a preference for foraging over rivers and lakes.	Known to occur. The breeding range of Vaux's swift overlaps the northern portion and most of the western portion of the Program area. Although, this species has been observed throughout the Program area (eBird 2024). Coniferous forest in the Program area may provide nesting habitat suitable for this species.

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Western snowy plover <i>Charadrius nivosus nivosus</i>	FT	SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	May occur. The winter range of western snowy plover includes the southern portion of the Program area, and there is one area in the southeastern corner of the Program area that is within the yearlong range of the species. In addition, there is a documented occurrence on the Napa side of the Sonoma-Napa County line in the Napa-Sonoma Marshes Wildlife Area near the southeastern portion of the Program area (CNDDDB 2024). Sandy areas in the southern portion of the Program area near San Pablo Bay may provide nesting habitat suitable for this species.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FT	SE	Riparian forest. Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	May occur. Western yellow-billed cuckoo has two documented occurrences in the southern portion of the Program area (CNDDDB 2024). The Program area is outside of the current documented range of this species; however, there are some historic occurrences and recent sightings, so it is possible that the species could occur as an infrequent visitor. Riparian areas in the Program area may provide nesting habitat suitable for this species.
White-tailed kite <i>Elanus leucurus</i>	—	FP	Cismontane woodland, marsh and swamp, riparian woodland, valley and foothill grassland, and wetlands. Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Known to occur. The yearlong range of white-tailed kite overlaps all of the Program area. This species has been documented in the middle portion of the Program area, from south of Healdsburg, CA, to east of Cotati, CA (CNDDDB 2024). In addition, white-tailed kites have been observed throughout the County, with most observations occurring in the southern portion of the Program area (eBird 2024). Woodland, riparian, wetland, and grassland areas in the Program area may provide nesting habitat suitable for this species.
Yellow rail <i>Coturnicops noveboracensis</i>	—	SSC	Freshwater marsh, meadow and seep. Summer resident in eastern Sierra Nevada in Mono County. Fresh-water marshlands.	Known to occur. Yellow rail has two documented occurrences in the southern and middle portions of the Program area (CNDDDB 2024). Marsh and other wetland areas in the Program area may provide nesting habitat suitable for this species.

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Yellow warbler <i>Setophaga petechia</i>	—	SSC	Riparian forest, riparian scrub, riparian woodland. Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Known to occur. The breeding range of yellow warbler overlaps all of the Program area. Yellow warbler has been observed many times throughout the County, with the least amount of observations occurring in the northwestern portion of the Program area (eBird 2024). Riparian areas in the Program area may provide nesting habitat suitable for this species.
Yellow-breasted chat <i>Icteria virens</i>	—	SSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 feet of ground.	Known to occur. The breeding range of yellow-breasted chat overlaps most of the Program area except for the southeastern tip. This species has been observed throughout the Program area (eBird 2024). Riparian habitat in the Program area may provide nesting habitat suitable for this species.
Yellow-headed blackbird <i>Xanthocephalus xanthocephalus</i>	—	SSC	Marsh and swamp, wetland. Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds. Nests only where large insects, such as Odonata, are abundant, nesting timed with maximum emergence of aquatic insects.	Known to occur. Yellow-headed blackbird has been observed throughout the County, with the most observations occurring in the southern half of the Program area (eBird 2024). The current accepted breeding range of yellow-headed blackbird overlaps with the southeastern tip of the Program area; however, this species has been observed throughout the Program area. Marsh and other wetland areas in the Program area may provide nesting habitat suitable for this species.
Fish				
Clear Lake hitch <i>Lavinia exilicauda chi</i>	—	ST	Found only in Clear Lake, Lake County, and associated ponds. Spawns in streams flowing into Clear Lake. Adults found in the limnetic zone. Juveniles found in the nearshore shallow-water habitat hiding in the vegetation.	Not expected to occur. Clear Lake hitch is endemic to Clear Lake and its tributaries in Lake County, which is outside of the Program area.
Clear Lake tule perch <i>Hysterocarpus traskii lagunae</i>	—	SSC	Endemic to three highly altered lakes in Lake County, CA. Populations seem to have dropped to very low levels in Clear Lake; they are probably absent from Lower Blue Lake, but still common in Upper Blue Lake. A key habitat requirement of is cover, especially for pregnant females and small juveniles. They are usually found in small shoals in deep (3+ meters) tule beds, among rocks (especially along steep rocky shores), or among the branches of fallen trees.	Not expected to occur. Clear Lake tule perch is endemic to Clear Lake and Upper Blue Lake in Lake County, which is outside of the Program area.

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Chinook salmon California coastal ESU pop. 17 <i>Oncorhynchus tshawytscha</i>	FT	—	Sacramento/San Joaquin flowing waters. Federal listing refers to wild spawned, coastal, spring and fall runs between Redwood Creek, Humboldt County, and Russian River, Sonoma County.	Known to occur. The California coast ESU of Chinook salmon is known to occur in several waterways in the Program area, including the Russian River, Dry Creek, Austin Creek, and Santa Rosa Creek (Santos 2015). Freshwater streams in other portions of the Program area may provide habitat suitable for this species. Critical habitat for this species is present within the Program area (see “Critical Habitat” section, below, and Figure 3.4-7).
Coho salmon Central California coast ESU pop. 4 <i>Oncorhynchus kisutch</i>	FE	SE	Federal listing includes populations between Punta Gorda and San Lorenzo River. State listing includes populations south of Punta Gorda. Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water, and sufficient dissolved oxygen.	Known to occur. The Central California coast ESU of Coho salmon is known to occur in several waterways in the Program area including Dry Creek, Pena Creek, Mark West Creek, and Dutch Bill Creek, with occurrences mostly concentrated in the center and southern portions of the County (CNDDDB 2024). Freshwater streams in other portions of the Program area may provide habitat suitable for this species. Critical habitat for this species is present within the Program area (see “Critical Habitat” section, below, and Figure 3.4-7).
Delta smelt <i>Hypomesus transpacificus</i>	FT	SE	Estuary. Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay. Seldom found at salinities greater than 10 ppt. Most often at salinities less than 2 ppt.	May occur. Delta smelt is endemic to the Delta, Suisun Bay, Carquinez Strait, and San Pablo Bay. San Pablo Bay borders the southeastern edge of the Program area.
Eulachon <i>Thaleichthys pacificus</i>	FT	—	Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand, and woody debris.	Not expected to occur. Although eulachon has been documented in Bodega Bay in Sonoma County, the Program area does not include the coastal zone.
Green sturgeon - southern DPS pop. 1 <i>Acipenser medirostris</i>	FT	—	Spawns in the Sacramento, Feather, and Yuba Rivers. Presence in upper Stanislaus and San Joaquin Rivers may indicate spawning. Non-spawning adults occupy marine/estuarine waters. Delta Estuary is important for rearing juveniles. Spawning occurs primarily in cool (11–15 °C [52–59 °F]) sections of mainstem rivers in deep pools (25–30 feet) with substrate containing small to medium-sized sand, gravel, cobble, or boulder.	Known to occur. Green sturgeon has been documented in the southern portion of the Program area in estuarine waters (Santos 2014). Freshwater streams in the Program area may provide habitat suitable for spawning for this species. Critical habitat for this species is present within the Program area (see “Critical Habitat” section, below, and Figure 3.4-7).
Gualala roach <i>Hesperoleucus parvipinnis</i>	—	SSC	Confined to the Gualala River and its tributaries, as well as tributaries of the Russian River. Warm water adapted.	Known to occur. Gualala roach has documented occurrences in the Program area along the Gualala River in the northwestern portion of the Program area and in Austin Creek in the western portion of the County, near Cazadero, CA (CNDDDB 2024).

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Hardhead <i>Mylopharodon conocephalus</i>	—	SSC	Low- to mid-elevation streams in the Sacramento-San Joaquin drainage. Also present in the Russian River. Clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Not found where exotic centrarchids predominate.	Known to occur. Hardhead have been recorded at the mouth of the Russian River and Estero Americano Estuary, which are in the coastal zone and therefore not part of the Program area. However, hardhead has been recorded up to approximately 12.4 miles upriver away from brackish water (i.e., mixture of fresh and seawater) (Garwood 2017), which would be well out of the coastal zone and within the Program area. Freshwater streams in other portions of the Program area may provide habitat suitable for this species.
Longfin smelt <i>Spirinchus thaleichthys</i>	FE	ST; SSC	Euryhaline, nektonic, and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Has been found 20 kilometers (approximately 12.4 miles) upstream from brackish water. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	Known to occur. Longfin smelt had been documented in the northern tidal channel of the San Pablo Bay, overlapping the southern portion of the Program area (CNDDDB 2024). This species has also been documented in the coastal zone in Sonoma County (CNDDDB 2024). Although this is out of the Program area, these occurrences are less than 12.4 miles from the Program area, which is the distance this species has been known to travel upstream from brackish water. Brackish and freshwater areas in other portions of the Program area may provide habitat suitable for this species.
Northern coastal roach <i>Hesperoleucus venustus navarroensis</i>	—	SSC	Habitat generalists. Found generally in a wide variety of habitats in the Navarro River and Russian River basins where there is cover (e.g. fallen trees) and where alien predators are absent. Most abundant in tributaries with clear, well-oxygenated water with dominant substrates of cobble and boulder, and shallow depths (average 10-50 centimeters [approximately 3.9 to 19.7 inches] with pools up to 1 m (approximately 3.2 feet) deep.	Known to occur. The range of northern coastal roach includes the Russian River and its tributaries. Documented occurrences of northern coastal roach in the Program area include occurrences in the Russian River and Mark West Creek (CNDDDB 2024).
Russian River tule perch <i>Hysterocarpus traskii pomo</i>	—	SSC	Low elevation streams of the Russian River system. Requires clear, flowing water with abundant cover. They also require deep (greater than approximately 3 feet pool habitat.	Known to occur. The Russian River tule perch is endemic to the Russian River and its tributaries in Sonoma and Mendocino Counties. Documented occurrences of Russian River tule perch in the Program area include occurrences in the Russian River, Dry Creek, and Maacama Creek (CNDDDB 2024).
Sacramento perch <i>Archoplites interruptus</i>	—	SSC	Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley. Prefers warm water. Aquatic vegetation is essential for young. Tolerates wide range of physio-chemical water conditions.	Not expected to occur. The range of Sacramento perch does not include the Program area.

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	—	SSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay, and associated marshes. Slow moving river sections, dead-end sloughs. Requires flooded vegetation for spawning and foraging for young.	Known to occur. The range of Sacramento splittail overlaps the southern portion of Program area. Sacramento splittail has documented occurrences in the Petaluma River (CNDDDB 2024). Slough and freshwater habitat in other portions of the Program area may provide habitat suitable for this species.
Southern coastal roach <i>Hesperoleucus venustus subditus</i>	—	SSC	Found in the drainages of Tomales Bay and northern San Francisco Bay in the north, and drainages of Monterey Bay in the south.	May occur. The range of southern coastal roach overlaps the southeastern portion of the Program area. Stream habitat in the Program area may provide habitat suitable for this species.
Steelhead Central California coast DPS pop. 8 <i>Oncorhynchus mykiss irideus</i>	FT	SSC	Sacramento/San Joaquin flowing waters. From Russian River, south to Soquel Creek and to, but not including, Pajaro River. Also San Francisco and San Pablo Bay basins.	Known to occur. The range of the Central California coast DPS of steelhead overlaps the Program area. This DPS has documented occurrences interspersed throughout the Program area and include occurrences in Mill Creek, Copeland Creek, and Adobe Creek (CNDDDB 2024). Stream habitat in other portions of the Program area may provide habitat suitable for this species. Critical habitat for this species is present within the Program area (see "Critical Habitat" section, below, and Figure 3.4-7).
Steelhead Northern California DPS winter-run pop. 49 <i>Oncorhynchus mykiss irideus</i>	FT	SSC	Naturally spawning population of the ocean-maturing winter-run ecotype. From Redwood Creek watershed south to and inclusive of Gualala River watershed. Distribution throughout range. Adults require high flows of approximately 7.1–7.9 inches for passage and loose gravels at pool tails for redd construction. Juveniles favor areas with cool (10–17 degrees Celsius), clear, fast-flowing riffles, ample riparian cover, undercut banks and diverse prey.	Known to occur. The range of the Northern California DPS winter-run of steelhead overlaps the Program area. Documented occurrences of this DPS are concentrated in the northwestern portion of the County and include occurrences in the South Fork Gualala River; Buckeye Creek; and West, Middle, and East branches of Russian Gulch (CNDDDB 2024). Stream habitat in other portions of the Program area may provide habitat suitable for this species. Critical habitat for this species is present within the Program area (see "Critical Habitat" section, below, and Figure 3.4-7).
Tidewater goby <i>Eucyclogobius newberryi</i>	FE	SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River, Del Norte County. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels. Tidewater gobies will migrate upstream from the lagoon into tributaries. Distances of up to half a mile are common, however tidewater gobies can travel 3– 5 miles upstream	May occur. The range of tidewater goby overlaps the western portion of the Program area, east of the coastal zone, and the southern portion of the Program area. Streams up to approximately 5 miles of the Pacific Ocean or San Pablo Bay may provide habitat suitable for this species.

Species	Listing	Status ¹	Habitat	Potential for Occurrence ²
	Federal	State		
Invertebrates				
Behren's silverspot butterfly <i>Speyeria zerene behrensii</i>	FE	—	Coastal prairie. Restricted to the Pacific side of the Coast Ranges, from Point Arena to Cape Mendocino, Mendocino County. Inhabits coastal terrace prairie habitat. Foodplant is <i>Viola</i> spp.	May occur. The range of Behren's silverspot butterfly includes the Program area. Although most of the species' range is within the coastal zone, there are areas where USFWS defines the species range out of the coastal zone, including in the northwestern portion of the County near Valley Crossing, CA, at the confluence of the Wheatfield Fork and South Fork of the Gualala River (USFWS 2024a).
California freshwater shrimp <i>Syncaris pacifica</i>	FE	SE	Sacramento/San Joaquin flowing waters. Endemic to Marin, Napa, and Sonoma Counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main streamflow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	Known to occur. The range of California freshwater shrimp includes the Program area. The species has documented occurrences within the Program area, mostly concentrated in the central and southern portions of the County, including occurrences in Green Valley Creek, Franz Creek, Sonoma Creek, and Salmon Creek (CNDDDB 2024).
Callippe silverspot butterfly <i>Speyeria callippe callippe</i>	FE	—	Restricted to the northern coastal scrub of the San Francisco peninsula. Hostplant is <i>Viola pedunculata</i> . Females lay their eggs on the dry remains of the larval food plant <i>Viola pedunculata</i> or on the surrounding debris. Most adults found on east-facing slopes; males congregate on hilltops in search of females.	May occur. The range of Callippe silverspot butterfly includes a portion of the Program area southeast of Petaluma, CA, overlapping Tolay Lake Regional Park.
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	FE	—	Valley and foothill grassland, vernal pool, wetland. Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.	Not expected to occur. The range of conservancy fairy shrimp mainly encompasses the Central Valley from Tehama County to Merced County, which is outside of the Program area.
Crotch's bumble bee <i>Bombus crotchii</i>	—	SC	Found primarily in California: mediterranean, Pacific coast, western desert, Great Valley, and adjacent foothills through most of southwestern California. Habitat includes open grassland and scrub. Nests underground.	Known to occur. Historically, the range of Crotch's bumble bee encompassed all of the Program area. Although this species range has contracted, the current range of Crotch's bumble bee overlaps the eastern portion of the Program area (CDFW 2023). In addition, there is a documented occurrence south of Glen Ellen, CA (CNDDDB 2024). In addition, this species has been observed adjacent to the Program area in eastern Santa Rosa (Xerces Society for Invertebrate Conservation et al. 2024a) and south of Geyserville (iNaturalist 2024).

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Lotis blue butterfly <i>Plebejus anna lotis</i>	FE	—	Bog and fen, meadow and seep, wetland Inhabits wet meadows or poorly drained sphagnum-willow bogs, where soils are waterlogged and acidic; north coastal California. Inhabits upper edges of peat bog between peat and surrounding low willows; host plant is suspected to be <i>Hosackia gracilis</i> .	Not expected to occur. Historically, the range of lotis blue butterfly encompassed Mendocino County and northern Sonoma County, overlapping the Program area. Although, since 1983, this species has not been recorded anywhere other than just outside Mendocino, CA, in Mendocino County, outside of the Program area (USFWS 2011; USFWS 2020a).
Monarch California overwintering population pop. 1 <i>Danaus plexippus plexippus</i>	FP	—	Closed-cone coniferous forest. Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (e.g., eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Known to occur. The overwintering range of monarch overlaps with the Program area. Overwintering monarchs have a documented occurrence in the southern portion of the Program area near San Pablo Bay (CNDDDB 2024). In addition, monarchs and milkweed have been observed all over the Program area (Xerces Society for Invertebrate Conservation et al. 2024b). Nesting, overwintering, and foraging habitat for this species is likely present in natural habitats (including ruderal areas) throughout the Program area.
Myrtle's silverspot butterfly <i>Speyeria zerene myrtleae</i>	FE	—	Coastal dunes. Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula; extirpated from coastal San Mateo County. Larval foodplant thought to be <i>Viola adunca</i> .	May occur. The range of Myrtle's silverspot butterfly includes coastal bluffs in the southern portion of the Program area. Documented occurrences all occur within the coastal zone and therefore out of the Program area (CNNDDB 2024). Although, USFWS reports the range of Myrtle's silverspot butterfly includes areas outside of the coastal zone and into the Program area, including habitat overlapping Bodega, CA, which is not within the coastal zone and is in the Program area (USFWS 2024b).
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT	—	Riparian scrub. Occurs only in the Central Valley of California, in association with blue elderberry (<i>Sambucus mexicana</i>). Prefers to lay eggs in elderberries 2–8 inches in diameter; some preference shown for "stressed" elderberries.	Not expected to occur. The range of valley elderberry longhorn beetle is mainly in the Central Valley and does not extend into the Program area.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT	—	Valley and foothill grassland, vernal pool, wetland. Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Not expected to occur. The range of vernal pool fairy shrimp does not overlap the Program area.

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Western bumble bee <i>Bombus occidentalis</i>	—	SC	Once common throughout much of its range, in California, this species is currently largely restricted to high elevation sites in the Sierra Nevada and the northern California coast. Habitat includes open grassy areas, chaparral, scrub, and meadows. Requires suitable nesting sites for the colonies, availability of nectar and pollen from floral resources throughout the duration of the colony period (spring, summer, and fall), and suitable overwintering sites for the queens.	Not expected to occur. Historically, the range of western bumble bee included the Program area, and there are documented occurrences interspersed throughout the Program area (CNDDDB 2024). However, the current range of western bumble bee does not include the Program area (CDFW 2023).
Mammals				
American badger <i>Taxidea taxus</i>	—	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Needs sufficient food, friable soils, and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Known to occur. The range of American badger overlaps the Program area. There are documented occurrences of this species interspersed throughout the southern and middle of the Program area (CNDDDB 2024). This includes documented occurrences adjacent to Martin Creek, northeast of Windsor, on either side of Highway 12 between Santa Rosa and Sebastopol, as well as along Bodega Highway near Freestone and Highway 101 south of Cotati (CNDDDB 2024). In addition there are reported occurrences north in Mendocino County (CNDDDB 2024).
Big free-tailed bat <i>Nyctinomops macrotis</i>	—	SSC	Low-lying arid areas in southern California. Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	Not expected to occur. While this species has been documented in the San Francisco Bay Area, the range of big free-tailed bat does not include the Program area, and the species is unlikely to occur more than rarely in the Program area.
Fisher West Coast DPS <i>Pekania pennanti</i>	—	SSC	North Coast coniferous forest, old-growth, riparian forest. Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs, and rocky areas for cover and denning. Needs large areas of mature, dense forest.	Not expected to occur. Habitat suitable for fisher is present in the Program area, and the historic range of this species overlapped the Program area. However, the current range of fisher does not overlap the Program area; there have been no confirmed occurrences of fisher south of the Mendocino National Forest since 1941 (Allen, Evans, et al. 2015).
Northern California ringtail <i>Bassariscus astutus raptor</i>	—	FP	Dens most often in rock crevices, boulder piles, or talus but also tree hollows, root cavities, and rural buildings. Rarely use same den for more than a few days. Females with litters change dens within 10 days of birth and almost daily after 20 days.	May occur. The range of ringtail includes the entire Program area. Forest, shrub, and riparian habitats throughout the Program area likely provide habitat suitable for this species.
Pallid bat <i>Antrozous pallidus</i>	—	SSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Tree-roosting has also been documented in large conifer snags, inside basal hollows of redwoods and giant sequoias, and bole cavities in oaks. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Known to occur. Pallid bats have been documented throughout the Program area, mostly in the southern and eastern portions of the County (CNDDDB 2024). Grasslands, shrublands, woodlands, and forest habitat throughout the Program area provides habitat potentially suitable for this species, including roosting habitat.

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Point Arena mountain beaver <i>Aplodontia rufa nigra</i>	FE	SSC	Coastal scrub, meadow and seep. Coastal areas of Point Arena with springs or seepages. North-facing slopes of ridges and gullies with friable soils and thickets of undergrowth.	Not expected to occur. Point Arena mountain beaver is endemic to the coastal area directly north and south of Point Arena, CA, in Mendocino County, which is outside of the Program area.
Point Reyes jumping mouse <i>Zapus trinotatus orarius</i>	—	SSC	Coastal scrub, marsh and swamp, meadow and seep, valley and foothill grassland. Primarily in bunch grass marshes on the uplands of Point Reyes. Also present in coastal scrub, grassland, and meadows. Eats mainly grass seeds with some insects and fruit taken. Builds grassy nests on ground under vegetation, burrows in winter	Not expected to occur. Point Reyes jumping mouse is endemic to western Marin County, including Point Reyes National Seashore, which is outside of the Program area
Point Reyes mountain beaver <i>Aplodontia rufa phaea</i>	—	SSC	Coastal scrub, meadow and seep. Coastal area of Point Reyes in areas of springs or seepages. North-facing slopes of hills and gullies in areas overgrown with sword ferns and thimbleberries.	Not expected to occur. Point Reyes mountain beaver is endemic to western Marin County, including Point Reyes National Seashore, which is outside of the Program area
Salt-marsh harvest mouse <i>Reithrodontomys raviventris</i>	FE	SE; FP	Only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat, but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow, builds loosely organized nests. Requires higher areas for flood escape.	Known to occur. The range of the salt-marsh harvest mouse includes the southern portion of the Program area. Occurrences of this species are along the Petaluma River near the mouth of San Pablo Bay, which is fed by the Petaluma River, and in marsh habitat northeast of this area (CNDDDB 2024). Saline marsh or brackish water habitat in the southern portion of the Program area provide habitat potentially suitable for this species.
Salt-marsh wandering shrew <i>Sorex vagrans halicoetes</i>	—	SSC	Marsh and swamp, wetland. Salt marshes of the south arm of San Francisco Bay. Medium-high marsh 6–8 feet above sea level where abundant driftwood is scattered among pickleweed (<i>Salicornia</i> spp.).	Not expected to occur. Salt-marsh wandering shrew is endemic to the south arm of San Francisco Bay, which is outside of the Program area.
San Pablo vole <i>Microtus californicus sanpabloensis</i>	—	SSC	Salt marshes of San Pablo Creek, on the south shore of San Pablo Bay. Constructs burrow in soft soil. Feeds on grasses, sedges, and herbs. Forms a network of runways leading from the burrow	Not expected to occur. San Pablo vole is endemic to the south shore of San Pablo Bay, which is outside of the Program area.
Sonoma tree vole <i>Arborimus pomo</i>	—	SSC	North Coast fog belt from Oregon border to Sonoma County. In Douglas-fir, redwood, and montane hardwood-conifer forests. Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of grand fir, hemlock, or spruce.	Known to occur. The range of Sonoma tree vole covers the northern and western portions of the Program area. There are reported occurrences of this species in the northern and western portion of the Program area, though mostly concentrated on the western portion of the Program area (CNDDDB 2024). This includes documented occurrences adjacent to Buck Mountain and Cazadero, as well as along Skaggs Spring Road, Highway 116, Bohemian Highway, and Big Ridge Road adjacent to Pechaco Creek (CNDDDB 2024).

Species	Listing Status ¹		Habitat	Potential for Occurrence ²
	Federal	State		
Steller sea lion <i>Eumetopias jubatus</i>	FD; MMPA	—	Marine intertidal and splash zone communities, protected deepwater coastal communities, rock shore. Breeds on Ano Nuevo, San Miguel, and Farallon Islands; Pt. St. George; and Sugarloaf. Hauls out on islands and rocks. Needs haul-out and breeding sites with unrestricted access to water, near aquatic food supply, and with no human disturbance.	Not expected to occur. Although the range of Steller sea lion includes the coast of California and there are reported occurrences of this species within the coastal zone in Sonoma County (CNDDDB 2024), this is outside of the Program area.
Suisun shrew <i>Sorex ornatus sinuosus</i>	—	SSC	Marsh and swamp, wetland. Tidal marshes of the northern shores of San Pablo and Suisun bays. Require dense low-lying cover and driftweed and other litter above the mean high tide line for nesting and foraging.	Known to occur. The range of Suisun shrew includes the southern portion of the Program area. Reported occurrences of this species are on the shores of San Pablo Bay in the Program area (CNDDDB 2024).
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	—	SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Requires large cavities for roosting, which may include abandoned buildings and mines, caves, and basal cavities of trees. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Known to occur. The range Townsend's big-eared bat includes the Program area. Reported occurrences are interspersed within the Program area, mostly concentrated in the middle and northern portions (CNDDDB 2024). Roosting habitat in other areas of the Program area including abandoned buildings and tree cavities provide habitat potentially suitable for this species.
Western red bat <i>Lasiurus frantzii</i>	—	SSC	Cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodland. Roosts primarily in trees, 2–40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Known to occur. The range of western red bat includes the Program area. There are a few reported occurrences of this species interspersed throughout the Program area. Woodland and forest habitat including riparian areas throughout the Program area provides habitat potentially suitable for this species, including roosting habitat.

Notes: ppt = parts per thousand; DPS = distinct population segment; ESU = evolutionary significant unit; USFWS = US Fish and Wildlife Service.

¹ Legal Status Definitions

Federal:

- FE Federally Listed as Endangered (legally protected by ESA)
- FT Federally Listed as Threatened (legally protected by ESA)
- FD Federally Delisted
- FP Proposed for Listing under the federal Endangered Species Act
- MMPA Marine Mammal Protection Act (legally protected)

State:

- FP Fully Protected (legally protected by California Fish and Game Code Sections 3511, 4700, 5050, and 5515)
- SSC Species of Special Concern (legally protected by CEQA)
- SE State Listed as Endangered (legally protected by CESA)
- ST State Listed as Threatened (legally protected by CESA)
- SC State Candidate for listing (legally protected by CESA)
- SD State Delisted

Sources: USFWS 2011; Garwood 2017; USFWS 2020a; CDFW 2023; CNDDDB 2024; eBird 2024; iNaturalist 2024; USFWS 2024a; USFWS 2024b; USFWS 2024c; Xerces Society for Invertebrate Conservation et al. 2024a; Xerces Society for Invertebrate Conservation et al. 2024b.

CRITICAL HABITAT

“Critical habitat” is a term defined and used in the ESA. It refers to specific geographic areas designated by USFWS and National Oceanic and Atmospheric Administration (NOAA) Fisheries that contain features essential to the conservation of an endangered or threatened species and that may require special management and protection. Critical habitat designations affect only federal agency actions or federally funded or permitted activities. Critical habitat designations do not affect activities by private landowners if there is no federal “nexus”—that is, no federal funding or authorization related to the activity. Critical habitat for nine species (one plant, two amphibians, two birds, and four fish) is designated by USFWS and NOAA Fisheries in the Program area (Figure 3.4-7).

California Tiger Salamander

California tiger salamander (*Ambystoma californiense*) critical habitat occurs in the Program area (Table 3.4-13). California tiger salamander critical habitat consists of one large area that is located from southwestern Windsor between Windsor Creek and Pool Creek down to northwest of Petaluma near Stemple Creek and the Petaluma River (Figure 3.4-7). California tiger salamander critical habitat occurs within both agricultural and resources districts and industrial and commercial districts (Table 3.4-13)

Table 3.4-13 US Fish and Wildlife Service Designated Critical Habitat within the Program Area

Species	Agricultural and Resources Districts (acres)	Industrial and Commercial Districts (acres)	Total (acres)
California tiger salamander	27,815	679	28,493
California red-legged frog	6,386	0	6,386
Marbled murrelet	975	0	975
Baker's larkspur	608	0	608
Northern spotted owl	170	0	170
Total	35,955	679	36,633

Notes: Totals may not sum exactly due to independent rounding.

Source: Data downloaded from USFWS in 2024; compiled by Ascent in 2025.

California Red-Legged Frog

California red-legged frog critical habitat occurs in the Program area (Table 3.4-13) and is concentrated in the southern portion of the County (Figure 3.4-7). Two large areas of this critical habitat are located in the Sonoma Mountains, one east of Santa Rosa, California, overlapping Trione-Annadel State Park and the other east of Rohnert Park and Penngrove. The third area of critical habitat is located on the Sonoma-Marin County line, south of Petaluma, with a small portion of this area of critical habitat overlapping Helen Putnam Regional Park. California red-legged frog critical habitat only occurs within agricultural and resources districts in the Program area, but not within industrial and commercial districts (Table 3.4-13)

Marbled Murrelet

Marbled murrelet critical habitat occurs in the Program area (Table 3.4-13). Although marbled murrelets are observed often along the Sonoma County coastline (eBird 2024), they typically occur in the greatest concentrations offshore in areas with intact old-growth forests in the Program area. This occurs as one large area in the western portion of the Program area, mostly overlapping Austin Creek State Recreation Area, as well as in Armstrong Woods State Park, the latter of which contains old-growth redwood forest habitat (Figure 3.4-7). Marbled murrelet critical habitat only occurs within agricultural and resources districts in the Program area, but not within industrial and commercial districts (Table 3.4-13)

Baker’s Larkspur

Baker’s larkspur (*Delphinium bakeri*) critical habitat occurs in the Program area (Table 3.4-13). Baker’s larkspur is susceptible to extinction from road maintenance, ordinary events such as landslides and environmental pressures such

as wildlife herbivory, and drought because of its extreme range restrictions and an extremely small population. Critical habitat for this species is located in a large area west of Occidental, California, along Coleman Valley Road. Part of the critical habitat is located in the coastal zone and therefore out of the Program area, but the majority of the designated critical habitat is within the Program area (Figure 3.4-7). Baker's larkspur critical habitat only occurs within agricultural and resources districts in the Program area, but not within industrial and commercial districts (Table 3.4-13).

Northern Spotted Owl

Northern spotted owl critical habitat occurs in the Program area (Table 3.4-13). Critical habitat is concentrated in the southeastern portion of the Program area, close to the Sonoma-Napa county line, with one area bordering the northern boundary of Sugarloaf State Park, another overlapping Hood Mountain Regional Park, and the third northeast of Sonoma, California (Figure 3.4-7).

Chinook Salmon

Critical stream habitat for Chinook salmon occurs in the Program area (Table 3.4-14). Critical habitat is located in the northern and western portions of the Program area in the Russian River, Dry Creek, Mark West Creek, and Austin Creek (Figure 3.4-7). Chinook salmon critical habitat occurs within both agricultural and resources districts and industrial and commercial districts (Table 3.4-14).

Table 3.4-14 NOAA Fisheries Designated Critical Habitat within the Program Area

Species	Agricultural and Resources Districts (miles)	Industrial and Commercial Districts (miles)	Total (miles)
Steelhead	507	3	511
Coho salmon	478	2	480
Chinook salmon	59	0.4	60
Green sturgeon	2	0	2
Total	1,046	6	1,052

Notes: Totals may not sum exactly due to independent rounding.

Source: Data downloaded from NOAA Fisheries in 2024; compiled by Ascent in 2025.

Coho Salmon

Critical stream habitat for Coho salmon occurs in the Program area (Table 3.4-14). Critical habitat is located throughout the northwestern, western, and eastern portions of the Program area in waterways including the Gualala River, South Fork Gualala River, Russian River, Dry Creek, and Mark West Creek, among many others (Figure 3.4-7). Coho salmon critical habitat occurs within both agricultural and resources districts and industrial and commercial districts (Table 3.4-14).

Steelhead

Critical stream habitat for steelhead occurs in the Program area (Table 3.4-14). Critical habitat is located throughout the Program area in waterways, including the Gualala River, South Fork Gualala River, Russian River, Petaluma River, Dry Creek, Mark West Creek, and Sonoma Creek, among many others (Figure 3.4-7). Steelhead critical habitat occurs within both agricultural and resources districts and industrial and commercial districts (Table 3.4-14).

Green Sturgeon

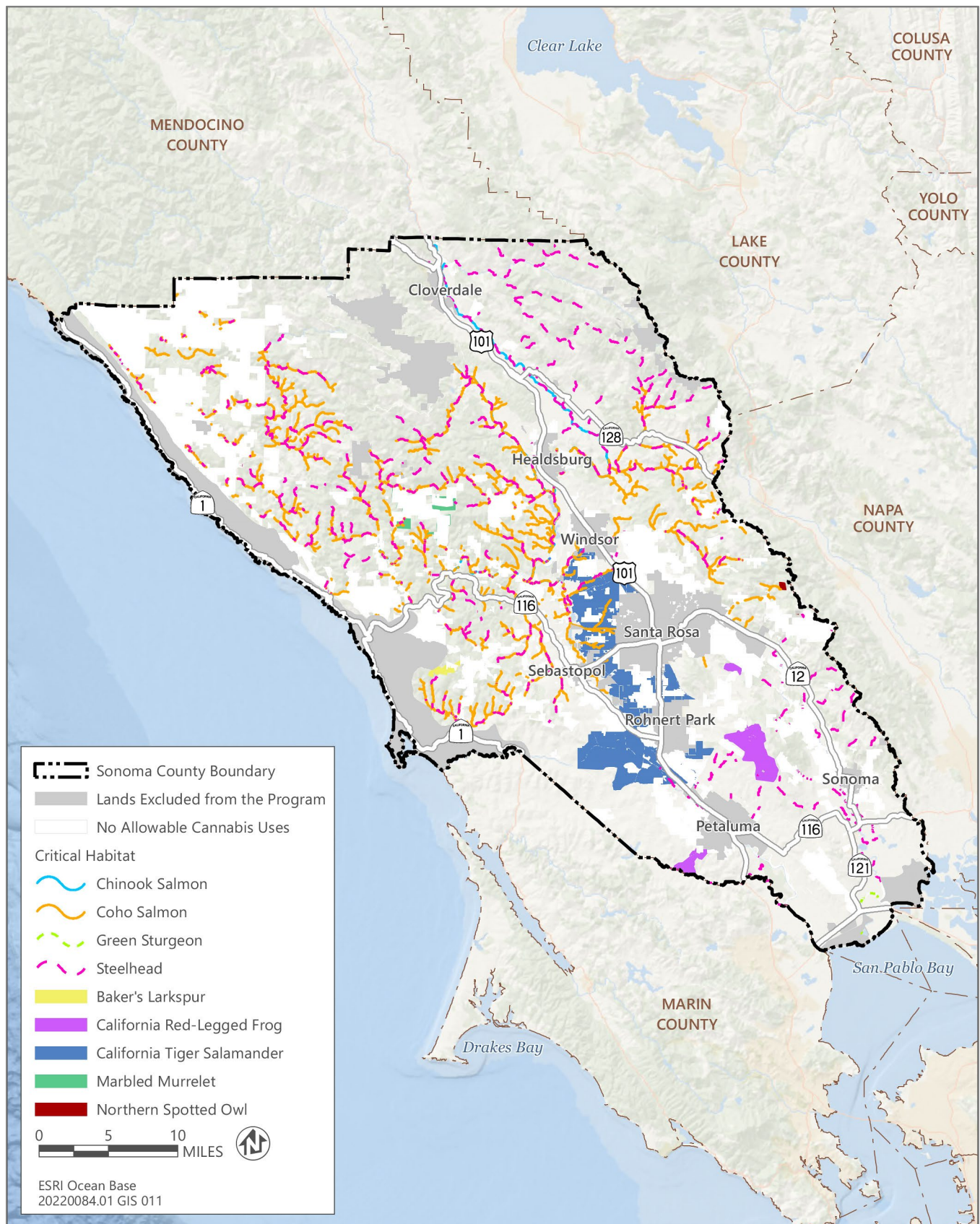
Critical stream habitat for green sturgeon occurs in the Program area (Table 3.4-14). Critical habitat is located in estuarine waters in the southern portion of the Program area (Figure 3.4-7) and is only within the agricultural and resources districts of the Program area (Table 3.4-14).

SENSITIVE NATURAL COMMUNITIES AND OTHER SENSITIVE HABITATS

Sensitive habitats include those that are of special concern to resource agencies or are afforded specific consideration through CEQA, Section 1602 of the Fish and Game Code, Section 404 of the CWA, and the state Porter-Cologne Act, as discussed in Section 3.4.1, "Regulatory Setting," above. Sensitive natural habitat may be of special concern to agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status or because they provide important habitat to common and special-status species. Sensitive natural communities are native plant communities defined by CDFW as having limited distribution statewide or in a county or region and that are often vulnerable to environmental effects of projects (CDFW 2018a). In addition to habitats officially identified by CDFW as sensitive natural communities or habitats meeting the definition of waters of the United States, other sensitive habitats include riparian habitats, oak woodlands, chaparral, and coastal sage scrub.

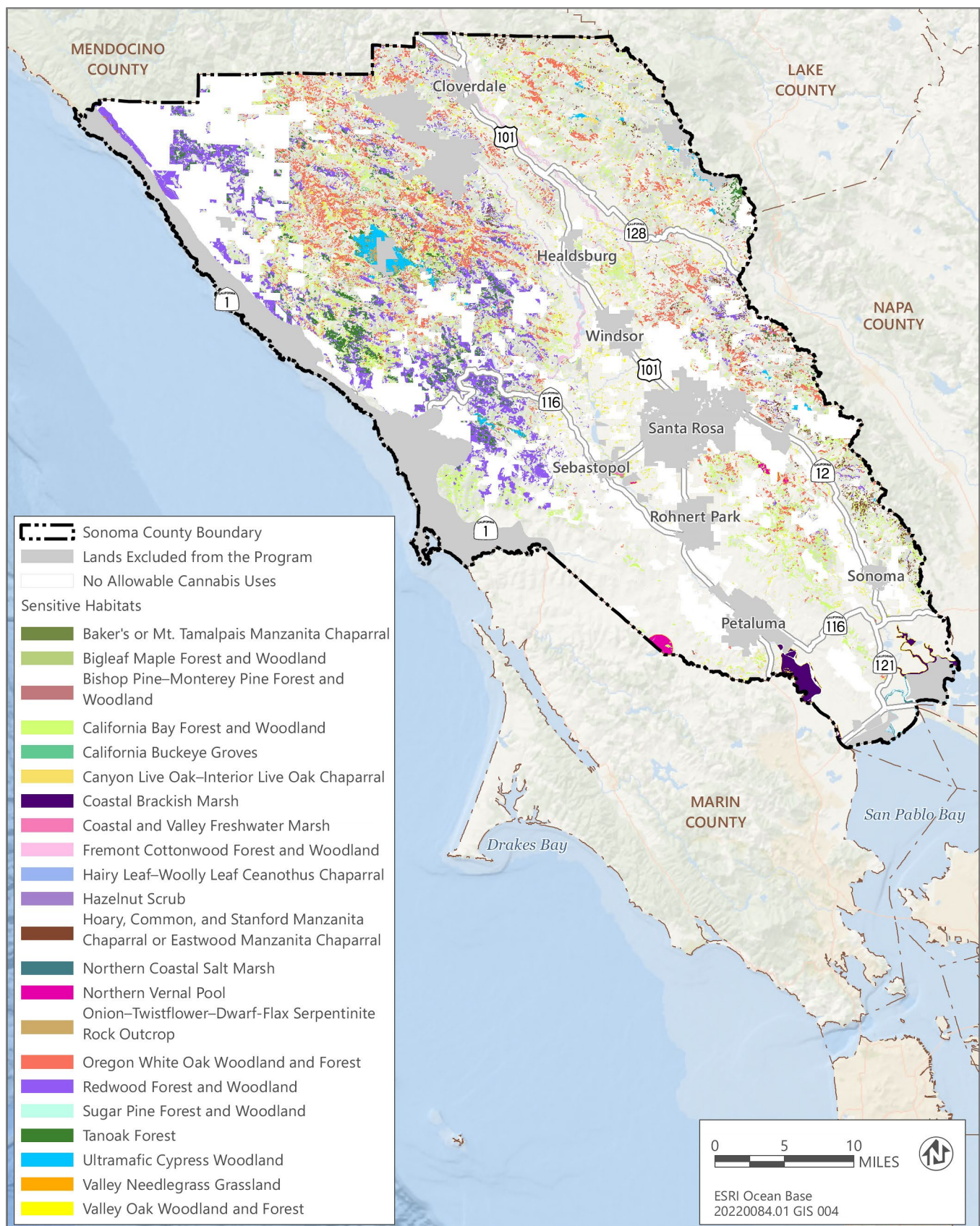
CDFW maintains a list of plant communities that are native to California. Sensitive natural communities are ranked by CDFW from S1 to S3, where S1 is critically imperiled, S2 is imperiled, and S3 is vulnerable. CDFW natural-community rarity rankings follow the *NatureServe Conservation Status Assessments: Methodology for Assigning Ranks* (Faber-Langendoen et al. 2012), in which all alliances are listed with a global (G) and state (S) rank, where G1 is critically imperiled, G2 is imperiled, G3 is vulnerable, G4 is apparently secure, and G5 is secure. These communities may or may not contain special-status species or their habitat. Known occurrences of sensitive natural communities are included in the CNDDDB; however, no new occurrences have been added to the CNDDDB since the mid-1990s, when funding was cut for this portion of the CNDDDB program. In addition, the sensitive natural communities included in the CNDDDB are based on the Holland (1986) classification and are not consistent with the state's current vegetation mapping and classification standards. The legacy sensitive natural community data from CNDDDB is currently being validated and moved to Biogeographic Information and Observation System (BIOS). Sensitive natural communities are currently being mapped as part of the Vegetation Classification and Mapping Program (VegCAMP) statewide vegetation mapping program and are being added to BIOS as mapping is completed and verified. Accordingly, VegCAMP data, the BIOS website, and local and regional vegetation maps would need to be reviewed during project-specific analyses to help identify potentially occurring sensitive natural communities. The *Manual of California Vegetation Online* (Sawyer et al. 2009) was used to develop a list of sensitive natural communities that may occur in each California Wildlife Habitat Relationships type in the County.

Eight legacy sensitive natural communities were reported in the CNDDDB and occur in the Program area (Figure 3.4-8; Table 3.4-15) (CNDDDB 2024). Some of these communities reported by the CNDDDB overlap with communities identified as sensitive natural communities or are renamed in the new system using the *Manual of California Vegetation Online* (Sawyer et al. 2009) and mapped by VegCAMP (Table 3.4-15). This includes the legacy sensitive natural community northern vernal pool and northern hardpan vernal pool, which include smooth goldfields–pale spike rush vernal pool bottoms alliance (S2) (Table 3.4-16), valley needlegrass grassland, which includes needle grass–melic grass grassland alliance (S3S4) (Table 3.4-16), and coastal terrace prairie, which includes Pacific reed grass meadows (S2) (Table 3.4-16), Coastal tufted hair grass–meadow barley–California oatgrass meadow (S3) (Table 3.4-16), Idaho fescue–California oatgrass grassland (S3) (Table 3.4-15). In addition, the legacy sensitive natural community Mendocino pygmy cypress forest (Figure 3.4-8, Table 3.4-15) is now contained in California coastal cypress woodland (Table 3.4-16).



Sources: Data downloaded from NOAA Fisheries in 2024 and USFWS in 2024; adapted by Ascent in 2024.

Figure 3.4-7 Critical Habitat



Sources: Data downloaded from CDFW in 2023 and 2024; adapted by Ascent in 2024.

Figure 3.4-8 Sensitive Habitats

Table 3.4-15 Legacy Sensitive Natural Communities Known to Occur in the Cannabis Program Area

Legacy Sensitive Natural Community	Manual of California Vegetation Sensitive Natural Community	Habitat Type
Mendocino pygmy cypress forest	California coastal cypress woodland	Closed-Cone Pine-Cypress
Northern vernal pool	Smooth goldfields–pale spike rush vernal pool bottoms	Annual Grassland
Northern hardpan vernal pool	Smooth goldfields–pale spike rush vernal pool bottoms	Annual Grassland
Valley needlegrass grassland	Needle grass–melic grass grassland	Perennial Grassland
Coastal terrace prairie	Pacific reed grass meadows; Coastal tufted hair grass–meadow barley–California oatgrass meadow; Idaho fescue–California oatgrass grassland	Perennial Grassland; Wet Meadow; Fresh Emergent Wetland
Coastal and valley freshwater marsh	Slough sedge–water–parsley–small-fruited bulrush marsh; Coastal tufted hair grass–meadow barley–California oatgrass meadow field horsetail–scouringrush horsetail–variegated scouringrush wet meadow; mats of floating pennywort; yellow pond–lily mats; hardstem and California bulrush marshes; common three-square marsh; small-fruited bulrush marsh	Fresh Emergent Wetland
Coastal brackish marsh	Salt marsh bulrush marshes; Lyngbye’s sedge swatches; slough sedge–water–parsley–small-fruited bulrush marsh; gum plant patches; ditch–grass or widgeon–grass mats	Saline Emergent Wetland
Northern coastal salt marsh	Slough sedge–water–parsley–small-fruited bulrush marsh; tufted hairgrass–red fescue brackish salt marsh; alkali heath marsh; gum plant patches; pickleweed mats; California cordgrass marsh	Saline Emergent Wetland

Source: CNDDB 2024; compiled by Ascent in 2024.

Sensitive natural communities identified in the new system using the Manual of California Vegetation Online (CNPS 2024b) and mapped by VegCAMP that are known to occur or have potential to occur in the County are presented in Table 3.4-16, some of which are included in Figure 3.4-8. Vegetation communities indicated with an asterisk in Table 3.4-16 are known to occur in the Program area, and the communities without an asterisk have potential to occur in the Program area within the habitat types identified in the table. In addition, there is oak woodland (comprising blue oak woodland, blue oak–foothill pine, coastal oak woodland, and valley oak woodland) and riparian (comprising valley foothill riparian and montane riparian), and chaparral (comprising mixed chaparral and chamise–redshank chaparral)—all considered sensitive habitats—are mapped in both the agricultural and resources districts as well as the industrial and commercial districts of the Program area and are discussed above under “Land Cover Types” (Table 3.4-7; Figures 3.4-1 through 3.4-3 and Figure 3.4-5). Although, there is minimal chaparral habitat in the industrial and commercial districts. In addition, coastal scrub is present within both the agricultural and resources districts as well as the industrial and commercial districts of the Program area. Coastal scrub potentially contains the sensitive vegetation community of coastal sage scrub. Furthermore, riverine areas (including riverine wetlands), freshwater emergent wetlands, estuarine and marine wetlands (i.e., saline wetlands), freshwater ponds, and freshwater forested/shrub wetlands are all mapped in both the agricultural and resources districts and industrial and commercial districts by the USFWS National Wetlands Inventory (Table 3.4-10; Figure 3.4-5). In addition, there are estuarine and marine deepwater areas mapped within the agricultural and resources districts and minimally in the industrial and commercial districts (Table 3.4-10; Figure 3.4-5). Moreover, USFWS National Wetlands Inventory only has lake features mapped in the agricultural and resources districts. Of the sensitive natural communities and other sensitive habitats that are known to occur within the Program area (and that we have mapping for) some occur in both the agricultural and resources districts as well as the industrial and commercial districts (see Table 3.4-17). With that said, mapping is not available for a large amount of the sensitive natural communities that are known to or have potential to occur in the Program area (see Table 3.4-16), so “Habitat Type” must be used as a proxy to understand where these sensitive natural communities have potential to occur in the Program area. Of the habitat types listed in Table 3.4-16, only Montane Hardwood-Conifer, Freshwater Emergent Wetland, and Chamise-Redshank Chaparral are not present within the industrial and commercial districts. Therefore, most of the habitat types listed in Table 3.4-16, and therefore the sensitive natural communities that have potential to occur within those habitat types, are present within both the agricultural and resource districts and industrial and commercial districts.

Table 3.4-16 Sensitive Natural Communities Known to Occur and with Potential to Occur in the Cannabis Program Area

Sensitive Natural Community ¹	Rarity Rank ²	Habitat Type
Bishop pine–Monterey pine forest and woodland*	S3	Closed-Cone Pine-Cypress
Beach pine forest and woodland	S3	Closed-Cone Pine-Cypress
Ultramafic cypress woodland*	S3	Closed-Cone Pine-Cypress
California coastal cypress woodland	S2	Closed-Cone Pine-Cypress
Western hemlock forest	S2	Douglas-Fir
Incense cedar forest	S3	Douglas-Fir
Redwood forest and woodland*	S3	Redwood
Grand fir forest	S2	Redwood
Sitka spruce	S2	Redwood
Bigleaf maple forest and woodland*	S3	Montane Hardwood
Sugar pine forest and woodland*	S3	Montane Hardwood-Conifer
California bay forest and woodland*	S3	Coastal Oak Woodland; Montane Hardwood
California buckeye groves*	S3	Montane Hardwood
Oregon white oak woodland and forest*	S3	Montane Hardwood
Tanoak forest*	S3	Montane Hardwood
Valley oak woodland and forest*	S3	Valley Oak Woodland
Valley oak riparian forest and woodland	S3	Valley Oak Woodland
Shining willow groves	S3	Valley Foothill Riparian
Western Labrador-tea thickets	S2	Coastal Scrub; Montane Riparian
Torrent sedge patches	S3	Montane Riparian; Valley Foothill Riparian
Oregon ash groves	S3	Montane Riparian
Fremont cottonwood forest*	S3	Montane Riparian; Valley Foothill Riparian
Black cottonwood forest and woodland	S3	Montane Riparian; Valley Foothill Riparian
Wild grape shrubland	S3	Montane Riparian; Valley Foothill Riparian
California sycamore–coast live oak riparian woodlands	S3	Valley Foothill Riparian
Goodding's willow–red willow riparian woodland and forest	S3	Valley Foothill Riparian
Box-elder forest and woodland	S3	Valley Foothill Riparian; Freshwater Emergent Wetland
California coffeeberry–western azalea scrub– Brewer's willow	S3	Valley Foothill Riparian; Freshwater Emergent Wetland
Eastwood manzanita chaparral	S3	Chamise-Redshank Chaparral; Mixed Chaparral
Baker's or Mt. Tamalpais manzanita chaparral	S3	Mixed Chaparral
Glossy leaf manzanita–golden chinquapin chaparral	S2	Mixed Chaparral
Hoary, common, and Stanford manzanita chaparral	S3	Mixed Chaparral
Hairy leaf–woolly leaf ceanothus chaparral*	S3	Mixed Chaparral
Canyon live oak–interior live oak chaparral*	S3S4	Mixed Chaparral
Hazelnut scrub*	S2?	Coastal Scrub
Onion–twistflower–dwarf-flax serpentinite rock outcrop*	S2S3	Coastal Scrub
Slough sedge–water-parsley–small-fruited bulrush marsh	S3	Coastal Scrub; Freshwater Emergent Wetland; Saline Emergent Wetland

Sensitive Natural Community ¹	Rarity Rank ²	Habitat Type
Coast Range stonecrop draperies	S3	Coastal Scrub
Smooth goldfields–pale spike rush vernal pool bottoms	S2	Annual Grassland
Goldenaster patches	S3	Annual Grassland; Coastal Scrub; Wet Meadow
White-tip clover swales	S3?	Annual Grassland; Wet Meadow
California brome–blue wildrye prairie	S3	Perennial Grassland; Wet Meadow
Coastal tufted hair grass–meadow barley–California oatgrass meadow	S3	Perennial Grassland; Freshwater Emergent Wetland; Wet Meadow
Pacific reed grass meadows	S2	Perennial Grassland
Needle grass–melic grass grassland*	S3S4	Perennial Grassland
Sea lyme grass patches	S2	Perennial Grassland
Idaho fescue–California oatgrass grassland	S3	Perennial Grassland
Ashy ryegrass–creeping wildrye turfs	S3	Perennial Grassland
Water foxtail meadows	S3	Perennial Grassland; Wet Meadow
California brome–blue wildrye prairie	S3	Perennial Grassland; Wet Meadow
Woodland sedge fens	S2	Wet Meadow
Water sedge and lakeshore sedge meadows	S3	Wet Meadow
Common monkey flower–thistle–hedgenettle seeps	S3	Wet Meadow
Northwest manna grass marshes	S3	Wet Meadow
Iris-leaf rush seeps	S2	Wet Meadow
Soft and western rush–sedge marshes	S3S4	Freshwater Emergent Wetland; Wet Meadow
Field horsetail–scouringrush horsetail–variegated scouringrush wet meadow	S3S4	Freshwater Emergent Wetland
Mats of floating pennywort	S3?	Freshwater Emergent Wetland
Yellow pond-lily mats	S3?	Freshwater Emergent Wetland
Hardstem and California bulrush marshes	S3S4	Freshwater Emergent Wetland
Common three-square marsh	S3	Freshwater Emergent Wetland
Coastal dune willow–Sitka willow–Douglas spiraea thickets	S3	Freshwater Emergent Wetland
Small-fruited bulrush marsh	S2	Freshwater Emergent Wetland
Lyngbye’s sedge swathes	S1	Saline Emergent Wetland
Salt marsh bulrush marshes	S3	Saline Emergent Wetland
Gum plant patches	S2S3	Saline Emergent Wetland
Ditch-grass or widgeon-grass mats	S2	Saline Emergent Wetland
Tufted hairgrass–red fescue brackish salt marsh	S2	Saline Emergent Wetland
Alkali heath marsh	S3	Saline Emergent Wetland
California cordgrass marsh	S3	Saline Emergent Wetland
Pickleweed mats	S3	Saline Emergent Wetland

Notes: Vegetation communities shown with an asterisk (*) are known to occur in the Program area. Communities shown without an asterisk (*) have potential to occur in some habitat types identified in the Program area in the County.

¹ These are designated sensitive natural communities with a state rarity rank of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable).

² A question mark (?) denotes an inexact numeric rank when there is an insufficient number of samples over the full expected range of the type, but existing information points to this rank.

³ For S2S3 and S3S4, there remains uncertainty whether the alliance should be defined as either S2 or S3 and S3 or S4, respectively.

Source: Sawyer et al. 2009; compiled by Ascent in 2024.

Table 3.4-17 Area of Sensitive Natural Communities and Other Sensitive Habitats Known to Occur in the Cannabis Program Area

Sensitive Natural Community	Agricultural and Resources Districts (acres)	Industrial and Commercial Districts (acres)	Total (acres)
Redwood forest and woodland	42,145	44	42,188
Oregon white oak woodland and forest	39,747	0.1	39,747
California bay forest and woodland	36,721	4	36,725
Tanoak forest	11,877	0	11,877
Valley oak woodland and forest	8,808	45	8,853
Hoary, common, and Stanford manzanita chaparral	5,627	0.4	5,627
Ultramafic cypress woodland	4,379	0	4,379
Coastal Brackish Marsh	4,106	0	4,106
Fremont cottonwood forest and woodland	1,944	15	1,959
Northern Vernal Pool	1,274	0	1,274
Canyon live oak–interior live oak chaparral	908	0	908
Baker's or Mt. Tamalpais manzanita chaparral	797	0	797
Onion–twistflower–dwarf–flax serpentinite rock outcrop	635	0	635
Bigleaf maple forest and woodland	531	1	532
California buckeye groves	381	0	381
Northern Coastal Salt Marsh	308	0	308
Sugar pine forest and woodland	242	0	242
Coastal and Valley Freshwater Marsh	130	0	130
Bishop pine–Monterey pine forest and woodland	77	0.5	78
Hairy leaf–woolly leaf ceanothus chaparral	69	0	69
Needle grass–melic grass grassland	39	0	39
Hazelnut scrub	2	0	2
Total	160,747	110	160,856

Notes: Totals may not sum exactly due to independent rounding.

Source: Data downloaded from CDFW in 2023 and 2024; adapted by Ascent in 2024.

INVASIVE SPECIES

Invasive Plant Species and Noxious Weeds

Nonnative species do not naturally occur in an area but have become established and continue to reproduce. Invasive plant species are plants that are not native to an environment, and once introduced, they establish, quickly reproduce and spread, and cause harm to the environment, economy, or human health (Cal-IPC 2024). When introduced to a region, invasive plants tend to crowd out native vegetation and thereby adversely affect wildlife species that feeds on these native plants. Invasive plant species in the Program area occur throughout several different habitat types (Calflora 2024). For purposes of this document, invasive plant species means those plant species identified as invasive by the California Invasive Plant Council (Cal-IPC) or defined as noxious weeds under California law by the California Department of Food and Agriculture (CDFA). Noxious weeds are defined as likely to be troublesome, aggressive, intrusive, detrimental, or

destructive to agriculture, silviculture, or important native species, and difficult to control or eradicate (CDFA 2024). Attachment A of the SWRCB Order WQ 2023-0102-DWQ also uses Cal-IPC's definition of invasive species. Aggressive invasive plant species are present within the Program area, such as Scotch broom (*Cytisus scoparius*), French broom (*Genista monspessulana*), and knapweed (*Centaurea* spp.), which can invade vegetation communities including grassland and woodland and exclude native species. Invasive plant species, such as pampas grass (*Cortaderia jubata*), English ivy (*Hedera helix*), and Himalayan blackberry (*Rubus armeniacus*), can invade vegetation communities including forest or riparian habitats where they exclude native understory species.

Invasive Wildlife Species

Invasive wildlife species are also present in the Program area, including American bullfrogs (*Lithobates catesbeianus*) (Cook and Jennings 2007). American bullfrogs occupy a wide range of both natural and human-made habitats, including lakes, ponds, marshes, brackish waters, streams, and canals and prefer warm, slow or stagnant waters with abundant vegetation, but are also found along the shorelines of lakes and banks of streams. Adult American bullfrogs eat a large variety of wildlife species including invertebrates, birds, bats, rodents, frogs, newts, lizards, snakes, and turtles. Bullfrog tadpoles mainly eat algae, aquatic plant material, and invertebrates, but they will also eat the tadpoles of other frog species. As a result of these feeding behaviors, all life-stages of bullfrogs prey upon and are able to out-compete native frogs (including California red-legged frog) and other aquatic species (CDFW 2024). It has been found that construction or modification of perennial ponds provide breeding habitat for invasive bullfrogs that prey on and compete with sensitive amphibians (Fuller et al. 2011). In addition, bullfrogs are a known carrier of chytrid fungus, which causes the potentially fatal skin disease in frogs called chytridiomycosis, which is likely the leading cause of native amphibian population decline all over the world and responsible for the extinction of over 100 species since the 1970s (CDFW 2024). In addition, invasive fish species may be present within the Program area, which are often released as a way to control mosquito larvae, which the fish species will eat. In the western United States, fish released for mosquito larvae control include the guppy (*Poecilia reticulata*) and western mosquitofish (*Gambusia affinis*) (Branam 2022).

CANNABIS PRIORITY WATERSHEDS

SWRCB, in coordination with CDFW, has identified "Cannabis Priority Watersheds" throughout the state (SWRCB 2024). All Cannabis Priority Watersheds contain a high concentration of cannabis cultivation. Noncompliant cannabis cultivation in these high-value areas has the potential to cause severe environmental impacts.

A "Cannabis Priority Watershed" may also meet some or all of the following criteria:

- ▶ Contains or supports critical habitat for terrestrial or aquatic species (see "Critical Habitat" section, above);
- ▶ Contains water courses with low-flow conditions where water levels recede or are at risk of receding into the "danger zone" for aquatic life (survival-level flows at which aquatic habitat and species will be harmed);
- ▶ Contains a critical water supply, where excessive water use or diversions present unreasonable stress or pose a significant threat to long-term and sustainable water use;
- ▶ Is the subject of complaints that allege cannabis cultivation that contributes to or causes natural resources violations or that affects senior water right holders;
- ▶ Is part of past or ongoing restoration efforts;
- ▶ Is listed under CWA Section 303(d) as an impaired water body;
- ▶ Contains a surface water body listed as a fully appropriated stream; and/or
- ▶ Contains a water body designated as a "Wild and Scenic River" pursuant to PRC Section 5093.

The current (2024) Cannabis Priority Watersheds in the Program area are listed below with the reason they have been classified as such (Table 3.4-18; Figure 3.4-9). Cannabis Priority Watersheds are present in both the agricultural and resources districts as well as the industrial and commercial districts.

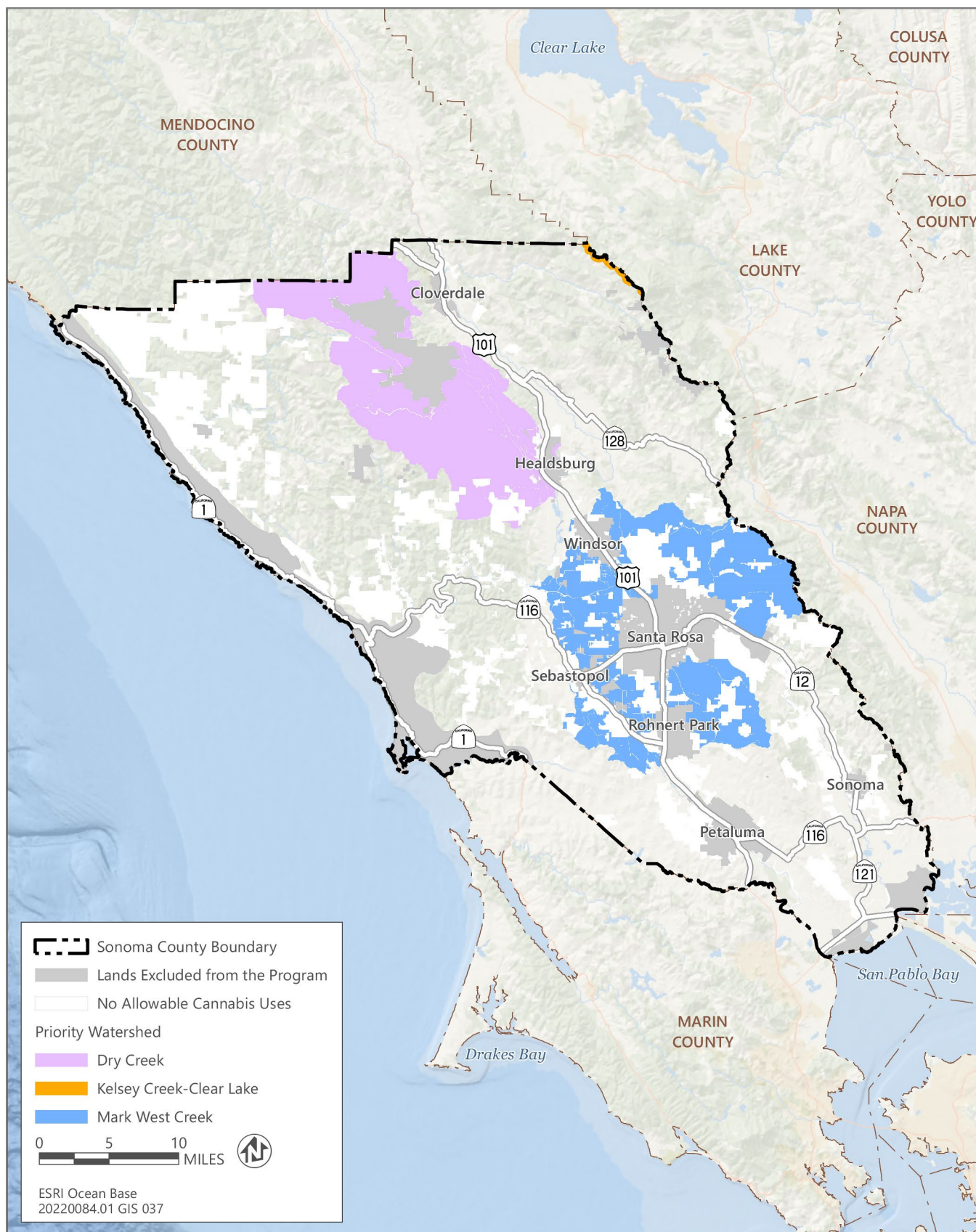


Figure 3.4-9 Cannabis Priority Watershed

Table 3.4-18 Cannabis Priority Watersheds within the Program Area

Type of Linkage	Agricultural and Resources Districts (acres)	Industrial and Commercial Districts (acres)	Total (acres)
Mark West Creek	83,670	1,431	85,100
Dry Creek	89,787	0	89,787
Total	173,485	1,431	174,916

Notes: Totals may not sum exactly due to independent rounding.

Source: Data downloaded from Conservation Lands Network in 2022; compiled by Ascent in 2025.

- ▶ Mark West Creek: Russian River Section 303(d) listed for sediment and temperature, with phosphorous and dissolved oxygen impairments in the Laguna De Santa Rosa area. The Santa Rosa Plain (Laguna De Santa Rosa) is also a high priority area for endangered species recovery and habitat enhancement due to occupation by multiple listed species including the California tiger salamander and Sebastopol meadow foam both of which are endangered under state and federal listings. Mark West and Mill Creeks are priority watersheds for Coho salmon recovery, and other fisheries. The upper Russian River areas selected are prone to high densities of cannabis cultivation activities. These priority areas overlay with areas subject to high density and elevated densities of cannabis cultivation activities.
- ▶ Dry Creek: Russian River Section 303(d) listed for sediment and temperature, with phosphorous and dissolved oxygen impairments in the Laguna De Santa Rosa area. The Santa Rosa Plain (Laguna De Santa Rosa) is also a high priority area for endangered species recovery and habitat enhancement due to occupation by multiple listed species including the California tiger salamander and Sebastopol meadow foam both of which are endangered under state and federal listings. Mark West and Mill Creeks are priority watersheds for Coho salmon recovery, and other fisheries. The upper Russian River areas selected are prone to high densities of cannabis cultivation activities. These priority areas overlay with areas subject to high density and elevated densities of cannabis cultivation activities.

WILDLIFE MOVEMENT CORRIDORS

A wildlife movement corridor is generally a topographical/landscape feature or movement zone that connects two or more natural habitat areas. Wildlife corridors link areas of suitable wildlife habitat that are separated by variation in vegetation, rugged terrain, human disturbance and habitat fragmentation, or other biophysical factors. Movement corridors may provide favorable locations for wildlife to travel between different habitat areas, such as foraging sites, breeding sites, cover areas, and preferred summer and winter range locations. They may also function as dispersal corridors allowing animals to move between various locations within their range. Depending on their landscape position and habitat quality, riparian areas can function as important movement corridors for amphibians, reptiles, birds, mammals, and fish by providing connectivity between other areas of natural habitat and between populations. Additionally, relatively small open space lands (e.g., County and regional parks) can function as part of a regional corridor or "stepping stones" for species whose movements are less sensitive to the presence of human disturbance and major roads or other impediments to movement, such as birds.

The Program area contains several large areas of relatively undisturbed wildlife habitat, including protected land in Armstrong Woods State Park, Austin Creek State Recreation Area, Sugarloaf State Park, and Trione-Annadel State Park; lands set aside as preserves and conservation easements, including Jenner Headlands; and many regional parks interspersed throughout the Program area, including Hood Mountain Regional Park. In addition, major river systems throughout the County provide value as movement corridors for fish and wildlife species and contain undisturbed wildlife habitat as well, including the Russian River and Dry Creek.

Black-tailed deer movement data can be used to understand the movement of other large mammals across the landscape, such as mountain lions. Black-tailed deer observation surveys were conducted in the Program area from October 2001 through January 2002 by helicopter (Sommer 2005). In the Program area during these surveys, black-

tailed deer were observed near Lake Sonoma in the Program area (Sommer 2005). Black-tailed deer have a substantial amount of core habitat available throughout the Program area (Figure 3.4-10); “core habitat” is defined as areas likely capable of supporting the species for several generations (although with erosion of genetic material if the population is isolated) (Penrod 2014). Black-tailed deer also have some patch habitat, or breeding patch habitat, in the Program area (Figure 3.4-10). “Patch habitat” is defined as an area of suitable habitat large enough to support successful reproduction by a pair of individuals, or perhaps more if home ranges substantially overlap (Penrod 2014). In addition, mountain lions also have a substantial amount of core habitat in the Program area, generally mirroring that of the black-tailed deer although mountain lion have no modeled patch habitat with the Program area (Penrod 2013). Black-tailed deer habitat is presented in Table 3.4-19 and is present in both the agricultural and resources districts as well as the industrial and commercial districts.

Table 3.4-19 Black-tailed deer Habitat within the Program Area

Black-tailed deer Habitat Types	Agricultural and Resources Districts (acres)	Industrial and Commercial Districts (acres)	Total (acres)
Core	360,256	28	360,228
Patch	9,393	2	9,392
Total	369,619	30	369,649

Notes: Totals may not sum exactly due to independent rounding.

Source: Data downloaded from CDFW in 2023; compiled by Ascent in 2025. California Essential Habitat Connectivity Project is a wildlife corridor mapping effort commissioned by the California Department of Transportation and CDFW with the purpose of making transportation and land use planning more efficient and less costly while helping reduce dangerous wildlife-vehicle collisions (Spencer et al. 2010) (Figure 3.4-11). Some of these important areas were mapped in the Program area as Natural Landscape Blocks and Large Landscape Blocks in the agricultural and resources districts, with Natural Landscape Blocks overlapping minimally with commercial districts (Table 3.4-20; Figure 3.4-11). These landscape blocks are connected by Essential Connectivity Areas and Critical Habitat Linkages, of which both are present within the agricultural and resources districts as well as the commercial districts (Table 3.4-20). It should be noted that the Essential Connectivity Areas were not developed for the purposes of defining areas subject to specific regulations by CDFW or other agencies. Essential Connectivity Areas are not regulatory delineations and are identified as lands likely important to wildlife movement between large, mostly natural areas at the statewide level. The Essential Connectivity Areas form a functional network of wildlands important to the continued support of California’s diverse natural communities. The largest natural landscape blocks are mapped in the western portion of the Program area, particularly north of SR 116 (Figure 3.4-11). Essential Connectivity Areas connect natural landscape blocks, and in the Program area there is one main Essential Connectivity Area that travels from the northwestern portion to the southeastern portion of the County (Figure 3.4-11). In addition, there is an essential connectivity area in the southeastern portion of the Program area in the estuarine habitat (Figure 3.4-11). The Conservation Lands Network also has Large Landscape Blocks mapped in the western portion of the Program area, which are similar to Natural Landscape Blocks and sometimes overlap these areas (Figure 3.4-11). The Conservation Lands Network also has Critical Habitat Linkages throughout the Program area, away from the incorporated portions of Sonoma County (Figure 3.4-11). In particular, there is a large Critical Habitat Linkage identified in the northeastern section of the Program area, which is the Northern Mayacamas priority conservation area. On the eastern and southern sides of the Program area, there is also the Blue Ridge-Marine Coast habitat linkage, and on the western and southern side of the Program area, there is also the Coast Range-Marine Coast habitat linkages. Sonoma County Ag + Open Space’s Vital Lands Initiative has priority areas mapped for wildlife habitat and movement, which mirror the Conservation Lands Network mapping (Sonoma County Ag + Open Space 2024).

Table 3.4-20 Landscape Blocks and Essential Connectivity Areas within the Program Area

Type	Agricultural and Resources Districts (acres)	Commercial Districts (acres)	Total (acres)
Natural Landscape Blocks	70,151	0.4 ¹	70,152
Large Landscape Blocks	47,136	0	47,136
Critical Habitat Linkages	232,918	39 ¹	232,957
Essential Connectivity Areas	116,880	103 ¹	116,983
Total	467,085	143¹	467,227

Notes: Totals may not sum exactly due to independent rounding.

Source: Data downloaded from CDFW in 2018 and Conservation Lands Network in 2022; compiled by Ascent in 2025.

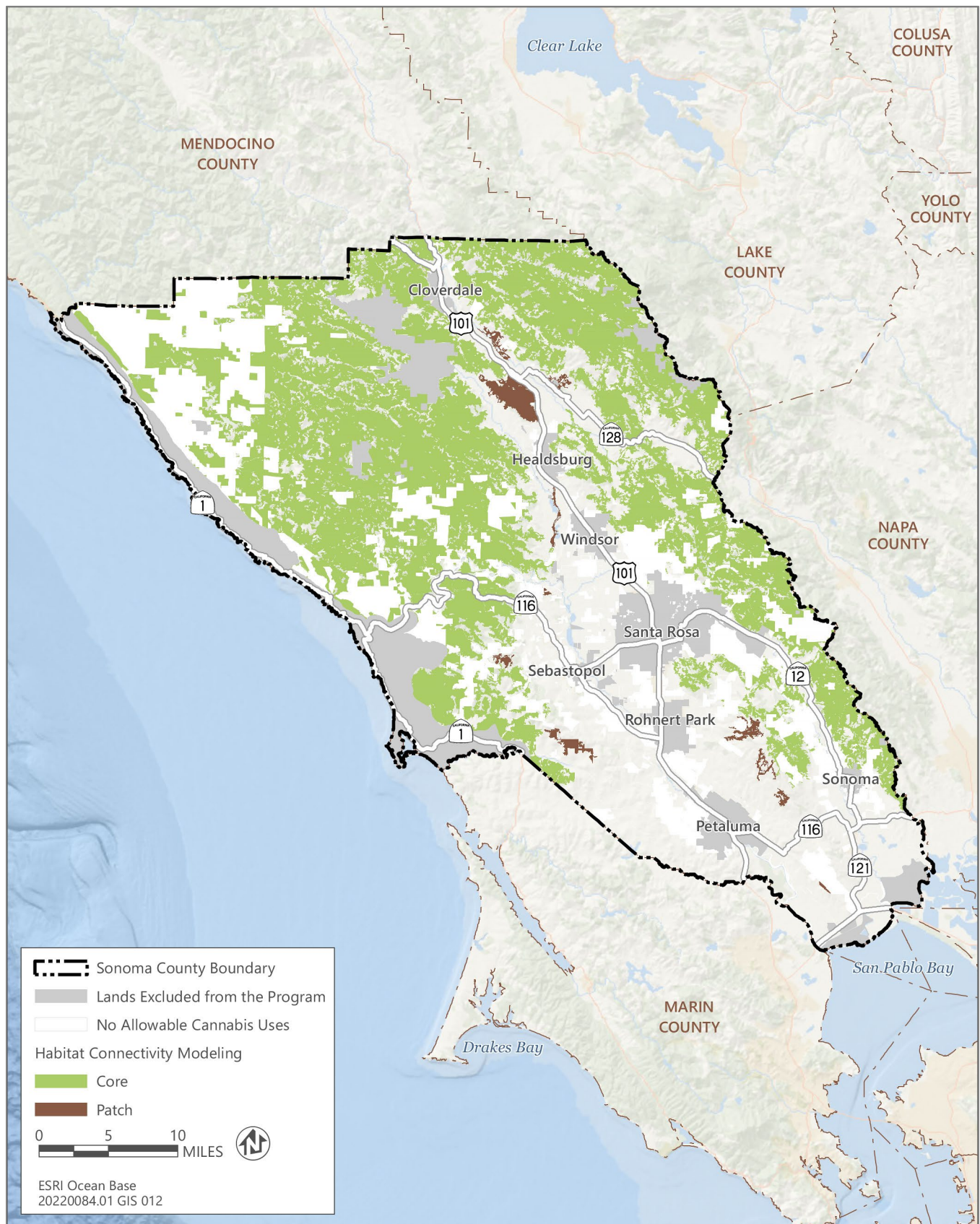
Other important areas for wildlife movement are also mapped by the Conservation Lands Network and presented in Figure 3.4-12 and Table 3.4-21. For instance, intact landscapes are identified throughout the Program area, mainly away from the incorporated portions of Sonoma County in agricultural and resource districts, though still present within the commercial districts. In addition, multiple present-day linkage options are present in the Program area in both the agricultural and resource districts as well as the commercial districts. Climate linkages that are present through intact landscapes are also identified throughout the Program area, but mostly in the northern half of the Program area and away from incorporated cities of Sonoma County as well and only within agricultural and resource districts. Present-day linkages are interspersed throughout the Program area and are present in the agricultural and resource districts and minimally in the commercial districts. Furthermore, there is a community effort to save the Sonoma Valley Wildlife Corridor, which connects Napa County and the Mayacamas Mountains to the Program area and the Sonoma Mountains (Sonoma Land Trust 2024).

Table 3.4-21 Present and Future Habitat Linkages within the Program Area

Type of Linkage	Agricultural and Resources Districts (acres)	Industrial and Commercial Districts (acres)	Total (acres)
Intact landscape	205,401	80	205,481
Multiple present-day linkage options	97,094	15	97,109
Climate linkage among multiple present-day linkage options	62,113	0	62,113
Climate linkage within a present-day linkage	33,655	0	33,655
Climate linkage through an intact landscape	29,804	0	29,804
Present-day linkage	21,578	0.1	21,578
Total	449,645	95	449,740

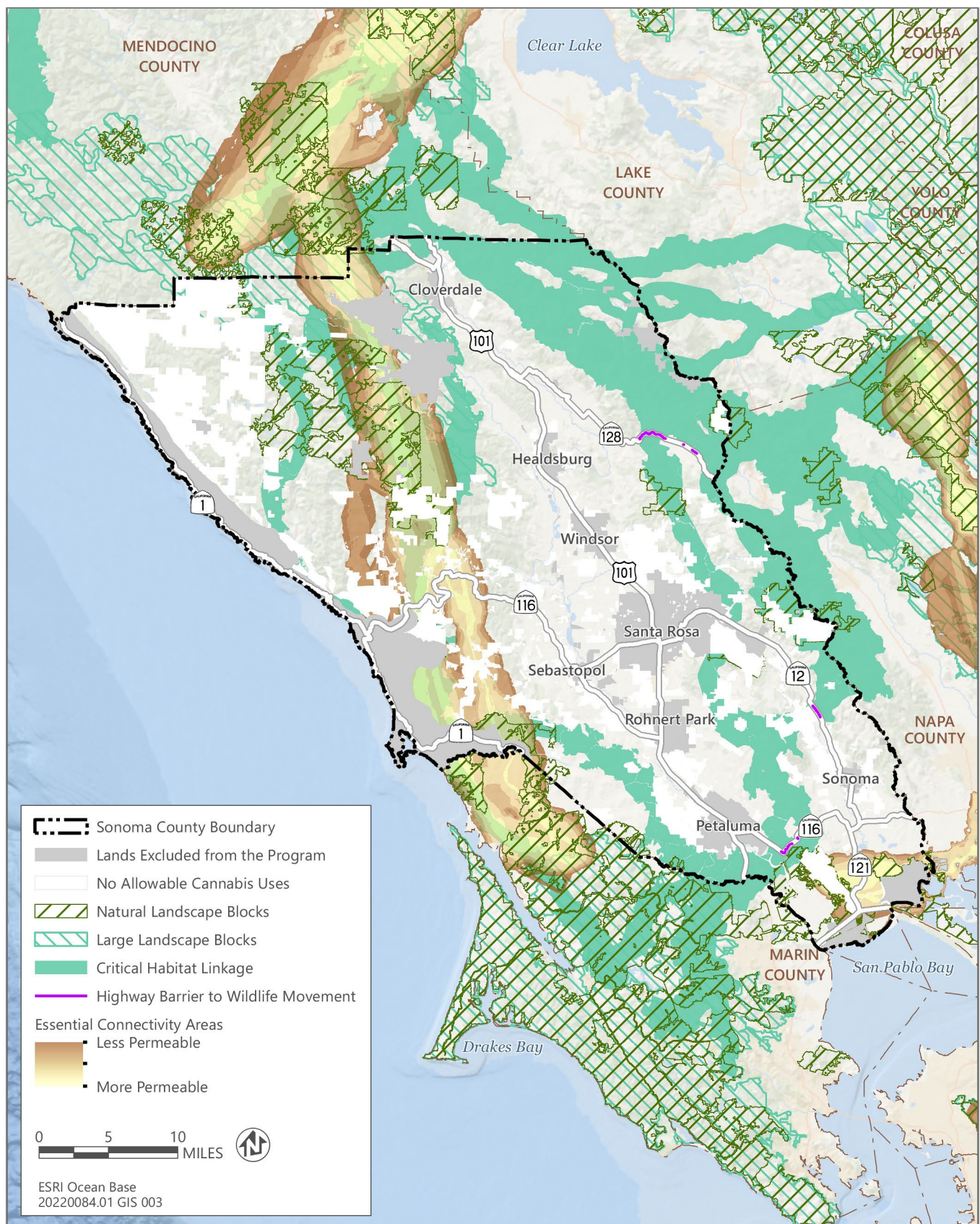
Notes: Totals may not sum exactly due to independent rounding.

Source: Data downloaded from Conservation Lands Network in 2022; compiled by Ascent in 2025.



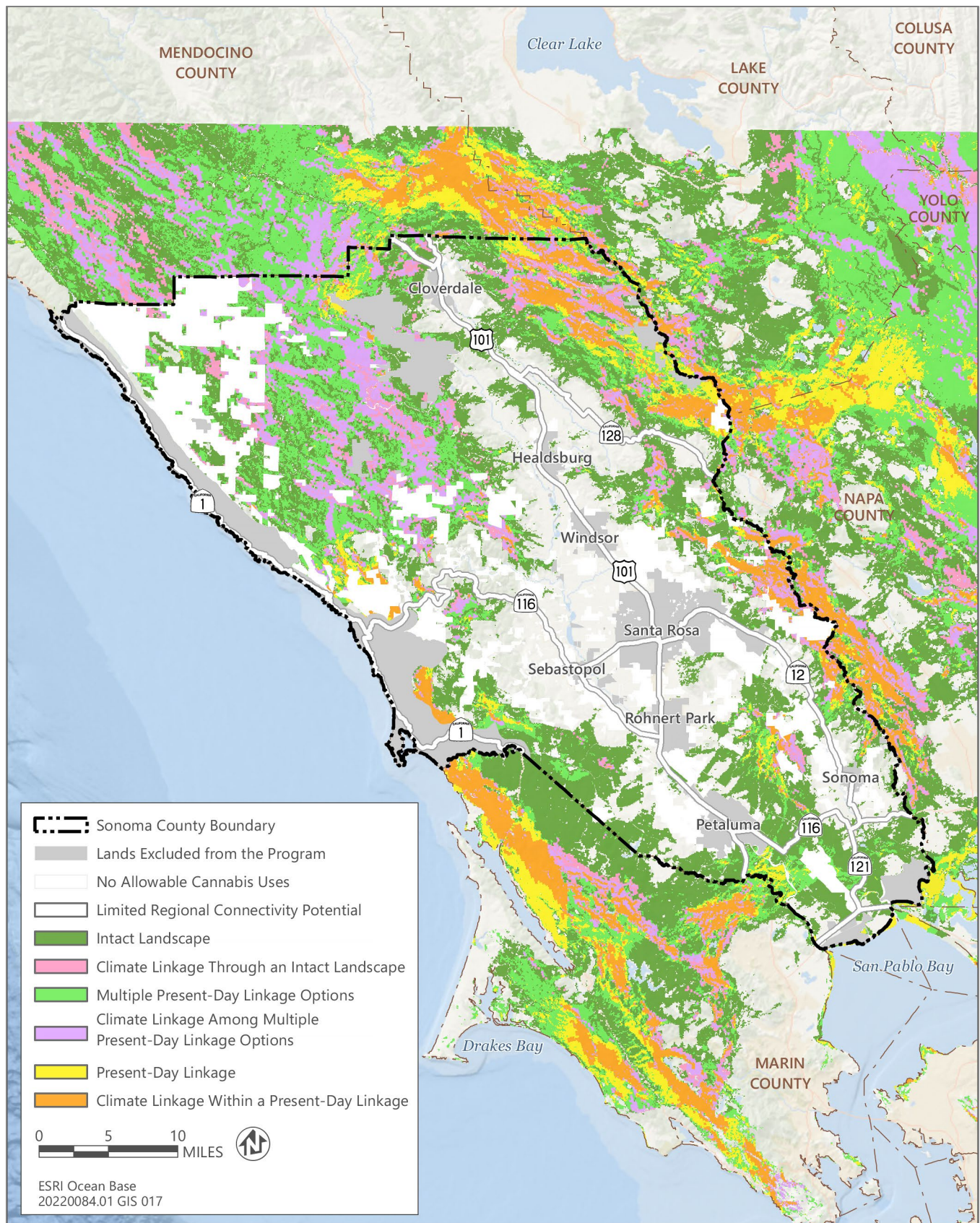
Source: Data downloaded from CDFW in 2023; adapted by Ascent in 2024.

Figure 3.4-10 Black-Tailed Deer Habitat



Sources: Data downloaded from CDFW in 2018 and Conservation Lands Network in 2022; adapted by Ascent in 2024.

Figure 3.4-11 Landscape Blocks and Essential Connectivity Areas



Sources: Data downloaded from Conservation Lands Network in 2022; Adapted by Ascent in 2024.

Figure 3.4-12 Present and Future Habitat Linkages

NATIVE WILDLIFE NURSERY SITES

Nursery sites are locations where fish and wildlife concentrate for hatching or raising young, such as nesting rookeries for birds, spawning areas for native fish, fawning areas for deer, and maternal roosts for bats. Nursery sites are considered in this analysis for native wildlife that are not defined and otherwise considered under CEQA as special-status species. The Program area could contain a variety of wildlife nursery sites. For example, deer are known to occur in the Program area, and habitat for fawning areas exists throughout the Program area. Other than this minimal data on fawns, native nursery sites are not mapped for the Program area and would need to be identified and evaluated at a site-specific level.

HABITAT CONSERVATION PLANS AND OTHER PLANS

Sonoma County is in the planning stages of developing the Sonoma County Regional Habitat Conservation Plan/Natural Communities Conservation Plan. A draft plan has not yet been prepared, and the timing of plan preparation has not been established. In addition, the Santa Rosa Plain Conservation Strategy (Goude et al. 2005) is in place to create a long-term conservation program sufficient to mitigate potential adverse effects on listed species including California tiger salamander and Sebastopol meadowfoam due to future development on the Santa Rosa Plain (see the "Santa Rosa Plain Conservation Strategy" section in Section 3.4.1 above).

EXISTING STRESSORS ON BIOLOGICAL RESOURCES IN SONOMA COUNTY

Historical and modern development in the Program area that has resulted in adverse effects on natural resources in the region includes timber harvest (beginning in the mid-19th century), watershed alteration related to dam construction, mining, agricultural activities, urban development, and introduction of invasive plant and wildlife species. More recently, unlicensed cannabis cultivation operations in California on public and private lands have led to illegal water diversions, unpermitted removal of sensitive vegetation, and direct mortality to protected species from exposure to rodenticides and insecticides (Gabriel et al. 2012).

As identified in Chapter 2, "Project Description," in 2023 there were an estimated 27 unlicensed cannabis cultivation sites in Sonoma County, with the number of illegal cannabis sites trending down in number and size consistently since 2020. The most unlicensed cannabis cultivation sites recorded by the County, since they started keeping record in 2018, occurred in 2021, with 173 unlicensed cannabis cultivation sites documented (see Table 2-1 in Chapter 2). Discovered illegal operations are mainly outdoor cultivation sites found in the Rural Residential (RR) and Agriculture and Residential (AR) districts west of Santa Rosa, though some are found within the city limits. The more remote cultivation sites are typically larger, with some illegal operations identified having 100 to 250 plants.

Projected Alteration of Habitat Conditions Attributable to Climate Change

Global climate change is a major challenge to the conservation of California's natural resources. This section summarizes major projected climate change effects in the Northern California Coast region and Northern California Coast Ranges region of California identified in the California State Wildlife Action Plan (CDFW 2015). Resulting stressors to species and ecosystems from climate change effects include changes in the duration, frequency, or severity of extreme events, such as wildfire, storms, floods, and extreme temperatures. Also, longer-term climate trends and associated ecological vulnerabilities in response to these stressors may result in vegetation shifts and modified hydrology, directly threatening sensitive habitats and species, particularly those with limited adaptive capacity.

Vulnerability to climate change can be defined as the degree to which a system is exposed to, sensitive to, and unable to cope with or adapt to the adverse effects of change (CEC 2012). The degree of vulnerability of California's wildlife to climate change will vary considerably depending on many factors, such as the intrinsic sensitivity of a given species or its habitat to climate exposure and related stressors, the adaptive capacity of species and habitat to these effects, and other existing environmental stressors unrelated to climate change. Conditions in Sonoma County are discussed in this section, which encompasses the Program area.

Temperature

Climatic changes along the northern California coastline and the North Coast Ranges are expected to include increased average temperatures of 3.0 to 3.4 °F by 2070 and 2.7 to 8.1°F by 2099 (Cayan et al. 2008; PRBO Conservation Science 2011). Mean maximum and minimum temperatures are projected to increase by 4.5°F and 4.1°F, respectively, and the frequency of extremely hot days (exceeding long-term 95th percentile) is projected to increase by 27 days per year. Prolonged hot spells are projected to increase by 1.6 events per year and increase in duration by 3 days (Bell et al. 2004). Many of these changes will be slightly less pronounced in coastal regions and amplified in inland regions.

Precipitation and Snowpack

Historically, Sonoma County experienced an average of 43.9 inches of precipitation per year in Cloverdale from 1956 to 1999, 31.4 inches of precipitation per year in Santa Rosa from 1902 to 1999, and 42.8 inches of precipitation per year in Fort Ross from 1899 to 1999 (NOAA RCS 2024). More recently, there was an average of 36.1 inches of precipitation per year in Cloverdale from 2000 to 2024, 29.9 inches of precipitation per year in Santa Rosa from 2000 to 2024, and 40.9 inches of precipitation per year in Fort Ross from 2000 to 2024 (NOAA RCS 2024). These are examples of precipitation throughout Sonoma County although averages throughout the Program area can vary widely. In the future, changes in annual precipitation in the Bay Area region (i.e., Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma) are projected to vary widely by location with annual totals over 40 inches in northern Sonoma County to roughly 15 inches in the eastern portions of Solano and Contra Costa Counties. A moderate decline in annual rainfall, 1 to 3 inches by 2050 and 4 to 5 inches by 2090, is projected throughout the region (CalEMA 2012). In northwestern California, which includes Sonoma County, regional climate models project a decrease in mean annual rainfall of 4.0 to 15.2 inches by 2070 (PRBO Conservation Science 2011).

Freshwater Hydrologic Regimes

Though snowpack does not have a huge influence on the hydrology of Sonoma County, projected loss of snowpack in this region would potentially result in a decrease in duration and magnitude of stream flows, such as the Russian River, which flows from Mendocino County. In the northern California Coast region, snow accumulation is projected to decrease by 73 percent and reductions in monthly median snow heights from January to April ranged from 1.8 to 4.4 inches (Snyder et al. 2004). Decrease of rain as precipitation will also result in decreased stream flow magnitude and duration. Although hydrologic changes have not been modeled, observational data show that non-snowmelt-dominated streams in northwestern California have been trending toward later stream flow timing. There could also be a shift in timing of the heaviest runoff. Observational data from the last 50 years show that in non-snowmelt dominated streams, the center of mass of annual flow (i.e., half of annual streamflow in any given year) has shifted from 5 to 25 days later in the season (PRBO Conservation Science 2011).

Wildfire Risk

In the Bay Area region, there is little change in projected fire risk except for the slight increases expected in western Marin County (CalEMA 2012) although there is already substantial fire risk in Sonoma County. As identified in Section 3.17, "Wildfire," Sonoma County and the surrounding region have experienced multiple significant fires recently. This includes the Tubbs Fire (in 2017), Kinkade Fire (in 2019), and Walbridge Fire (in 2020), which burned approximately 29,129 acres, 77,030 acres, and 55,203 acres within the Program area, respectively (CAL FIRE 2023).

3.4.3 Environmental Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, "Project Description," and Section 3.0, "Approach to the Environmental Analysis," regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

The analysis of potential impacts on biological resources resulting from Cannabis Program Update implementation is based on the data review described previously in Section 3.4.2, "Environmental Setting." The Cannabis Program Update does not apply to tribal lands or to public lands managed by agencies including US Bureau of Land Management, US Department of Defense, California State Parks, CDFW, or Sonoma County regional parks. Impact mechanisms for development and operational activities under the Program could include clearing of native vegetation; ground disturbance from construction of storage ponds, installation of irrigation systems and water storage, road and building construction, extension of electrical facilities and infrastructure, installation of fencing, planting, and harvest activities; and increases in the operation of artificial lights and operational noises. Cannabis Program Update implementation associated with new cannabis uses may include conversion of natural habitats. Projected future cannabis uses under the Cannabis Program Update are outlined in Chapter 2, "Project Description." No estimates are provided for personal use although this is restricted to up to six plants that are accessory to a residential dwelling unit in all zoning districts. The reader is referred to Chapter 2, "Project Description," for further description of the development assumptions for the Program.

Federal agencies, including USACE and USFWS, may not issue permits for activities associated with cannabis activities. Consequently, operations applying for new cannabis approvals under the Cannabis Program Update would be required to avoid federally regulated resources, including plant and wildlife species listed under the ESA and waters of the United States, as required under Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ.

Proposed Permitting Approach

The proposed Cannabis Program Update outlines that cannabis related uses could be permitted in the following zoning districts: Land Intensive Agriculture (LIA), Land Extensive Agriculture (LEA), Diverse Agriculture (DA), Resources and Rural Development (RRD) and industrial and commercial zoning districts (Industrial Park [MP], Limited Urban Industrial [M1], Heavy Industrial [M2], Limited Rural Industrial [M3]), Neighborhood Commercial [C1], Retail and Business Service [C2], General Commercial [C3], and Limited Commercial [LC] Zones. The Program Update would include new code language that pertains to cannabis cultivation (see Chapter 2, "Project Description").

Approach to Analysis and Term Definitions for Impact Analysis

All impacts analyzed below under "Environmental Impacts and Mitigation Measures" apply to the initial disturbance of a project site, except for noise impacts from emergency generators, nighttime lighting impacts, and light and noise impacts during cannabis events, after an event has been set up. Impact mechanisms for biological resources include construction, installation of cannabis event facilities, grading, vegetation removal, other ground disturbance, and activities that produce increased light and noise.

- Disturbance Activities refers to any activity related to construction, installation of temporary event facilities, grading, vegetation removal, other ground disturbance, or project staging. This includes development within the cannabis premises boundary as well as supporting improvements (e.g., roadway or driveway improvements).

- ▶ Disturbance Area refers to any proposed disturbance area for the proposed expanded (i.e., physical expansion) of new cannabis sites, including areas of anticipated development construction, grading, other ground disturbance, or vegetation removal as well as staging areas and areas of anticipated light or noise impacts, ingress and egress routes, and utility routes.
- ▶ Ground Disturbance refers to any ground disturbance (including grading) related to the project that either compacts or disturbs the soil. This includes deep ripping, chisel plowing, field cultivating, disking, plowing, harrowing, rototilling, application of soil amendment and fertilizing materials, and other similar activities. After the initial planting of cannabis, no more cannabis plantings in that particular location would be considered ground disturbance. In addition, laying landscape fabric on top of the soil is not considered ground disturbance.
- ▶ Temporary Cannabis Event Facilities include shade structures, fencing, signs, tables, and chairs.
- ▶ Vegetation removal refers to the removal of non-agricultural vegetation.

THRESHOLDS OF SIGNIFICANCE

Based on State CEQA Guidelines Appendix G, an impact on biological resources would be significant if implementation of the Cannabis Program Update would:

- ▶ have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- ▶ have a substantial adverse effect on any sensitive natural community, riparian habitat, or other sensitive habitat identified in local or regional plans, policies, or regulations or by CDFW or USFWS;
- ▶ have a substantial adverse effect on state or federally protected wetlands or other waters (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- ▶ 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;
- ▶ conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- ▶ conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

ISSUE NOT DISCUSSED FURTHER

Personal Cultivation

The proposed Cannabis Program Update does not include changes to personal cultivation standards that would be substantially different from existing requirements such that physical changes to the environment could occur that would create significant impacts related to biological resources. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

Use of Existing Structures

Future cannabis uses that occur fully within an existing building (that is a fully enclosed structure) and developed site, such as a new use in an existing building, tenant improvements expanding uses inside buildings, or an event held completely inside an existing building, are not expected to have significant impacts on biological resources. As such, this issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.4-1: Result in Disturbance to or Loss of Special-Status Plant Species and Habitat

Potential land use conversion and development from cannabis cultivation and supply chain (noncultivation) uses that involve construction, ground disturbance, or vegetation removal in Sonoma County under the Cannabis Program Update could result in disturbance to or loss of special-status plant species if they are present. In addition, expanded and new cannabis cultivation and supply chain uses could result in the introduction or spread of invasive plants during vegetation removal, grading, other ground disturbance, construction activities, installation of temporary event facilities, or introduction of off-site soils, which could result in exclusion of special-status plants. Because the loss of special-status plants could substantially affect the abundance, distribution, and viability of local and regional populations of these species, this impact would be **potentially significant**.

A total of 225 special-status plants were identified as having potential to occur in the Cannabis Program Area (Table 3.4-11). However, as noted in Table 3.4-11, some of these special-status plant species have ranges that only encompass the coastal zone (which would not be subject to the proposed Cannabis Program Update) or are not expected to occur in the Cannabis Program Area based on current range data and were only captured in the CNDDDB (2024) and CNPS (2024a) USGS 7.5-minute quadrangle searches, and therefore would not be adversely affected by cannabis uses. In addition, some special-status plants may occur near waterways or be restricted to wetlands that would be delineated and protected through implementation of required setbacks (discussed below in more detail) from wetlands and other waters (e.g., lakes, reservoirs, ponds, streams).

Special-status plant species in the Program Area occur in a wide variety of habitat types, including coniferous forests, chaparral, scrub, grasslands, wetlands, and riparian habitats, all of which occur both within the agricultural and resources districts and the industrial and commercial districts. The agricultural and resources districts consist of 99.8 percent natural land cover types (i.e., all land cover categories except urban and agriculture) in the Program Area while less than 1 percent of natural land cover types occur within the industrial and commercial districts. Natural land cover types may provide habitat for special-status plants. Furthermore, some special-status plants may occur in disturbed areas of urban and agricultural areas. New cannabis cultivation and all other cannabis-related activities may include ground disturbance, vegetation removal, grading, installation of event facilities such as tents or other activities that could involve trampling, construction, including of roadways, water storage facilities, as well as the extension of electrical facilities, which all could result in the direct loss of special-status plants or their habitat, if they are present. In addition, there is potential for the introduction or spread of invasive plants during vegetation removal, ground disturbance, and introduction of off-site soils. The introduction or spread of invasive plants could adversely affect special-status plant species by excluding them from suitable habitat. The loss of special-status plants and their habitat could substantially affect the abundance, distribution, and viability of local and regional populations of these species.

Individual cannabis projects, approved through the Cannabis Program Update would have to comply with applicable provisions of the Sonoma County Code, including Chapter 11 (Construction Grading and Drainage), Article 14 (Standards), Section 11.14.090 (Setbacks for Lakes, Ponds, and Reservoirs), Section 11.14.100 (Setbacks for Streams), and Section 11.14.110 (Setbacks for Wetlands). Although the setbacks described in these provisions would help protect some special-status plants that grow within these setbacks from cannabis premises, special-status plant species occur outside of these setbacks throughout the Program Area. In addition, projects would also have to comply with Sonoma County Code, Chapter 26 (Sonoma County Zoning Regulations), including Article 65 (RC Riparian Corridor Combining Zone) Section 26-65-030 (Prohibited Uses and Exceptions) which prohibits activities including grading, vegetation removal, agricultural cultivation, structures, and roads within any stream channel or streamside conservation area. Although this would protect special-status plants within the RC Riparian Corridor Combining Zone, special-status plants occur outside of this zone, and therefore potential impacts would still remain. Individual projects would also have to comply with Article 66 (BH Biotic Habitat Combining Zone) Section 26-66-020 (Standards for Biotic Habitats), which requires proposed structures to be set back a minimum of 50 feet from the edge of any wetland within a designated biotic habitat area. This would protect special-status plants within these setbacks, though

there is an exception for existing farm structures, which may be expanded or modified (provided that the expansion or modification shall not encroach further into any wetland), so in some cases this setback would not be as protective. In addition, special-status plants occur outside of this setback in the Program Area and designated biotic habitat areas only constitute approximately 3.2 percent of the Program Area as a whole, so the potential for impacts on special-status plants would still remain.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures and outdoor cultivation areas could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded portion of existing uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Cannabis related activities would need to comply with Sonoma County Code provisions, which include those outlined above, which would help prevent some impacts on special-status plants, particularly within protective buffers for wetlands and other waters. Discretionary cannabis projects would also need to comply with Chapter 26 (Sonoma County Zone Regulations), Article 66 (BH Biotic Habitat Combining Zone), Section 26-66-020 (Standards for Biotic Habitats), which requires a biotic resource assessment for discretionary projects that could adversely impact a designated critical habitat area. This would help protect special-status plants in critical habitat areas. However, USFWS critical habitat only constitutes approximately 5.4 percent of the Program Area. As an example, NOAA Fisheries designated critical habitat is provided in mileage, of which there is minimal habitat (i.e., approximately 1,052 miles) designated compared to the entire Program Area. In addition, biotic habitat areas only constitute approximately 3.3 percent of the agricultural and resources districts within the Program Area. Therefore, impacts on special-status plants would still remain.

The proposed Cannabis Program Update also includes the proposed Section 26-18-020 (Agricultural Crop Production and Cultivation), which would require outdoor cannabis cultivation to comply with Article 10, 12, and 20 of Sonoma County Code Chapter 36. Consistent with Article 20 (Standards) Section 36.20.050 (Protection of Listed Species), cannabis cultivation would be required to be designed and constructed to avoid the take of any listed species, unless all necessary state and federal permits, approvals, or authorizations to incidentally take listed species have been obtained. Although this would help prevent impacts on listed special-status plants, this only prevents take of federally- or state-listed species. Since there are plants that are special-status, but not listed, the potential for impacts on special-status plants would still remain. In addition, individual projects under the Cannabis Program Update would need to comply with Section 36.20.060 (Removal of Trees and Other Vegetation), which would require cannabis cultivation and related activities to only remove or disturb trees or other vegetation using *Best Management Practices and Technical Report Guidelines for New Vineyard and Orchard Development, Vineyard and Orchard Replanting, and Agricultural Grading and Drainage (VESCO)* (Sonoma County Department of Agriculture n.d.-b). The *Best Management Practices and Technical Report Guidelines for New VESCO* mainly focuses on tree removal, but also has guidance for other vegetation removal related to protecting soil resources and preventing erosion. All vegetation that is to be preserved outside of the development area must be identified and protected from damage by marking, fencing, or other measures. Although this would help protect some special-status plants, under these best management practices, special-status plants could still be removed. Moreover, Sections 36.20.090 (Setbacks for Lakes, Ponds, and Reservoirs), 36.20.110 (Setbacks for Streams), and 36.20.120 (Setbacks for Wetlands), have certain setback requirements for lakes, ponds, reservoirs, streams, and wetlands, which range from 25 feet to 100 feet, and in some cases are more restrictive, depending on the zoning code. Although these setbacks would help protect some special-status plants that grow within these setbacks, special-status plant species occur outside of these setbacks throughout the Program Area and therefore the potential for impacts would still remain.

Cannabis cultivation and accessory use projects would be required to comply with the *Best Management Practices Cannabis Cultivation* (Sonoma County Department of Agriculture n.d.-a), which contain best management practices

to address potential impacts in riparian zones, which likely contain some special-status plant species. *Best Management Practices for Cannabis Cultivation*, as described in Section 3.4.1, "Regulatory Setting," directs projects to apply riparian setbacks for agricultural areas already required by the code (and reviewed above) and prohibits vegetation removal, staging, and other activities within these designated riparian corridors. In addition, projects must leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter and avoid soil disturbance between November 1 and April 15. Although, impacts would still remain for special-status plants that occur outside of the designated riparian zone. Furthermore, projects will need to comply with the Sonoma County General Plan, including Policy OSRC-7b which has certain requirements including requiring a site assessment and adequate mitigation in designated biotic habitat areas. Although, since these areas only cover a minimal amount of the Program Area, only apply to discretionary cannabis projects, impacts on special-status plants would still remain.

In addition, cannabis cultivation uses would be required to comply with Term 10 of Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ, which requires site evaluations by a qualified biologist to determine whether sensitive plant species occur on the site before development or site expansion, and avoidance of special-status plant species by establishing buffers in consultation with CDFW and CAL FIRE. Avoidance of impacts on special-status plant species listed under ESA, CESA, or with a CRPR of 1B.1 and 1B.2 is also provided in Term 4 of Attachment A (Section 1, General Requirements and Prohibitions). Term 11 of Attachment A (Section 1, General Requirements and Prohibitions) put forth guidance on equipment use requirements to prevent the spread of invasive species. In addition, cannabis cultivation operations are required to comply with Term 3 (General Requirements and Prohibitions), which requires application of a LSA Agreement, and requirements therein, or consultation with CDFW for any activity that may substantially divert, obstruct, alter, or deposit into any river, stream, or lake. The SWRCB Order WQ 2023-0102-DWQ only applies to cannabis cultivation uses and does not apply to supply chain uses not associated with cultivation (planting, growing, pruning, harvesting, drying, curing, or trimming of cannabis). Although projects would comply with the existing regulations described above, Term 10 of Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ does not include survey and mitigation specifics (e.g., bloom dates for potential special-status plants, special-status plants, and habitats in the project area), and Term 4 of Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ does not require protections for CRPR 2A and 2B plant species. Similarly, although projects are required to comply with Term 3 of Attachment A (General Requirements and Prohibitions), which requires a LSA Agreement and requirements therein, or consultation with CDFW, this is only required for activities that may substantially divert, obstruct, alter, or deposit into any river, stream, or lake.

Habitat potentially suitable for special-status plants occurs throughout the agriculture and resource districts (see Section 3.4.2, "Land Cover Types" and "Aquatic Habitats"). Proposed allowable uses in agriculture and resource districts could include construction, grading, other ground disturbance, and vegetation removal. All of these allowable uses have the potential to have significant impacts on special-status plants either by direct loss of special-status plants or their habitat. Special-status plants can be adversely affected by trampling or through direct removal of individuals and/or their habitat, as well as by being excluded from habitat due to the introduction of invasive species. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. Because there would be no changes to the existing conditions (beyond change in crop type), activities associated with the implementation of a cannabis cultivation site under crop swap conditions would not have a significant impact on special-status plants. Therefore, the impact on special-status plants for crop swap is less than significant.

Construction of Event Facilities and Event Operations

Habitat potentially suitable for special-status plants occurs throughout the agriculture and resource districts, as discussed above under "Proposed Allowable Uses in Agricultural and Resources Districts." Proposed allowable uses in agriculture and resource districts could include construction, installation of cannabis event facilities, grading,

vegetation removal, or other ground disturbance. Special-status plants can be adversely affected by trampling or through direct removal of individuals and/or their habitat, as well as by being excluded from habitat due to the introduction of invasive species. Thus, this impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. While new cannabis uses could be located within existing buildings, new structures may be developed within the County.

Cannabis uses in these zones would also all need to comply with applicable Sonoma County Code provisions (reviewed in the general discussion of the impact above, discussing all districts), which would help prevent some impacts on special-status plants, particularly within protective buffers for wetlands and other waters, for construction and grading. Although, impacts on special-status plants would still remain in circumstances where new buildings and site development would occur. Use of existing buildings and developed sites would not result in impacts. For the reasons described above under "Proposed Allowable Uses in Agricultural and Resources Districts," development and operation of cannabis facilities could result in project-related loss of special-status plant species and their habitat. Although substantially less than agriculture and resource districts, habitat potentially suitable for special-status plants occurs within the industrial and commercial districts (see Section 3.4.2, "Land Cover Types" and "Aquatic Habitats"). Proposed allowable uses in industrial and commercial districts would result in similar types of impacts as discussed above under "Proposed Allowable Uses in Agricultural and Resources Districts." For the reasons described above, this impact would be potentially significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on special-status plants.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update could result in trampling or removal of special-status plants and their habitat, as well as exclusion from their habitat due to the introduction of invasive species, due to construction of new structures to support cannabis uses, new cultivation activities on agricultural and resources lands, and operation of small and large cannabis events. This impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Sonoma County shall require the following mitigation measures for cannabis project applications subject to a use permit or design review hearing.

- ▶ A biotic resource assessment must be prepared to determine the presence of biological resources within a project site. The biotic resource assessment will include a biological survey and project-level analysis, which shall be conducted by a qualified biologist. The survey area shall include the proposed disturbance area for the proposed cannabis premises and supporting improvements outside of the premises, including areas of anticipated construction, grading, other ground disturbance, or vegetation removal as well as staging areas, areas of anticipated light or noise impacts, ingress and egress routes, and utility routes. The survey area shall be large enough to encompass areas subject to both direct and indirect impacts. The qualified biologist shall assess the habitat suitability of the proposed disturbance area for all special-status plants, special-status wildlife, and sensitive habitats identified as having potential to occur in the County. This shall include an analysis of the late

successional forest habitat present within the Program Area, if applicable (see "Late Successional Forest" under Section 3.4.2 above) to determine if there is old-growth habitat present within the proposed disturbance area (see Mature and Old-Growth Forests: Definition, Identification, and Initial Inventory on Lands Managed by the Forest Service and Bureau of Land Management, Appendix 1, Pacific Southwest Region [Region 5] [USFS 2023] to determine what qualifies as old-growth). The qualified biologist shall also assess the habitat suitability of the proposed disturbance area for all invasive species, as well as record locations of invasive species if they are observed during the survey. The biotic resource assessment must include sufficient evidence to support a conclusion as to whether special-status species and sensitive habitats are present or are likely to occur in the proposed disturbance area. At a minimum, the biotic resource assessment report shall include:

- date, time, and weather conditions during the survey;
 - a description and explanation of whether the site conditions are considered typical or atypical;
 - a map depicting the proposed disturbance area and the unique, rare, and special-status species, sensitive habitats, or sensitive natural communities found;
 - a vegetation map of the proposed disturbance area using the National Vegetation Classification System (e.g., *A Manual of California Vegetation*) and an associated table, including acreage of vegetation types that could be adversely affected by project implementation by also checking the Vital Lands Initiative priority areas for vegetation communities (Sonoma County Ag + Open Space 2024);
 - a special-status species table generated from review of the CNDDDB, the California Native Plant Society Inventory of Rare and Endangered Plants, lists maintained by USFWS, and the most recent, best-available range information for special-status species;
 - a list of wildlife movement corridors present in the project area as well as footprint (i.e., area) of corridors, checking at least the following sources: Sonoma County General Plan (Habitat Connectivity Corridors), Sonoma County Ag + Open Space Vital Lands Initiative, and the Conservation Lands Network;
 - a description of survey methods and any protocols utilized during the survey;
 - a list of common and special-status species and habitats observed in the proposed disturbance area; and
 - a list of critical times of the year (e.g., migration season, nesting bird season) where nighttime lighting mitigation measure would apply.
- Following completion of the biotic resource assessment report, the qualified biologist shall submit the report to Sonoma County Planning Department for review. If no special status species, sensitive habitat, wetlands, or other waters are identified on an individual project site, no further mitigation is required.
 - If special-status species, sensitive habitats, or wetlands or other waters are present or have the potential to be present, the qualified biologist developing the biotic resource assessment report shall include a discussion of potential direct and indirect impacts (temporary and permanent) on these resources, including identifying the project activities that would lead to impacts, and the appropriate biological resource protection measures identified in Mitigation Measures 3.4-1b, 3.4-1c, 3.4-2a through 3.4-2q, 3.4-4, 3.4-5, 3.4-6a through 3.4-6d, 3.4-6c, 3.4-8 shall be implemented.

Mitigation Measure 3.4-1b (DRH or UPC): Conduct Special-Status Plant Surveys and Implement Avoidance Measures and Mitigation

If the biotic resources assessment (see Mitigation Measure 3.4-1a) identifies the presence or potential presence of special-status plant species on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ Within one year of the start of project-related ground disturbing activities and during the blooming period for the special-status plant species with potential to occur on the site, a qualified botanist shall conduct protocol-level surveys for special-status plants in all proposed disturbance areas, including temporary features, following survey methods from the *CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018a).
- ▶ If special-status plants are not identified, the botanist shall document the findings in a report to the applicant, County, and CDFW, and no further mitigation shall be required.
- ▶ If special-status plant species are found, the qualified botanist shall consult with CDFW to designate a no-disturbance buffer or redesign of the cannabis site that shall be reflected in application materials to the County. If special-status plants cannot be avoided, then the applicant shall consult with CDFW to determine if an incidental take permit should be obtained (i.e., for special-status species listed under CESA) or if compensatory mitigation would be required. Impacts on special-status plant species will be mitigated such that there would be no net loss of occupied habitat or individuals. Mitigation measures shall include, at a minimum, preserving and enhancing existing populations, establishing populations through seed collection or transplantation from the site that is to be affected, and restoring or creating habitat in sufficient quantities to achieve no net loss of occupied habitat or individuals. Habitat and individual plants lost shall be mitigated at a minimum 2:1 ratio, considering acreage, as well as function and value, and in compliance with Sonoma County General Plan Policy OSRC-7b-1-d (though this only applies in designated Biotic Habitat Areas, which are only approximately 3.2 percent of the Program Area). As outlined in that policy, acreage required for adequate mitigation and replacement habitat shall be at least two times the acreage affected unless a lower level is acceptable to the applicable state agencies, with the amount depending on the habitat affected and the applicable mitigation priority value. Success criteria for preserved and compensatory populations shall include the following conditions:
 - The extent of occupied area and plant density (number of plants per unit area) in compensatory populations shall be equal to or greater than the affected occupied habitat.
 - Compensatory and preserved populations shall be self-producing. Populations shall be considered self-producing when:
 - Plants reestablish annually for a minimum of 5 years with no human intervention, such as supplemental seeding; and
 - Reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the project vicinity.
 - If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures shall be included in the mitigation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, success criteria such as those listed above, and other details, as appropriate to target the preservation of long-term viable populations.
 - Any mitigation plan for impacts on special-status plants must be reviewed and approved by Sonoma County and CDFW.
- ▶ If special-status plants covered by the Santa Rosa Plain Conservation Strategy (Burke's goldfield, Sonoma sunshine, Sebastopol meadowfoam, and many-flowered navarretia) are found and the proposed disturbance area is located in the Conservation Strategy plan area, direct and indirect impacts on these plants shall be completely avoided through implementation of no-disturbance buffers or redesign of the project. If the plants cannot be completely avoided, the application shall be denied until such a time that cannabis uses are legalized under federal law and federal incidental take permitting through participation in the Conservation Strategy may be pursued. If the plants cannot be completely avoided and cannabis uses are legalized under federal law, applicants will pursue federal incidental take permitting through participation in the Conservation Strategy.

Mitigation Measure 3.4-1c (DRH or UPC): Implement Measures to Avoid Introduction or Spread of Invasive Plant and Wildlife Species

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that special-status plants are present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ The application shall include identification of invasive plant species that occur on the site and where they are located. After identifying what type of invasive species could be or are present on the project site, the application shall identify specific measures to be employed for the removal of invasive species and on-site management practices.
- ▶ Invasive plant species (defined in the EIR, see Section 3.4.2 Environmental Setting, "Invasive Species") shall be removed from the site to the extent feasible, using measures appropriate to the species. For example, species that cannot easily reroot, resprout, or disperse seeds may be left on site in a debris pile. Species that resprout readily (e.g., English ivy) or disperse seeds (e.g., pampas grass) should be hauled off-site and disposed of appropriately at a landfill site. A qualified botanist shall determine the appropriate percent cover of invasive species to remove for the site and what type of restoration plantings shall be appropriate for the site.
- ▶ The site shall be monitored by a qualified botanist annually for 3 years or until the following success criteria are met, whichever is longer:
 - Cover of existing invasive plants has either decreased or remained unchanged, there are no new infestations of invasive plants that existed on the site before project implementation, and there are no new invasive plant species that were not present onsite before project implementation.
- ▶ Heavy equipment and other machinery shall be inspected for the presence of invasive species before on-site use, and shall be cleaned before entering the site, to reduce the risk of introducing invasive plant species.
- ▶ No nonnative fish species shall be introduced into ponds on project sites. This measure does not apply to any activities conducted pursuant to the California Health and Safety Code, including mosquito control activities conducted by local vector control agencies.
- ▶ If storage ponds would be constructed, the applicant shall hire a qualified biologist to prepare an aquatic invasive species management plan, which shall include details regarding monitoring for aquatic invasive species, including bullfrogs, and appropriate measures for preventing establishment of these species and controlling invasive species populations. The aquatic invasive species management plan shall be reviewed and approved by Sonoma County prior to construction of stock ponds.

Significance after Mitigation

Mitigation Measures 3.4-1a would place requirements on the design review approval process for new construction and use permit conditions for new cultivation and small and large cannabis events to address the existence or potential for existence of special-status plants that could be affected due to project implementation. If the existence or potential for existence of special-status plants is identified, Mitigation Measure 3.4-1b requires applicants to either avoid special-status plant species, obtain an incidental take permit (i.e., for CESA-listed species), or compensate for impacts. Mitigation Measure 3.4-1c will prevent the spread of invasive weeds by removing existing populations on-site and inspecting heavy equipment and other machinery. Therefore, because impacts on special-status plants from allowable uses under the Cannabis Program Update would be avoided or compensated for, potentially significant impacts would be reduced to a **less-than-significant** level.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

With implementation of Mitigation Measure 3.4-1a, 3.4-1b, and 3.4-1c, the Cannabis Program Update would not result in disturbance to or loss of special-status plant species and habitat. These measures would require projects to conduct a biotic resources assessment to determine what biological impacts could potentially apply to the specific

project site, which would be reviewed by the County. In addition, protocol-level plant surveys and invasive species management may be required, depending on site conditions. These mitigation measures are consistent with the requirements of Attachment A (Section 1, General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ and Sonoma County codes and policies, including area plans. This is consistent with General Plan Policy OSRC-7b which includes a required biotic resource assessment in some areas for discretionary projects and Petaluma Dairy Belt Area Plan Natural Resources Mitigation Measure 2 to evaluate for rare and endangered species for discretionary permits.

Impact 3.4-2: Result in Disturbance to or Loss of Special-Status Wildlife Species and Habitat

Potential land use conversion and development from cannabis cultivation and supply chain uses under the Cannabis Program Update could adversely affect several special-status wildlife species. Cannabis sites may include construction, grading, vegetation removal, other ground disturbance and trampling of wildlife, and overall conversion of wildlife habitat in both the agricultural and resources districts and industrial and commercial districts in the Program Area, which could result in the disturbance to or loss of individuals and reduced breeding productivity of these species. In select instances, removal of perennial orchard crops also could result in the disturbance to or loss of individuals and reduced breeding productivity of specific special-status bird species. Special-status wildlife species are protected under the ESA, CESA, California Fish and Game Code, CEQA, and other regulations. Because the loss of special-status wildlife species and their habitat could substantially affect the abundance, distribution, and viability of local and regional populations of these species, this impact would be **potentially significant**.

Summary of Effects on Special-Status Wildlife Species and Habitat

Table 3.4-12 identifies special-status wildlife species that have potential to occur in the Cannabis Program Area, including amphibians, reptiles, birds, and mammals that could be adversely affected by expanded and newly permitted cannabis operations and all other cannabis-related activities. Cannabis cultivation, associated supply chain operations, and all other cannabis-related activities could result in conversion of habitat, vegetation removal, and ground-disturbing activities. Individual species could be injured or killed by equipment used for development or other ground disturbance, including grading and vegetation removal, fencing for project activities, or other project-related equipment or activities, or disturbed by equipment, personnel, lighting, or other project-related equipment or activities. If nesting or denning nearby, impacts on wildlife from project-related activities could include nest abandonment, nest failure, or mortality of chicks or eggs due to visual or auditory stimuli from project activities or be crushed by heavy equipment during development or other ground disturbance, including grading and vegetation removal.

Special-status wildlife species in the Program Area occur in a wide variety of habitat types, including coniferous forests, chaparral, scrub, grasslands, wetlands, and riparian habitats, all of which occur both within the agricultural and resources districts and the industrial and commercial districts. Special-status wildlife can also occur in agricultural areas as well as in urban areas, in some cases. New cannabis cultivation and all other cannabis-related activities may include ground disturbance, vegetation removal, grading, installation of event facilities such as tents or other activities that could involve trampling, construction, including of roadways, water storage facilities, as well as the extension of electrical facilities, which all could result in the direct loss of special-status wildlife or their habitat, if they are present. In addition, special-status wildlife species can be adversely affected by an increase in light and noise during project activities as well as during operations after the project construction is complete. Noise and light impacts disruptive to special-status wildlife species could also result from events proposed under the Program Update. The loss of special-status wildlife and their habitat could substantially affect the abundance, distribution, and viability of local and regional populations of these species.

Individual cannabis projects would have to comply with applicable provisions of the Sonoma County Code, including Chapter 11 (Construction Grading and Drainage), Article 14 (Standards), Section 11.14.090 (Setbacks for Lakes, Ponds, and Reservoirs), Section 11.14.100 (Setbacks for Streams), Section 11.14.110 (Setbacks for Wetlands), which have setback requirements for streams, wetlands, riparian areas, lakes, and ponds, which would help protect some special-status wildlife species that utilize these riparian, stream and wetland habitats. In addition, projects would also have to comply with Sonoma County Code, Chapter 26 (Sonoma County Zoning Regulations), including Article 65 (RC

Riparian Corridor Combining Zone) Section 26-65-030 (Prohibited Uses and Exceptions) which prohibits activities including grading, vegetation removal, agricultural cultivation, structures, and roads within any stream channel or streamside conservation area. Although this would protect special-status wildlife within the RC Riparian Corridor Combining Zone, special-status wildlife occur outside of this zone, and therefore impacts would still remain. Individual projects would also have to comply with Article 66 (BH Biotic Habitat Combining Zone) Section 26-66-020 (Standards for Biotic Habitats), which requires proposed structures to be set back a minimum of 50 feet from the edge of any wetland within a designated biotic habitat area. This would protect special-status wildlife that occur within these setbacks, though there is an exception for existing farm structures, which may be expanded or modified (provided that the expansion or modification shall not encroach further into any wetland), so in some cases this setback would not be as protective. In addition, special-status wildlife that occur outside of this setback in the Program Area. Furthermore, as noted above in Impact 3.4-1, designated biotic habitat areas only constitute approximately 3.2 percent of the Program Area as a whole, so impacts on special-status wildlife would still remain.

Below provides a summary of how allowable uses could generally affect special-status wildlife species and habitat. Detailed discussions related special-status species or groups of special-status species follows this general discussion.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses associated with existing uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Cannabis related activities would all need to comply with Sonoma County Code, which include those outlined above, which would help prevent some impacts on special-status wildlife, particularly within protective buffers for wetlands and other waters. Discretionary cannabis projects would also need to comply with Chapter 26 (Sonoma County Zone Regulations), Article 66 (BH Biotic Habitat Combining Zone), Section 26-66-020 (Standards for Biotic Habitats), which requires a biotic resource assessment for discretionary projects that could adversely affect a designated critical habitat area. This would help protect special-status wildlife being affected by discretionary projects within critical habitat areas. However, as discussed in Impacts 3.4-1, USFWS critical habitat is associated with approximately 5.4 percent of the Program Area, NOAA Fisheries designated critical habitat is associated with approximately 1,052 miles, and biotic habitat areas are limited to approximately 3.3 percent of the agricultural and resources districts within the Program Area. That is, large areas of the county lie outside of County protective buffers.

The proposed Cannabis Program Update also includes the proposed Section 26-18-020 (Agricultural Crop Production and Cultivation), which would require cannabis cultivation to comply with Articles 10, 12, and 20 of Sonoma County Code Chapter 36. Consistent with Article 20 (Standards) Section 36.20.050 (Protection of Listed Species), outdoor cannabis cultivation would be required to be designed and constructed to avoid the take of any listed species, unless all necessary state and federal permits, approvals, or authorizations to incidentally take listed species have been obtained. Although this would help prevent impacts on listed special-status wildlife, this only prevents take of federally- or state-listed species. Since multiple wildlife species that are special-status, but not listed may occur in the Program Area, the potential for impacts on special-status wildlife would still remain. In addition, individual projects under the Program update would need to comply with Section 36.20.060 (Removal of Trees and Other Vegetation), which would require cannabis cultivation and related activities to only remove or disturb trees or other vegetation using *Best Management Practices and Technical Report Guidelines for New VESCO* (Sonoma County Department of Agriculture n.d.-b). The *Best Management Practices and Technical Report Guidelines for New VESCO* mainly focuses on tree removal, but also has guidance for other vegetation removal. All vegetation, including trees, that are to be preserved outside of the development area must be identified and protected from damage by marking, fencing, or other measures. Tree removal is also prohibited in certain soil and slope conditions, which would limit potential effects on some species-status wildlife, including nesting birds, where the pertinent conditions exist. Moreover,

Sections 36.20.090 (Setbacks for Lakes, Ponds, and Reservoirs), 36.20.110 (Setbacks for Streams), and 36.20.120 (Setbacks for Wetlands), have certain setback requirements for lakes, ponds, reservoirs, streams, and wetlands, which range from 25 feet to 100 feet, and in some cases are more restrictive, depending on the zoning code. Although these setbacks would help protect some special-status wildlife that occur within these setbacks, special-status wildlife species occur outside of these setbacks throughout the Program Area and therefore the potential for impacts would still remain.

Cannabis and accessory uses would be required to comply with the *Best Management Practices Cannabis Cultivation* (Sonoma County Department of Agriculture n.d.-a), which contain best management practices to address potential impacts in riparian zones, which likely contain some special-status wildlife species. *Best Management Practices Cannabis Cultivation*, as described in Section 3.4.1, "Regulatory Setting," direct projects to apply riparian setbacks for agricultural areas already required by the code (and reviewed above) and prohibits vegetation removal, staging, and other activities within these designated riparian corridors. In addition, projects must leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter and avoid soil disturbance between November 1 and April 15. Although, impacts would still remain for special-status wildlife that occur outside of the designated riparian zone and are present in the project area outside of the non-soil disturbance window (i.e., April 16 through October 31). Furthermore, projects will need to comply with the Sonoma County General Plan, including Policy OSRC-7b and implementing County Code provisions identified above which has certain requirements including requiring a site assessment and adequate mitigation in designated biotic habitat areas. Although, since these areas only cover a minimal amount of the Program Area, only apply to discretionary cannabis projects, impacts on special-status wildlife would still remain. Individual projects would also need to comply with Policy OSRC-7k and implementing County Code provisions identified above which requires the identification, preservation and protection of native trees and woodlands when designing discretionary projects. The policy requires discretionary projects to minimize, to the maximum extent practicable, the removal of native trees and fragmentation of woodlands, require any trees removed to be replaced, preferably on the site, and provide permanent protection of other existing woodlands where replacement planting does not provide adequate mitigation. Although this would avoid some adverse effects on special-status wildlife and their habitat, because removal of trees is not prohibited, the potential for adverse effects on special-status wildlife would remain.

Cannabis cultivation sites are required to comply with Term 10 of Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ, which requires that special-status wildlife species be avoided and buffers be established in consultation with CDFW and CAL FIRE. Avoidance of impacts on special-status wildlife species is also provided in Term 4 of Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ. Additionally, Term 10 of Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ requires site evaluations by a qualified biologist to determine whether special-status wildlife species occur on the site before development or site expansion. Cannabis cultivation operations are required to comply with Term 3 (General Requirements and Prohibitions), which requires an application for a LSA Agreement and requirements therein, or consultation with CDFW for any activity that may substantially divert, obstruct, alter, or deposit into any river, stream, or lake. Furthermore, cannabis cultivation operations are required to comply with Term 63 of Attachment A (Requirements Related to Water Diversions and Waste Discharge for Cannabis Cultivation) of SWRCB Order WQ 2023-0102-DWQ, which requires no disturbance of aquatic or riparian habitat, such as pools, spawning sites, large wood, or shading vegetation unless authorized under proper permits (e.g., CDFW LSA Agreement), as well as Term 64 of Attachment A (Requirements Related to Water Diversions and Waste Discharge for Cannabis Cultivation), which requires maintaining riparian habitat. It is important to note that SWRCB Order WQ 2023-0102-DWQ only applies to cannabis cultivation uses and not supply chain uses not associated with cultivation (planting, growing, pruning, harvesting, drying, curing, or trimming of cannabis). Habitat potentially suitable for special-status wildlife occurs throughout the agriculture and resource districts (see Section 3.4.2, "Land Cover Types," "Late-Successional Forest," "Aquatic Habitats," "Critical Habitat," "Wildlife Movement Corridors"). Proposed allowable uses in agriculture and resource districts could include construction of new buildings to support cannabis uses, as well as ground disturbance and vegetation removal. All of these allowable uses have the potential to have significant impacts on special-status wildlife either by direct loss of special-status wildlife or their habitat. Special-status wildlife can be adversely affected by crushing or trampling or removal of habitat. Special-status wildlife can also be adversely

affected by light and noise from project activities as well as from new operations once construction of facilities are completed. This impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. Although there would be no changes to the existing conditions (beyond change in crop type), certain special-status wildlife species are likely to be present within agricultural areas (crops). Therefore, activities associated with the implementation of a cannabis cultivation site under crop swap conditions could have a potentially significant impact on special-status wildlife.

Construction of Event Facilities and Event Operations

Habitat potentially suitable for special-status wildlife occurs throughout the agriculture and resource districts, as discussed above under "Proposed Allowable Uses in Agricultural and Resources Districts." Proposed allowable uses in agriculture and resource districts could include construction, installation of cannabis event facilities, grading, vegetation removal, other ground disturbance, and holding the event itself, which could cause increases in nighttime light and noise.

Impacts from nighttime light are discussed further under "Effects of Nighttime Artificial Light on Special-Status Species."

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses as well as accessory uses. While new cannabis uses could be located within existing buildings, new structures may be developed within the County.

Cannabis uses in these zones would also all need to comply with applicable Sonoma County Code provisions (reviewed in the general discussion of the impact above, discussing all districts), which would help prevent some impacts on special-status wildlife, particularly within protective buffers for wetlands and other waters, for construction, grading, and agriculture activities as well retention of some vegetation. Although, impacts on special-status wildlife would still remain. Use of existing buildings and developed sites would not result in impacts. For the reasons described above under "Proposed Allowable Uses in Agricultural and Resources Districts," new development and operation of cannabis facilities could result in project-related loss of special-status wildlife species and their habitat. Although substantially less than agriculture and resource districts, habitat potentially suitable for special-status wildlife occurs within the industrial and commercial districts (see Section 3.4.2, "Land Cover Types," "Late-Successional Forest," "Aquatic Habitats," "Critical Habitat," "Wildlife Movement Corridors"). Proposed allowable uses in industrial and commercial districts would result in similar types of impacts as discussed above under "Proposed Allowable Uses in Agricultural and Resources Districts."

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on special-status wildlife and their habitat.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update could result in crushing or removal of special-status wildlife and their habitat.

A discussion of how the Cannabis Program Update would affect specific wildlife categories is provided as follows.

Special-Status Amphibians

The California tiger salamander Sonoma County distinct population segment (DPS) is listed as endangered under ESA and threatened under CESA, and California red-legged frog is listed as threatened under ESA and is a CDFW species of special concern. California tiger salamander is also covered by the Santa Rosa Plain Conservation Strategy. Critical habitat for both species has been designated within the Program Area in the middle and southern portions of the Program Area (Figure 3.4-7). California giant salamander, foothill yellow-legged frog, Pacific tailed frog, and red-bellied newt are also CDFW species of special concern. New cannabis uses and supply chain cannabis-related facilities, not including crop swap, that either include new construction, installation of event facilities such as tents or other activities that could involve trampling, grading, vegetation removal, or other ground disturbance, in all zoning districts in the Program Area could result in loss of or injury to special-status amphibians, if the species occur at the site, through disturbance to upland habitat during ground-disturbance activities, such as construction of storage ponds or warehouses and installation of cannabis cultivation sites, as well as through mortality due to being crushed during project activities.

California tiger salamanders inhabit vacant or mammal-occupied burrows throughout most of the year, in grassland, savanna, or open woodland habitats. This species needs vernal pools or other seasonal water sources for breeding and underground refuges, especially California ground squirrel (*Otospermophilus beecheyi*) burrows. The majority of the California tiger salamander lifecycle is spent underground, so this species is susceptible to being crushed during ground-disturbance activities. In addition, California tiger salamanders are threatened by habitat loss, conversion, and fragmentation, which includes fragmentation of dispersal habitat between breeding pools and upland refugia. Furthermore, California tiger salamanders also face threats from competition with and predation from invasive species (USFWS 2016). Introduced species, such as bullfrogs and sunfishes, have had a negative effect on California tiger salamander (Bolster 2010).

California giant salamanders are typically found within approximately 165 feet of stream habitat, red-bellied newts spend dry summer months in areas relatively close to permanent water (i.e., approximately 100 feet), and Pacific tailed frog is associated closely with water and is rarely found more than a few meters (i.e., 3–10 feet) from aquatic habitat. Foothill yellow-legged frog is a highly aquatic species and is normally not found farther than a few feet from streams; however, during wet periods, foothill yellow-legged frogs will follow wetted channels and range farther into uplands (i.e., up to approximately 200 feet), where they may shelter under logs and similar structures (CDFW 2018b).

California red-legged frogs are known to occur larger distances from water. Studies have demonstrated that California red-legged frogs remain close to breeding habitat during the breeding season and typically do not move more than approximately 300 feet into upland habitats (Bulger et al. 2003; Fellers and Kleeman 2007). However, adult and juvenile California red-legged frog are known to travel through upland habitat (e.g., riparian, woodland, grassland) to move between breeding and nonbreeding sites (e.g., other ponds, deep pools in streams, moist and cool riparian understory, burrows) for access to refugia and foraging habitat or to disperse to new breeding locations. During migration, California red-legged frogs may travel long distances from aquatic habitat, typically traveling in straight lines irrespective of vegetation types, and have been documented to move more than 1.7 miles between aquatic habitat sites (Bulger et al. 2003).

Cannabis related activities would all need to comply with Sonoma County Code provisions and applicable requirements of SWRCB Order WQ 2023-0102-DWQ, which are outlined above under the main discussion of the impact, which would help prevent some impacts on special-status amphibians, particularly within protective buffers for rivers, creeks, and other waters, for construction, grading, and agriculture activities, though impacts would still remain (see directly under Impact 3.4-2 for full analysis).

Proposed Allowable Uses in Agricultural and Resources Districts

Proposed allowable uses in agriculture and resource districts could include construction, grading, vegetation removal, and other ground disturbance, which could result in loss of or injury to special-status amphibians, if the species occur at the site, through disturbance to upland habitat during ground-disturbance activities, such as construction of storage ponds or warehouses and installation of cannabis cultivation sites, as well as through mortality due to potentially being crushed during project activities. In addition, the use of plastic for cultivation activities (e.g.,

polyethylene plastic for agricultural shade or crop structures, or directly on the ground as weed abatement) may result in indirect effects on special-status amphibians (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Because there would be no changes to the existing conditions (beyond change in crop type in an area already disturbed), activities associated with the implementation of a cannabis cultivation site under crop swap conditions would not substantially affect habitat that could support special-status amphibians compared to the existing conditions (i.e., active cultivation). The Cannabis Program Update additionally prohibits deep ripping during crop removal. Deep ripping is the mechanical manipulation of the soil at depths greater than sixteen inches to break up or pierce of highly compacted, impermeable, or slowly permeable subsurface soil layer or other similar kinds of restrictive soil layers. This restriction ensures the replacement of one crop with another is low impact and does not cause additional soil disturbance or threat to special-status amphibians. Therefore, the impact on special-status amphibians for crop swap is less than significant.

Construction of Event Facilities and Event Operations

As discussed above, construction of events facilities could have significant impacts on special-status amphibians. In addition, increased nighttime light from cannabis events can have an impact on special-status amphibians, particularly on mating behavior (Baker and Richardson 2006). Thus, this impact would be potentially significant.

Impacts from nighttime light are discussed further under “Effects of Nighttime Artificial Light on Special-Status Species.”

Proposed Allowable Uses in Industrial and Commercial Districts

Changes to use type of business (i.e., operation of a cannabis use rather than other types of industrial or commercial uses) at existing buildings would not result in a significant impact because operations would generally be the same at the individual site (e.g., traffic from workers, deliveries, and customers associated with business operations).

Generally, there would be less potential for habitat potentially suitable for special status amphibians to occur within developed areas typically associated with industrial and commercial districts than less developed or undeveloped areas typical of agricultural and resources districts (see Section 3.4.2, “Land Cover Types” and “Aquatic Habitats”). Regardless, where suitable habitat exists, proposed allowable uses in industrial and commercial districts that involve construction activities and site development would result in similar types of impacts as discussed above under “Proposed Allowable Uses in Agricultural and Resources Districts.” This impact would be potentially significant for new development.

Periodic Event Operations for Cannabis

As discussed above under, “Summary of Effects on Special-Status Species and Habitat,” there would be no substantial effects on special-status wildlife and their habitat. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update would have potentially significant impacts on special-status amphibians, mainly through disturbance to upland habitat during ground-disturbance activities, such as construction of storage ponds or warehouses and installation of cannabis sites, as well as through mortality due to potentially being crushed during project activities, all resulting in a **potentially significant impact**.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-2a (DRH or UPC): Conduct Pre-disturbance Surveys for Special-Status Amphibians and Implement Avoidance Measures

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that special-status amphibians are present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ For California tiger salamander or California red-legged frogs:
 - If California tiger salamanders or California red-legged frogs are detected during the initial biological survey (see Mitigation Measure 3.4-1a) or are determined to be likely to occur (i.e., aquatic or upland habitats potentially suitable for the species are present), then it shall be assumed that all cannabis-related activities, other than crop-swap, that involve construction, other project activities utilizing large machinery (by which special-status amphibians can be crushed), vegetation removal, or other ground disturbance, in all zoning districts in the Program could result in take of this species, and the application shall be denied until such a time that cannabis uses are legalized under federal law and protocol-level surveys by USFWS-approved biologists with ESA Section 10(a)(1)(A) permits may be conducted and federal incidental take permitting may be pursued. Furthermore, a buffer of 1.3 miles shall be established around existing known California tiger salamander breeding occurrences (e.g., Santa Rosa Plain Conservation Strategy Mapping, CNDDB), and cannabis uses shall also be prohibited within the buffer.
 - If California tiger salamander or California red-legged frog are delisted from ESA and one of these delisted species are detected during the initial biological resources assessment survey (see Mitigation Measure 3.4-1a) or are determined to be likely to occur (i.e., aquatic or upland habitats potentially suitable for the species are present on the site), protocol-level surveys shall be conducted by a qualified biologist. For California tiger salamander, *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander* (USFWS and CDFG 2003) shall be used, and for California red-legged frog *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005). If either of these species were identified in protocol-level surveys, work on the site shall not commence until the applicant has consulted with CDFW to determine whether mitigation measures, such as project design modifications, relocation of the site, or relocation of individual animals, shall be necessary and appropriate so that injury to or mortality of special-status amphibians shall be avoided.
- ▶ For California giant salamander, foothill yellow-legged frog, Pacific tailed frog, red-bellied newt, or other amphibians considered special-status detected during the initial biotic resource assessment survey (see Mitigation Measure 3.4-1a) application:
 - If California giant salamanders, foothill yellow-legged frogs, Pacific tailed frogs, red-bellied newts, or any other amphibians considered special-status species are detected during the initial biotic resource assessment survey (see Mitigation Measure 3.4-1a) or are determined to be likely to occur based on the presence of habitat suitable for these species, the following measures shall apply:
 - A qualified biologist familiar with the life cycle of California giant salamander, foothill yellow-legged frog, Pacific tailed frog, and red-bellied newt shall conduct pre-disturbance surveys of proposed new disturbance areas within 48 hours before new disturbance activities. Pre-disturbance surveys for special-status amphibian species shall be conducted throughout the proposed development area, and a minimum 400-foot buffer around the proposed disturbance area. Surveys shall consist of “walk and turn” surveys of areas beneath surface objects (e.g., rocks, leaf litter, moss mats, coarse woody debris) for

salamanders and visual searches for frogs. Appropriate surveys will be conducted for the applicable life stages (i.e., eggs, larvae, adults) depending on the timing of the survey.

- If special-status amphibians are not detected during the pre-disturbance survey, then further mitigation is not required.
 - If California giant salamanders, foothill yellow-legged frogs, Pacific tailed frogs, or red-bellied newts are detected, injury to or mortality of special-status amphibians shall be avoided by modifying project design, relocating the site, or relocating individual animals (with an applicable CDFW scientific collecting permit and CDFW approval). A no-disturbance buffer shall be established around the location where the detection occurred, and around habitat suitable for the species detected, the size of which shall be determined by the qualified biologist such that injury and mortality of individuals, including individuals dispersing in upland habitats, would be avoided. No work shall occur in the no-disturbance buffer for the duration of disturbance activities. If the applicant determines that project implementation outside of the no-disturbance buffer is infeasible (i.e., most project objectives cannot be met), then the applicant may consult with CDFW to determine whether additional mitigation measures, such as compensatory mitigation would be necessary to minimize impacts on these species and allow development in the no-disturbance buffer.
- ▶ Polyethylene plastic used for agricultural shade or crop structures for cannabis cultivation shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways.
 - ▶ Polyethylene plastic sheeting may not be placed directly on the ground.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1a, which consists of a qualified biologist developing a biotic resource assessment report for the project site, would apply to this impact to determine whether there is potential for the species to be present. Additionally, implementing Mitigation Measure 3.4-2a would reduce potential impacts on special-status amphibians to a **less-than-significant** level by denying applications when take of federal species cannot be avoided, requiring pre-disturbance surveys, implementation of no-disturbance buffers, and in some cases, consultation with CDFW, as well as for the protection of special-status frogs and salamanders from injury, mortality, or other disturbance. Impacts from nighttime light are discussed further under "Effects of Nighttime Artificial Light on Special-Status Species."

Northwestern Pond Turtle

Northwestern pond turtle is a candidate for listing under ESA and a CDFW species of special concern and could occur throughout the Program Area. Northwestern pond turtle is known to occur throughout the Program Area in aquatic habitat, including streams, rivers, lakes, and ponds, and surrounding upland habitat, although occurrences are sparser in the northwestern portion of the County (CNDDDB 2024). This includes documented occurrences along the Russian River in the northern and western portions of the Program Area, Conn Creek in the southeastern portion of the Program Area, Sonoma Creek in the southern portion of the County, and the Laguna de Santa Rosa in the southwestern portion of the Program Area. Documented occurrences are too numerous to describe each one in the Program Area, though documented occurrences are substantial throughout the Program Area. This species can be found in many different aquatic habitats, including ponds (natural or human-made), marshes, rivers, and irrigation ditches. Northwestern pond turtles use upland habitat for basking and egg-laying. Nesting typically occurs within 328 feet of aquatic habitat (Western Pond Turtle Coalition 2020). Northwestern pond turtles have been known to overwinter in upland habitat up to approximately 1,640 feet from the water (Western Pond Turtle Coalition 2020). New cultivation and supply chain cannabis-related facilities, not including crop swap, that either include construction, installation of event facilities such as tents or other activities that could involve trampling, grading, vegetation removal, or other ground disturbance, in all zoning districts in the Program Area could result in loss of or injury to northwestern pond turtle, if the species occur at the site, through disturbance to upland habitat during ground-

disturbance activities, such as construction of storage ponds or warehouses and installation of cannabis cultivation sites, as well as through mortality due to being crushed during project activities.

Cannabis related activities would all need to comply with Sonoma County Code provisions, which are outlined above under the main discussion of this impact, which would help prevent some impacts on northwestern pond turtle, particularly within protective buffers for rivers, creeks, and other waters, for construction, grading, and agriculture activities, though impacts would still remain (see directly under Impact 3.4-2 for full analysis).

Proposed Allowable Uses in Agricultural and Resources Districts

Proposed allowable uses in agriculture and resource districts could include construction, grading, vegetation removal, and other ground disturbance. These activities could result in loss of or injury to northwestern pond turtle, if the species occur at the site, through disturbance to upland habitat during ground-disturbance activities, such as construction of storage ponds or warehouses and installation of cannabis cultivation sites, as well as through mortality due to potentially being crushed during project activities. In addition, the use of plastic for cultivation activities (e.g., polyethylene plastic for agricultural shade or crop structures, or directly on the ground as weed abatement) may result in indirect effects on northwestern pond turtle (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

For the reasons discussed above, under, "Special-Status Amphibians," the impact on northwestern pond turtle for crop swap would be less than significant.

Construction of Event Facilities and Event Operations

For the reasons described above under, "Proposed Allowable Uses in Agricultural and Resources Districts," this impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Changes to use type of business (i.e., operation of a cannabis use rather than other types of industrial or commercial uses) at existing buildings would not result in a significant impact because operations would generally be the same at the individual site (e.g., traffic from workers, deliveries, and customers associated with business operations).

Generally, there would be less potential for habitat suitable for northwestern pond turtle to occur within developed areas typically associated with industrial and commercial districts than less developed or undeveloped areas typical of agricultural and resources districts (see Section 3.4.2, "Land Cover Types" and "Aquatic Habitats"). Regardless, where suitable habitat exists, proposed allowable uses in industrial and commercial districts that involve construction activities and site development would result in similar types of impacts as discussed above under "Proposed Allowable Uses in Agricultural and Resources Districts." This impact would be potentially significant for new development.

Periodic Event Operations for Cannabis

As discussed above under, "Summary of Effects on Special-Status Species and Habitat," there would be no substantial effects on special-status wildlife and their habitat. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update would have potentially significant impacts on northwestern pond turtle, mainly through disturbance to upland habitat during ground-disturbance activities, such as construction of storage ponds or warehouses and installation of cannabis cultivation sites, as well as through mortality due to potentially being crushed during project activities, all resulting in a **potentially significant impact**.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-2b (DRH or UPC): Conduct Pre-Disturbance Surveys for Northwestern Pond Turtle and Implement Avoidance Measures

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that northwestern pond turtle is present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ If northwestern pond turtles are detected during the initial biotic resource assessment survey (see Mitigation Measure 3.4-1a) or are determined to be likely to occur based on the presence of habitat suitable for this species, the following measures shall apply:
- ▶ A qualified biologist familiar with the life history of northwestern pond turtle shall conduct pre-disturbance surveys of proposed new disturbance areas within 1,640 feet of any aquatic habitat within 24 hours before disturbance activities.
 - If northwestern pond turtles are not detected during the pre-disturbance survey, then no further mitigation is required.
 - If northwestern pond turtles are detected during the pre-disturbance survey, injury to or mortality of turtles shall be avoided by modifying project design, relocating the site, or relocating individual animals (with an applicable CDFW scientific collecting permit and CDFW approval). A no-disturbance buffer shall be established around the location where the detection occurred and around habitat suitable for northwestern pond turtle the size of which shall be determined by the qualified biologist such that injury and mortality of individuals, including individuals dispersing in upland habitats, would be avoided. No work shall occur in the no-disturbance buffer for the duration of disturbance activities. If the applicant determines that project implementation outside of the no-disturbance buffer is infeasible (i.e., most project objectives cannot be met), then the applicant may consult with CDFW to determine whether additional mitigation measures, such as compensatory mitigation would be necessary to minimize impacts on northwestern pond turtles species and allow disturbance in the no-disturbance buffer.
 - If relocation of northwestern pond turtles is determined to be necessary and is approved by CDFW, turtles shall be relocated to similar nearby habitat free of predators (e.g., raccoons, coyotes, raptors, bullfrogs, nonnative turtles, other northwestern pond turtles) as determined by the qualified biologist. If northwestern pond turtles are relocated, a report shall be submitted electronically to CDFW within 15 days of the relocation. The report shall include the location, date, time, and duration of collection and release; the number of individuals relocated; and identification of the qualified biologist.
- ▶ If northwestern pond turtle, which is currently a candidate for listing under ESA, is listed as threatened (or endangered) in the future, take of individuals associated with cannabis activities shall be prohibited. If take cannot be avoided, the application shall be denied.
- ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways.
- ▶ Polyethylene plastic sheeting may not be placed directly on the ground.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1a, which consists of a qualified biologist developing a biotic resource assessment report for the site, would apply to this impact to determine whether there is potential for the species to be present. In addition, implementing Mitigation Measure 3.4-2b would reduce potential impacts on northwestern pond turtle to a **less-than-significant** level by requiring pre-disturbance surveys and the protection of northwestern pond turtles from cannabis disturbance –related injury, mortality, or other disturbance.

Nesting Raptors (Excluding Northern Spotted Owl)

The Program Area contains nesting habitat and many known nesting occurrences for several raptor species, including American peregrine falcon, bald eagle, burrowing owl, golden eagle, long-eared owl, northern harrier, short-eared owl, Swainson's hawk, and white-tailed kite. Bald eagle, golden eagle, and white-tailed kite are fully protected under California Fish and Game Code. Bald eagle is also listed as endangered under CESA. Bald and golden eagles are also protected under the Bald and Golden Eagle Protection Act. In addition, Swainson's hawk is listed as threatened under CESA. Burrowing owl, long-eared owl, northern harrier, and short-eared owl are CDFW species of special concern. Nesting habitat suitable for these species includes trees, snags, cliffs, burrows, marshes, grasslands, and human-made structures (e.g., utility poles). In addition, other raptor species (e.g., red-tailed hawk, red-shouldered hawk, osprey [*Pandion haliaetus*]) could nest in the Program Area; these species and their nests are protected by California Fish and Game Code.

Cultivation or supply chain cannabis facilities could disturb nesting raptors if they are present, potentially resulting in nest abandonment, nest failure, or mortality of chicks or eggs, as well as potentially remove nests. In addition, human presence associated with development of cannabis sites and resulting roads, and all other cannabis-related activities could result in increased noise and visual disturbance to nesting raptors. A parcel could have no trees, but if there are trees on an adjacent site there would still be potential for noise impacts on nesting raptors. Noise impacts can occur from 500 feet to 0.5 miles (depending on species) from the activity producing the noise. In addition, new cultivation and supply chain cannabis-related facilities could require activities including construction, installation of event facilities, such as tents or other activities that could involve trampling grading, vegetation removal, or other ground disturbance, in all zoning districts in the Program Area that could result in loss of or injury to nesting raptors (excluding northern spotted owl, which is discussed below) due to removal of nests. Furthermore, the use of plastic for cultivation activities (e.g., polyethylene plastic for agricultural shade or crop structures, or to lay on the ground as a weed preventative) may result in indirect effects on nesting raptors (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment.

Cannabis related activities would all need to comply with Sonoma County Code provisions, which are outlined above under the main discussion of this impact, which would help prevent some impacts on nesting raptors (excluding northern spotted owl), particularly guidance on retention of trees and other vegetation. As noted above under the main discussion of this impact, trees and other vegetation outside of the riparian corridor could still be removed, so impacts on nesting raptors (excluding northern spotted owl) could remain, including noise impacts potentially causing nest abandonment. As such, impacts on trees and other vegetation utilized for nesting as well nesting raptors themselves could still remain (see directly under Impact 3.4-2 for full analysis).

Proposed Allowable Uses in Agricultural and Resources Districts

Cannabis uses would comply with Sonoma County Code provisions, which are outlined above under the main discussion of "Proposed Allowable Uses in Agricultural and Resources Districts" under Impact 3.4-2, which would help prevent some impacts on nesting raptors (excluding northern spotted owl). As noted above in this same location, cannabis cultivation operations are also required to comply with SWRCB Order WQ 2023-0102, which would help prevent some impacts on nesting raptors (excluding northern spotted owl) including by requiring avoiding impacts on species-status wildlife species and the implementation of avoidance buffers in consultation with CDFW and CAL FIRE. Additionally, noise from construction, installation of event facilities such as tents or other activities that could involve trampling, grading, vegetation removal, or other ground disturbance could result in removal or damage of nests, and could disturb nesting raptors if they are present, potentially resulting in nest abandonment, nest failure, or

mortality of chicks or eggs. Furthermore, these species can occur off of cannabis cultivation sites and still be adversely affected by noise from project implementation and operations.

Proposed allowable uses in agriculture and resource districts could include construction, grading, vegetation removal, and other ground disturbance. All of these allowable uses have the potential to have significant impacts on nesting raptors (excluding northern spotted owl), could result in loss of or injury to nesting raptors (excluding northern spotted owl), if these species occur at the site or adjacent to the site, through disturbance to or removal of habitat during ground-disturbance activities, such as construction of warehouses, which could disturb nesting raptors if they are present, potentially resulting in nest abandonment, nest failure, or mortality of chicks or eggs, as well as potentially remove nests. In addition, the use of plastic for cultivation activities (e.g., polyethylene plastic for agricultural shade or crop structures, or to lay on the ground as a weed preventative) may result in indirect effects on nesting raptors (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. However, Swainson's hawk and burrowing owl could nest in perennial crop areas such as orchards, and the removal of these crops could potentially have impacts on Swainson's hawk or burrowing owl. Therefore, the impact on nesting raptors (excluding northern spotted owl) for crop swap would be potentially significant, for Swainson's hawk and burrowing owl.

Construction of Event Facilities and Event Operations

For the reasons described above under, "Proposed Allowable Uses in Agricultural and Resources Districts," this impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Changes to use type of business (i.e., operation of a cannabis use rather than other types of industrial or commercial uses) at existing buildings would not result in a significant impact because operations would generally be the same at the individual site (e.g., traffic from workers, deliveries, and customers associated with business operations).

Generally, there would be less potential for habitat potentially suitable to support nesting raptors (excluding northern spotted owl) to occur within developed areas typically associated with industrial and commercial districts than less developed or undeveloped areas typical of agricultural and resources districts (see Section 3.4.2, "Land Cover Types"). Regardless, where suitable habitat exists, proposed allowable uses in industrial and commercial districts that involve construction activities and site development would result in similar types of impacts as discussed above under "Proposed Allowable Uses in Agricultural and Resources Districts." This impact would be potentially significant for new development.

Periodic Event Operations for Cannabis

As discussed above under, "Summary of Effects on Special-Status Species and Habitat," there would be no substantial effects on special-status wildlife and their habitat. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update would have potentially significant impacts on nesting raptors (excluding northern spotted owl), mainly through removal of habitat and disturbance potentially causing nest abandonment during ground-disturbance activities, such as construction of warehouses and installation of cannabis cultivation sites, as well as noise and light from cannabis events, all resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-2c (ZPC): Limit Removal of Trees to Outside of the Nesting Bird Season

Add the following standard to Section 26-18-115 (C)(4)(h):

If trees will be removed from an orchard to support a crop swap, it must occur outside of the nesting bird season (September 1 through January 31).

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-2d (DRH or UPC): Conduct Pre-Disturbance Nesting Raptor Surveys and Establish Protective Buffers

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that nesting raptors (excluding burrowing owl and northern spotted owl) are present or potentially present on or adjacent to the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ To minimize the potential for loss of nesting raptors, disturbance activities shall occur only during the nonbreeding season (September 1 through January 31) and outside the soil disturbance avoidance timeframe outlined in the *Best Management Practices Cannabis Cultivation* (Sonoma County Department of Agriculture n.d.-a), which all cannabis cultivation operations are required to follow. As such, all disturbance activities related to cannabis cultivation shall only occur from September 1 through October 31. In addition, disturbance activities for non-cultivation uses, as well as tree removal for cultivation uses that does not involve soil disturbance shall only occur during the nonbreeding season (September 1 through January 31).
- ▶ If removal of trees (without soil disturbance) cannot occur during the nonbreeding season (September 1 through January 31) or if ground-disturbing activities including removal of trees involving soil disturbance cannot occur between September 1 through October 31, the following will apply:
 - Before removal of any trees or ground-disturbing activities between February 1 and August 31, a qualified biologist shall conduct pre-disturbance surveys for nesting raptors and shall identify active nests within a certain distance of the disturbance area, depending on the species that are known or have potential to be present. For northern harrier and short-eared owl, surveys shall occur at a minimum of 500 feet of the proposed disturbance area. For Swainson's hawk and white-tailed kite, surveys shall occur at a minimum of 0.25 miles of the proposed disturbance area. Additionally, for American peregrine falcon, bald eagle, and golden eagle, surveys shall occur at a minimum of 0.5 miles of the proposed disturbance area. The surveys shall be conducted between February 1 and August 31. Inaccessible areas (e.g., private property) within the 0.25-mile or 0.5-mile survey buffers shall be surveyed using binoculars or a spotting scope.
- ▶ If no active nests are found, the qualified biologist shall submit a report documenting the survey methods and results to the applicant and CDFW, and no further mitigation shall be required.
- ▶ If active nests are found, impacts on nesting raptors, including direct removal and disturbance (e.g., noise, presence of construction crews) shall be avoided by establishing appropriate buffers around active nest sites identified during pre-disturbance raptor surveys.
 - For northern harrier and short-eared owl, avoidance buffers will be established a minimum of 500 feet from the proposed disturbance area, including tree removal. For Swainson's hawk and white-tailed kite, avoidance buffers will be established a minimum of 0.25 miles of the proposed disturbance area, including tree removal. For American peregrine falcon, bald eagle, and golden eagle, avoidance buffers will be established a minimum of 0.5 miles from the proposed disturbance area, including tree removal.
 - Buffer size may be adjusted if the qualified biologist and the applicant, in consultation with CDFW, determine that such an adjustment would not be likely to adversely affect the nest. Factors to be considered for determining buffer size shall include the presence of natural buffers provided by vegetation or topography, nest height, locations of foraging territory, and baseline levels of noise and human activity.

- The buffer areas shall be protected with construction fencing, and no activity shall occur within the buffer areas until the qualified biologist has determined, in coordination with CDFW, that the young have fledged, the nest is no longer active, or reducing the buffer would not likely result in nest abandonment.
- Monitoring of the nest by a qualified biologist during disturbance (e.g., ground disturbance, vegetation removal [including tree removal], installation of cannabis cultivation sites, installation of temporary event facilities, cannabis events) shall be required if the activity has potential to adversely affect the nest.
- ▶ Removal of bald and golden eagle nests is prohibited regardless of the occupancy status under the federal Bald and Golden Eagle Protection Act. If bald or golden eagle nests are found during pre-disturbance surveys, then the nest tree shall not be removed.
- ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways.
- ▶ Polyethylene plastic sheeting shall not be placed directly on the ground.

Mitigation Measure 3.4-2e (DRH or UPC): Conduct Take-Avoidance Survey for Burrowing Owl, Implement Avoidance Measures, and Compensate for Loss of Occupied Burrows or Nests

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that burrowing owl is present or potentially present on or adjacent to the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ A qualified biologist shall conduct a pre-disturbance survey for burrowing owls in areas of habitat suitable for the species (e.g., grasslands, agricultural areas; as determined during the biotic resources assessment [Mitigation Measure 3.4-1a]) on and within a minimum of 1,640 feet of the cannabis site using survey methods described in Appendix D of the *Staff Report on Burrowing Owl Mitigation* (hereinafter, Staff Report; CDFG 2012), or any subsequent updated guidance. A minimum of four surveys shall be conducted to determine whether burrowing owls occupy the site. If feasible, at least one survey should be conducted between February 15 and April 15 and the remaining surveys should be conducted between April 15 and July 15, at least three weeks apart. Because burrowing owls may recolonize a site after only a few days, one of the surveys, or an additional survey, shall be conducted no less than 14 days before initiating ground disturbance activities to verify that take of burrowing owl would not occur. Inaccessible areas (e.g., private property) within the 1,640-foot survey buffer shall be surveyed using binoculars or a spotting scope.
- ▶ If no burrowing owls, including occupied burrowing owl burrows, are found, the qualified biologist shall submit a burrowing owl report documenting the survey methods and results to the applicant, Sonoma County, and CDFW, and no further mitigation shall be required.
- ▶ If an active burrow is found during the surveys, the project applicant shall establish and maintain a buffer around the occupied burrow and any identified satellite burrows (i.e., non-nesting burrows that burrowing owls use to escape predators or move young into after hatching) to prevent take of the burrowing owls.
 - During the non-breeding season (September 1 through January 31), the minimum buffer distance shall be 164 feet (50 m). During the breeding season (February 1 through August 31), the minimum buffer distance shall be increased to 1,640 feet (500 meters).
 - The buffer may be adjusted if, in consultation with CDFW, a qualified biologist determines that an alternative buffer will not result in take of burrowing owl adults, young, or eggs because of particular site features (e.g., topography, natural line-of-sight barriers), level of project disturbance, or other considerations. If the buffer is reduced, a qualified biologist shall monitor the behavior of the burrowing owls during all project activities within 1,640 feet of the burrow. If the owls are disturbed or agitated (e.g., vocalizations, bill snaps, fluffing feathers to increase body size appearance, drooping wings and rotating them forward, crouching and weaving back and

forth) by the project activities, the biologist shall have the authority to halt the activities and re-establish a buffer consistent with the first bullet until the agitated behavior ceases and normal behavior resumes.

- The buffer shall remain in place around the occupied burrow and associated satellite burrows until a qualified biologist has determined through noninvasive methods that the burrows are no longer occupied by burrowing owl. A previously occupied burrow will be considered unoccupied if surveys demonstrate that no owls have used the burrow for seven consecutive days.
- Locations of burrowing owls detected during surveys shall be reported to the CNDDDB.
- ▶ If implementation of a buffer to prevent take of burrowing owl is not feasible, the project applicant shall consult with CDFW and obtain an Incidental Take Permit (ITP) prior to commencing project related ground-disturbing activities. The impacts of taking burrowing owl shall be minimized and fully mitigated. Alternatively, ground disturbance can be delayed until a qualified biologist has determined through noninvasive methods that the burrows are no longer occupied by burrowing owl. A previously occupied burrow will be considered unoccupied if surveys demonstrate that no owls have used the burrow for seven consecutive days.
- ▶ If take of burrowing owl is likely to occur, the project applicant shall compensate for the loss of burrowing owl by establishing permanent protection and perpetual management on land that provides burrowing owl habitat. Habitat management lands for burrowing owl may be established by conservation easement or fee title or credits may be purchased from a CDFW-approved conservation or mitigation bank. The compensatory mitigation shall satisfy permit conditions and all other permit conditions shall be implemented.
- ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways.
- ▶ Polyethylene plastic sheeting may not be placed directly on the ground.

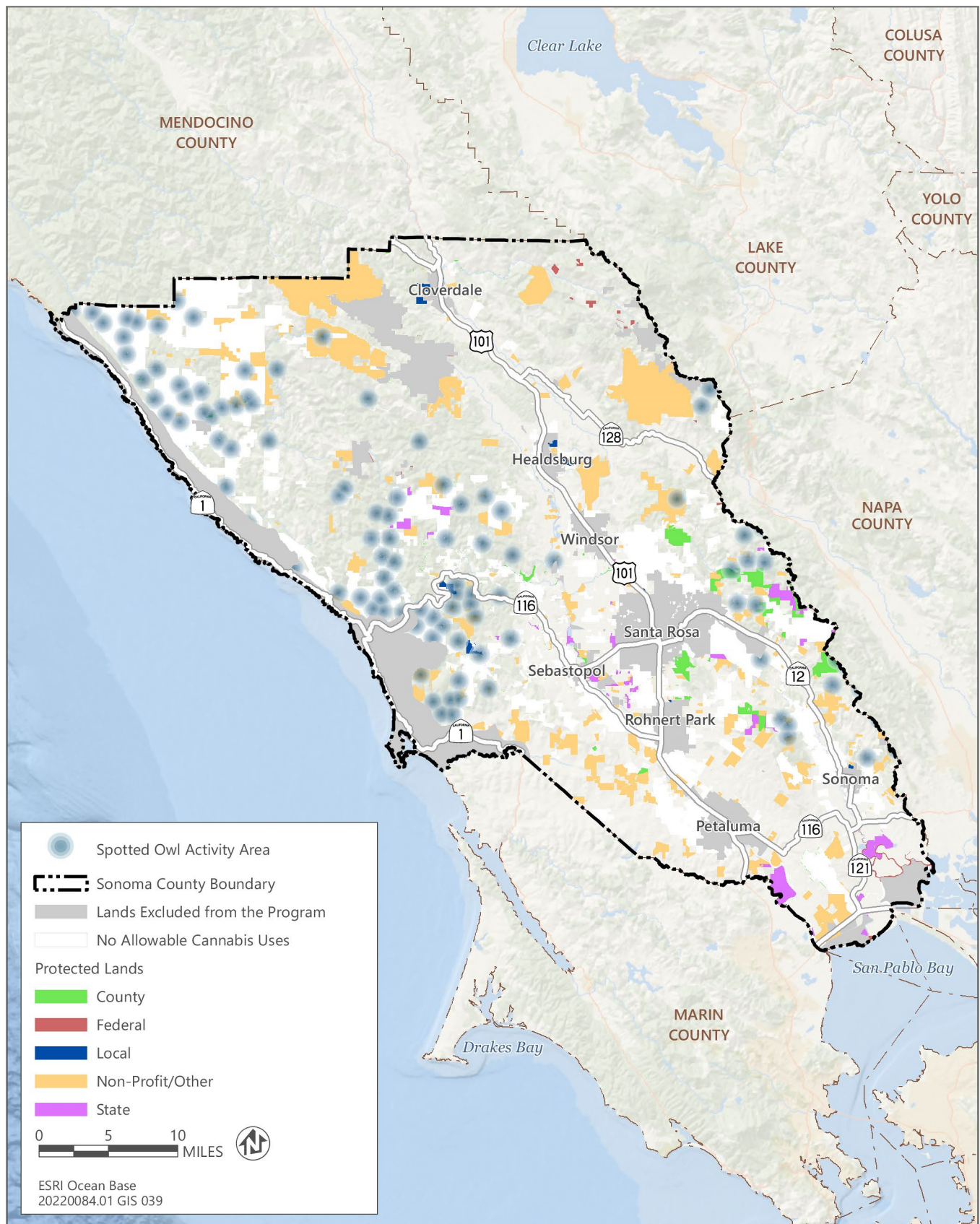
Significance after Mitigation

Implementation of Mitigation Measure 3.4-2c (ZPE) would limit tree removal to periods outside of nesting bird season; thus, no nesting birds would be affected for projects that meet crop swap standards.

Implementation of Mitigation Measure 3.4-1a consists of a qualified biologist developing a biotic resource assessment report for the site and would apply to this impact to determine whether there is potential for the species to be present. In addition, implementing Mitigation Measures 3.4-2d (DRH and UPC) and 3.4-2e (DRH and UPC) would reduce significant impacts on nesting raptors to a **less-than-significant** level because active raptor nests would be avoided and protected from disturbance activities (e.g., ground disturbance, vegetation removal, installation of cannabis cultivation sites) and other noise producing activities under the Program Update.

Northern Spotted Owl

Northern spotted owl is listed as threatened under ESA and CESA and is a CDFW species of special concern. Northern spotted owl is known to occur throughout forest habitats in the Program Area (CNDDDB 2024; Figure 3.4-13). Figure 3.4-13 presents the distribution of known occurrences of spotted owls throughout the County, including the Program Area, as well as protected lands within the Program Area where cannabis cultivation either would not be allowed, such as on federal land, or likely not occur due to it being protected, such as non-profit owned conservation banks. Figure 3.4-13 shows that many occurrences appear to be in areas where cannabis activities are prohibited, including public land and land not zoned for cannabis activities (i.e., outside of the Program Area). However, there are also many known northern spotted owl occurrences located on land zoned for cannabis uses (Figure 3.4-13). Northern spotted owl occurrences are documented within agricultural and resources districts as well as in commercial districts. With that said, northern spotted owl is likely to occur throughout late successional forest habitat, which is present within all districts in the Program Area, including industrial districts, though minimally in the industrial and commercial districts (Table 3.4-8). Critical habitat for this species is present only within the agricultural and resources districts in the Program Area (Figure 3.4-7).



Sources: Data downloaded from CDFW in 2024 and Sonoma Land Trust in 2024; adapted by Ascent in 2024.

Figure 3.4-13 Northern Spotted Owl Activity Areas and Protected Lands

Cultivation or supply chain cannabis facilities could potentially remove nests or disturb northern spotted owl if they are present, potentially resulting in nest abandonment, nest failure, or mortality of chicks or eggs. In addition, human presence associated with development of cannabis sites and resulting roads, and all other cannabis-related activities could result in increased noise and visual disturbance to northern spotted owl. A parcel could have no trees, but if there are trees on an adjacent site and there would still be potential for noise impacts on northern spotted owl. Noise impacts can occur from 1.3 miles from the activity producing the noise. In addition, new cultivation and supply chain cannabis-related facilities could require activities including construction, installation of event facilities such as tents or other activities that could involve trampling, grading, vegetation removal, or other ground disturbance, in all zoning districts in the Program Area that could result in loss of or injury to northern spotted owl, due to removal of nests. Furthermore, the use of plastic for cultivation activities (e.g., polyethylene plastic for agricultural shade or crop structures, or directly on the ground as a type of weed abatement) may result in indirect effects on northern spotted owl (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment.

Cannabis related activities would all need to comply with Sonoma County Code provisions, which are outlined above under the main discussion of Impact 3.4-2, which would limit tree and vegetation removal. However, tree and other vegetation may occur outside of the riparian corridor. Disturbance and removal of trees and vegetation could affect habitat for northern spotted owl, including nesting habitat. (see directly under Impact 3.4-2 for full analysis).

Proposed Allowable Uses in Agricultural and Resources Districts

The potential to affect northern spotted owl would be potentially significant for allowable uses in agricultural and resources districts for the reasons described above related to nesting raptors.

Applications Meeting Crop Swap Requirements

Because there would be no changes to the existing conditions (beyond change in crop type), activities associated with the implementation of a cannabis cultivation site under crop swap conditions would not substantially affect habitat that could support northern spotted owl compared to the existing conditions (i.e., active cultivation). Furthermore, northern spotted owl do not nest in orchards; thus, there would be no changes to nesting habitat due to implementation of a crop swap application from tree removal at existing agricultural sites. Therefore, the impact on northern spotted owl for crop swap is less than significant.

Construction of Event Facilities and Event Operations

The potential to affect northern spotted owl due to construction of event facilities and event operations would be potentially significant for the reasons described above related to nesting raptors.

Impacts from nighttime light are discussed further under "Effects of Nighttime Artificial Light on Special-Status Species."

Proposed Allowable Uses in Industrial and Commercial Districts

Changes to use type of business (i.e., operation of a cannabis use rather than other types of industrial or commercial uses) at existing buildings would not result in a significant impact because operations would generally be the same at the individual site (e.g., traffic from workers, deliveries, and customers associated with business operations).

Generally, there would be less potential for habitat potentially suitable to support northern spotted owl to occur within developed areas typically associated with industrial and commercial districts than less developed or undeveloped areas typical of agricultural and resources districts (see Section 3.4.2, "Land Cover Types"). Most of the industrial and commercial zoned areas are located outside of habitat areas and known occurrences of northern spotted owl (see Figure 3.4-6 and 3.4-12) and along highways in the county (e.g., US 101). Regardless, where suitable habitat exists, proposed allowable uses in industrial and commercial districts that involve construction activities and site development would result in similar types of impacts as discussed above for "Proposed Allowable Uses in Industrial and Commercial Districts." This impact would be potentially significant for new development.

Periodic Event Operations for Cannabis

As discussed above in the general discussion, there would be no substantial effects on special-status wildlife and their habitat related to periodic event operations for cannabis. Because there would be no new construction or changes in

operation at facilities that could support periodic events, there would be no substantial effects on special-status wildlife and their habitat. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update would have potentially significant impacts on northern spotted owl, mainly through removal of habitat and disturbance potentially causing nest abandonment during disturbance activities, such as construction of warehouses and installation of cannabis cultivation sites, as well as noise and light from cannabis events, all resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-2f (DRH or UPC): Conduct Northern Spotted Owl Pre-Disturbance Habitat Suitability Surveys and Determine Presence or Absence of the Species

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that northern spotted owl is present or potentially present on or adjacent to the proposed new cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ To avoid the potential for loss of northern spotted owls and their nests, or loss or fragmentation of occupied habitat or habitat suitable for northern spotted owl, removal of old-growth habitat shall be prohibited, as outlined in Mitigation Measure 3.4-4.
- ▶ If the area of proposed new disturbance activities is within or adjacent to habitat suitable for northern spotted owl, as determined during implementation of Mitigation Measure 3.4-1a, and a qualified biologist determines it is within a minimum of 1.3 miles (average species home range) of a known occurrence of northern spotted owl, the following measures shall be followed:
 - Before permit application submittal, a qualified biologist familiar with the species and protocol, shall conduct pre-disturbance surveys for nests within a minimum 1.3-mile radius (i.e., buffer) around the site as described in *Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls* (USFWS 2012) and the 2019 revision to *Northern Spotted Owl Take Avoidance Analysis and Guidance for Private Lands in California* (USFWS 2019). Surveys shall take place between March 1 and August 31. At least six complete surveys per year over the course of 2 years must be completed to determine presence or absence of northern spotted owl. Three surveys must be completed by June 30 and must be conducted at least 7 days apart. Two additional surveys may be required after the first six if residency cannot be determined after a positive response.
 - Following 2 years of required surveys (and any additional surveys required if northern spotted owl residency cannot be determined following a positive response), if northern spotted owls are determined to be absent at a minimum of 1.3 miles from the site, then further mitigation is not required.
 - If northern spotted owls are determined to be present within a minimum of 1.3 miles of the site, then it is presumed that habitat removal; loud, continuous noises; or visual stimuli could cause disturbance and harm to northern spotted owls and could result in take of northern spotted owls and the application shall be denied.
- ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways.
- ▶ Polyethylene plastic sheeting shall not be placed directly on the ground.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1a, which consists of a qualified biologist developing a biotic resource assessment report for the site, would apply to this impact to determine whether there is potential for the species to be present. In addition, implementing Mitigation Measure 3.4-2f would reduce significant impacts to a **less-than-significant** level because take of northern spotted owls and disturbance or fragmentation of northern spotted owl habitat would be avoided through pre-disturbance surveys and, if northern spotted owls are found, through prohibition of proposed cannabis activities consistent with the SWRCB policy and Sonoma County Code. Impacts from nighttime light are discussed further under "Effects of Nighttime Artificial Light on Special-Status Species."

Other Special-Status Bird Species

Several additional special-status bird species could occur or are known to occur in the Program Area: bank swallow, black swift, California black rail, California Ridgway's rail, grasshopper sparrow, loggerhead shrike, marbled murrelet, purple martin, saltmarsh common yellowthroat, San Pablo song sparrow, tricolored blackbird, Vaux's swift, western snowy plover, western yellow-billed cuckoo, yellow rail, yellow warbler, yellow-breasted chat, and yellow-headed blackbird. California Ridgway's rail is listed as endangered under ESA and CESA, and bank swallow and California black rail are listed as threatened under CESA. California Ridgway's rail and California black rail are also fully protected under California Fish and Game Code. Marbled murrelet and western yellow-billed cuckoo are listed as threatened under ESA and endangered under CESA. Western snowy plover is listed as threatened under ESA, and tricolored blackbird is listed as threatened under CESA, both of which are also CDFW species of special concern. Black swift, grasshopper sparrow, purple martin, saltmarsh common yellowthroat, San Pablo song sparrow, yellow rail, yellow warbler, and yellow-headed blackbird are all CDFW species of special concern.

Habitat suitable for these other special-status bird species, as identified in Section 3.4.2, "Environmental Setting," is present throughout the Program Area in both agricultural and resources districts as well as industrial and commercial districts (Table 3.4-7). In addition, native migratory bird nests are protected by the Fish and Game Code, and many of these more common species could nest in many different habitats in the Program Area. New cannabis cultivation, potential expansion of existing sites, centralized processing, retail activities, manufacturing, and all other cannabis-related activities (i.e., cultivation or supply chain) that result in the removal of vegetation, especially riparian vegetation, or conversion of natural habitats, could remove or disturb nesting birds if they are present, potentially resulting in nest abandonment, nest failure, or mortality of chicks or eggs. In addition, human presence associated with development of cannabis sites, resulting roads, and all other related cannabis activities could result in increased noise and visual disturbance to nesting birds. In addition, the use of plastic for cultivation activities (e.g., polyethylene plastic for agricultural shade or crop structures, or directly on the ground as weed abatement) may result in indirect effects on other special-status birds (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment.

Cannabis related activities would all need to comply with Sonoma County Code provisions, which are outlined above under the main discussion of Impact 3.4-2, which would help prevent some impacts on the other special-status bird species, particularly guidance on retention of trees and vegetation. As noted above under the main discussion of Impact 3.4-2, trees and other vegetation outside of the riparian corridor could still be removed, so impacts on other special-status bird species could remain, including noise impacts potentially causing nest abandonment. As such, impacts on trees utilized for nesting as well other special-status bird species themselves could still remain (see directly under Impact 3.4-2 for full analysis).

Proposed Allowable Uses in Agricultural and Resources Districts

For the reasons described above for nesting raptors (excluding northern spotted owl), this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

For the reasons described above for nesting raptors (excluding northern spotted owl), the impact on other special-status bird species for crop swap would be potentially significant.

Construction of Event Facilities and Event Operations

For the reasons described above for nesting raptors (excluding northern spotted owl), this impact would be potentially significant.

Impacts from nighttime light are discussed further under “Effects of Nighttime Artificial Light on Special-Status Species.”

Proposed Allowable Uses in Industrial and Commercial Districts

For the reasons described above for nesting raptors (excluding northern spotted owl), this impact would be potentially significant.

Periodic Event Operations for Cannabis

As discussed above in the general discussion, there would be no substantial effects on special-status wildlife and their habitat related to periodic event operations for cannabis. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on special-status wildlife and their habitat. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update would have potentially significant impacts on nesting raptors (excluding northern spotted owl), mainly through removal of habitat and disturbance potentially causing nest abandonment during ground-disturbance activities, such as construction of warehouses and installation of cannabis cultivation sites, as well as noise and light from cannabis events, all resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-2c (ZPC): Limit Removal of Trees to Outside of the Nesting Bird Season

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-2g (DRH or UPC): Conduct Pre-Disturbance Special-Status Nesting Bird Surveys and Establish Protective Buffers

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that bank swallow, black swift, California black rail, California Ridgway's rail, grasshopper sparrow, purple martin, saltmarsh common yellowthroat, San Pablo song sparrow, tricolored blackbird, western snowy plover, western yellow-billed cuckoo, yellow rail, yellow warbler, and yellow-headed blackbird, or other bird nests are present or potentially present on or adjacent to the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- To minimize the potential for disturbance to or loss of bank swallow, black swift, California black rail, California Ridgway's rail, grasshopper sparrow, purple martin, saltmarsh common yellowthroat, San Pablo song sparrow, tricolored blackbird, western snowy plover, western yellow-billed cuckoo, yellow rail, yellow warbler, and yellow-headed blackbird, and other bird nests, vegetation removal activities shall occur only during the nonbreeding (September 1 through January 31) season and outside soil disturbance avoidance timeframe outlined in the *Best Management Practices Cannabis Cultivation* (Sonoma County Department of Agriculture n.d.-a). As such, disturbance activities related to cannabis cultivation shall only occur from September 1 through October 31. In addition, disturbance activities for non-cultivation uses, as well as tree removal for cultivation uses that does not involve soil disturbance, disturbance activities shall occur only during the nonbreeding season (September 1 through January 31).

- ▶ If seasonal avoidance is not possible (see bullet directly above), a pre-disturbance survey shall be conducted by a qualified biologist familiar with these species and survey protocols (where protocols are available) before removal of any vegetation or any ground disturbance. The surveys shall be conducted no more than 7 days before disturbance commences or as required by established protocols. The survey radius within which the qualified biologist will search for nests will include the proposed disturbance area and a 0.5-mile area surrounding the disturbance area (to account for the largest required no-disturbance buffer of 0.5 miles for western yellow-billed cuckoo). Inaccessible areas (e.g., adjacent private property) will not be surveyed directly, but the biologist may use binoculars or a spotting scope to survey these areas. Pre-disturbance surveys shall follow survey methods outlined in survey protocols where such protocols have been established, including *General Survey Methods for Covered Species* (for California black rail), *USFWS California Clapper Rail Survey Protocol* (for California Ridgway's rail), *Yellow-Billed Cuckoo Survey Protocols* (SWRCB n.d.; USFWS 2015; Halterman et al. 2016), and any other appropriate, current protocol published by CDFW or USFWS.
 - If no active nests are found during pre-disturbance surveys, no further action under this measure (i.e., Mitigation Measure 3.4-2g) shall be required.
 - If active nests associated with species listed under ESA (i.e., California Ridgway's rail, western snowy plover, western yellow-billed cuckoo) are found during pre-disturbance surveys, the applicant must avoid impacts by implementing no-disturbance buffers or redesigning the project until such time as federal permits, authorizations, and procedures/protocols can be applied. No-disturbance buffers for these species shall be at least 1,000 feet for western snowy plover and California Ridgway's rail, and at least 0.5 miles for western snowy plover.
 - If active nests of species not listed under ESA are located during the pre-disturbance surveys, a no-disturbance buffer shall be established around active nests. The no-disturbance buffer shall be a minimum of 100 feet from the nest to avoid disturbance, depending on the species identified, until the nest is no longer active. No-disturbance buffers surrounding bank swallow and tricolored blackbird colonies or California black rail nests shall be a minimum of 500 feet. For species listed under CESA (i.e., bank swallow, California black rail, tricolored blackbird), occupied habitat shall be retained regardless of the activity status of the nest or colony. If avoidance of this habitat after the colony or nest is no longer active, is determined to be infeasible (e.g., most project objectives cannot be met) the applicant shall consult with CDFW to determine whether incidental take permitting and/or compensatory mitigation would be required to reduce impacts on these species.
- ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways.
- ▶ Polyethylene plastic sheeting shall not be placed directly on the ground.

Mitigation Measure 3.4-2h (DRH or UPC): Conduct Marbled Murrelet Pre-Disturbance Habitat Suitability Surveys and Determine Presence or Absence of the Species

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that marbled murrelet is present or potentially present on or adjacent to the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ Within habitat suitable for marbled murrelet: To avoid loss of marbled murrelet and their nests, or loss or fragmentation of occupied habitat or habitat suitable for marbled murrelet, removal of old-growth habitat is prohibited, as outlined in Mitigation Measure 3.4-4a.
- ▶ Adjacent to habitat suitable for marbled murrelet: If the area of proposed new disturbance activities is adjacent to habitat suitable for marbled murrelet (e.g., coniferous forest), as determined by a qualified biologist, the following measures shall be followed:

- Removal of any trees or ground-disturbing activities from August 6 through April 14 would not require pre-disturbance surveys for marbled murrelet. Conversely, if seasonal avoidance is not possible, before removal of any trees or ground-disturbing activities from April 15 through August 5 that occurs adjacent to habitat suitable for marbled murrelet, a qualified biologist familiar with the life history of the marbled murrelet shall conduct pre-disturbance surveys for nests within a 0.25-mile radius (i.e., buffer) around the site, as described in *Methods for Surveying Marbled Murrelets in Forests: A Revised Protocol for Land Management and Research* (Mack et al. 2003).
- If marbled murrelets are determined to be absent at a minimum of 0.25 miles from the site, then further mitigation is not required.
- If marbled murrelets are determined to be present on the site or within 0.25 miles of the site, a 0.25-mile buffer (or a larger buffer, as recommended by CDFW) shall be established around occupied nest sites. No project activity may occur within the 0.25-mile buffer area or other recommended buffer by CDFW until the end of the marbled murrelet breeding season (August 6). The nest tree and any adjacent trees that provide screening or canopy cover to the nest shall be retained regardless of the diameter of the tree.
- ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways.
- ▶ Polyethylene plastic sheeting shall not be placed directly on the ground.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-2c (ZPC) would limit tree removal to periods outside of nesting bird season; thus, no nesting birds would be affected for projects that meet crop swap standards.

Implementation of Mitigation Measure 3.4-1a would apply to this impact to determine whether there is potential for the species to be present. In addition, implementing Mitigation Measures 3.4-2g (DRH and UPC) and 3.4-2h (DRH and UPC) would reduce significant impacts to a **less-than-significant** level because bank swallow, black swift, California black rail, California Ridgway's rail, grasshopper sparrow, marbled murrelet, purple martin, tricolored blackbird, western snowy plover, western yellow-billed cuckoo, yellow rail, yellow warbler, and yellow-headed blackbird, and other bird nests would be avoided and protected from new disturbance related to cannabis activities.

Crotch's Bumble Bee

Crotch's bumble bee is a candidate for listing under CESA and the range of this species overlaps the eastern portion of the Program Area (CDFW 2023). In addition, nesting, overwintering, and foraging habitat for this species is likely present in natural habitats (including ruderal areas, which are likely within the industrial and commercial districts) throughout the Program Area. Cultivation or supply chain cannabis facilities could include removal of floral resources and ground disturbance, which could result in loss of Crotch's bumble bee habitat or direct loss of or injury to Crotch's bumble bees.

Cannabis related activities would all need to comply with Sonoma County Code provisions, which are outlined above under the main discussion of Impact 3.4-2, which would help prevent some impacts on Crotch's bumble bee, particularly guidance on retention of trees and vegetation. As noted above under the main discussion of Impact 3.4-2, trees and other vegetation outside of the riparian corridor could still be removed, so impacts on Crotch's bumble bee could remain (see directly under Impact 3.4-2 for full analysis).

Proposed Allowable Uses in Agricultural and Resources Districts

Cannabis uses would comply with Sonoma County Code provisions, which are outlined above under the main discussion of "Proposed Allowable Uses in Agricultural and Resources Districts" under Impact 3.4-2, which would help prevent some impacts on Crotch's bumble bee, though impacts could still remain. As noted above in this same location, cannabis cultivation operations are also required to comply with SWRCB Order WQ 2023-0102, which would help prevent some impacts on Crotch's bumble bee including by requiring avoiding impacts on species-status wildlife species and the implementation of avoidance buffers in consultation with CDFW and CAL FIRE. Compliance with the

general order and Sonoma County standards would help prevent direct effects on Crotch's bumble bee but would not fully prevent direct effects on these species because some Sonoma County codes as well as the SWRCB Order WQ 2023-0102-DWQ only apply to cannabis cultivation uses and not supply chain uses.

Proposed allowable uses in agriculture and resource districts could include construction, grading, vegetation removal, and other ground disturbance. All of these allowable uses have the potential to have significant impacts on Crotch's bumble bee, which could include removal of floral resources and ground disturbance, potentially resulting in loss of Crotch's bumble bee habitat or direct loss of or injury to Crotch's bumble bees. In addition, the use of plastic for cultivation activities (e.g., polyethylene plastic for agricultural shade or crop structures, or directly on the ground as weed abatement) may result in indirect effects on Crotch's bumble bee (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Because there would be no changes to the existing conditions (beyond change in crop type), activities associated with the implementation of a cannabis cultivation site under crop swap conditions would not substantially affect habitat that could support Crotch's bumble bee compared to the existing conditions (i.e., active cultivation). Therefore, the impact on Crotch's bumble bee for crop swap would be less than significant.

Construction of Event Facilities and Event Operations in Agricultural and Resources Districts

For the reasons described above under, "Proposed Allowable Uses in Agricultural and Resources Districts," this impact would be potentially significant.

Impacts from nighttime light are discussed further under "Effects of Nighttime Artificial Light on Special-Status Species."

Proposed Allowable Uses in Industrial and Commercial Districts

Changes to use type of business (i.e., operation of a cannabis use rather than other types of industrial or commercial uses) at existing buildings would not result in a significant impact because operations would generally be the same at the individual site (e.g., traffic from workers, deliveries, and customers associated with business operations).

Generally, there would be less potential for habitat potentially suitable to support Crotch's bumble bee to occur within developed areas typically associated with industrial and commercial districts than less developed or undeveloped areas typical of agricultural and resources districts (see Section 3.4.2, "Land Cover Types"). Regardless, where suitable habitat exists, proposed allowable uses in industrial and commercial districts that involve construction activities and site development would result in similar types of impacts as discussed above for "Proposed Allowable Uses in Industrial and Commercial Districts." This impact would be potentially significant for new development.

Periodic Event Operations for Cannabis

As discussed above in the general discussion, there would be no substantial effects on special-status wildlife and their habitat related to periodic event operations for cannabis. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on special-status wildlife and their habitat. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update would have potentially significant impacts on Crotch's bumble bee, mainly through removal of habitat including floral resources, potentially causing direct loss of or injury to Crotch's bumble bees during ground-disturbance activities, such as construction of warehouses and installation of cannabis cultivation sites all resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-2i (DRH or UPC): Conduct Crotch's Bumble Bee Pre-Disturbance Habitat Suitability Surveys and Pre-Disturbance Surveys

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that Crotch's bumble bee is present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ Before implementation of ground-disturbing activities, a qualified biologist shall conduct a habitat suitability study for Crotch's bumble bee following the guidance in the *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species* (CDFW 2023), which requires collection of specific information to determine habitat suitability for this species which may be in excess of the information collected during implementation of the biotic resources assessment described in Mitigation Measure 3.4-1a (e.g., depending on the time of year the biotic resources assessment was conducted). Results of the Crotch's bumble bee habitat suitability study shall be submitted to the applicant, Sonoma County, and CDFW before initiating ground-disturbing activities. If the area of proposed new disturbance activities contains habitat suitable for Crotch's bumble bee (e.g., nesting habitat, foraging habitat), the following measures shall be followed.
 - To avoid impacts on Crotch's bumble bee, cannabis-related disturbance activities shall not occur in habitats suitable for this species from April through August (i.e., colony active period) if feasible.
 - If not feasible to avoid ground-disturbance activities from April through August, pre-disturbance surveys for Crotch's bumble bees shall be conducted following the guidance in the *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species* (CDFW, 2023).
 - If Crotch's bumble bees are not detected during the pre-disturbance survey, no additional mitigation is required.
 - If Crotch's bumble bees are detected during the pre-disturbance survey, appropriate avoidance measures shall be implemented:
 - Protective buffers shall be implemented around active nesting colonies until these sites are no longer active as determined by a qualified biologist. A qualified biologist, in consultation with CDFW, will determine the appropriate buffer size to protect nesting colonies; however, buffers shall be at least 50 feet.
 - If impacts on Crotch's bumble bee cannot be avoided, compliance with CESA and consultation with CDFW is required and the applicant shall acquire an incidental take permit (ITP) from CDFW. The applicant shall implement all avoidance measures included in the ITP such that take would be fully mitigated. Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways.
- ▶ Polyethylene plastic sheeting shall not be placed directly on the ground.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1a, which consists of a qualified biologist developing a biotic resource assessment report for the site, would apply to this impact to determine whether there is potential for the species to be present. In addition, implementing Mitigation Measure 3.4-2i would reduce impacts on special-status bumble bees to a **less-than-significant** level because pre-disturbance surveys would be conducted and mitigation measures

would be developed with CDFW to protect Crotch's bumble bees from impacts from new disturbance related to cannabis activities. Impacts from nighttime light are discussed further under "Effects of Nighttime Artificial Light on Special-Status Species."

Monarch

Monarch is proposed for listing under ESA. The overwintering range of monarch overlaps with the Program Area, and overwintering monarch butterflies have been documented in the southern portion of the Program Area near San Pablo Bay (CNDDDB 2024). In addition, monarch butterflies and milkweed plants have been observed throughout the Program Area (Xerces Society for Invertebrate Conservation et al. 2024b). Furthermore, the monarch early breeding zone covers most of the Program Area, and summer breeding zone covers the northern portion of the Program Area (Xerces Society for Invertebrate Conservation et al. 2024c). Breeding and foraging habitat for this species is likely present in natural habitats (including ruderal areas) throughout the Program Area. Monarch winter roost sites extend along the coast from northern Mendocino County to Baja California, Mexico. Roosts are typically located in wind-protected tree groves (e.g., eucalyptus, cypress) with nectar and water sources nearby. Roosting habitat may be present in portions of the Program Area within approximately 1.5 miles from the coast.

Development of cultivation or supply chain cannabis facilities could include removal of floral resources, including potential breeding habitat, as well as potential overwintering habitat, including trees and other vegetation close to the coast outside of the coastal zone and therefore in the Program Area, which could result in loss of monarch habitat or direct loss of or injury to monarchs.

Cannabis related activities would all need to comply with Sonoma County Code provisions, which are outlined above under the main discussion of Impact 3.4-2, which would help prevent some impacts on monarch, particularly guidance on retention of trees and vegetation. As noted above under the main discussion of Impact 3.4-2, trees and other vegetation outside of the riparian corridor could still be removed, so impacts on monarch could remain (see Impact 3.4-2 for full analysis).

Proposed Allowable Uses in Agricultural and Resources Districts

As detailed above for Crotch's bumble bee, compliance with the SWRCB Order WQ 2023-0102 and Sonoma County standards would help prevent direct effects on Crotch's bumble bee but would not fully prevent direct effects on these species. Proposed allowable uses in agriculture and resource districts could include construction, grading, vegetation removal, and other ground disturbance. All of these allowable uses have the potential to have significant impacts on monarch, which could include removal of floral resources (including breeding habitat and overwintering habitat) and ground disturbance, potentially resulting in loss of monarch habitat or direct loss of or injury to monarchs. In addition, the use of plastic for cultivation activities (e.g., polyethylene plastic for agricultural shade or crop structures, or directly on the ground as weed abatement) may result in indirect effects on monarch (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Because there would be no changes to the existing conditions (beyond change in crop type), activities associated with the implementation of a cannabis cultivation site under crop swap conditions would not substantially affect habitat that could support monarch compared to the existing conditions (i.e., active cultivation). Therefore, the impact on monarch for crop swap would be less than significant.

Construction of Event Facilities and Event Operations

For the reasons described above under, "Proposed Allowable Uses in Agricultural and Resources Districts," this impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Changes to use type of business (i.e., operation of a cannabis use rather than other types of industrial or commercial uses) at existing buildings would not result in a significant impact because operations would generally be the same at the individual site (e.g., traffic from workers, deliveries, and customers associated with business operations).

Generally, there would be less potential for habitat potentially suitable to support monarch to occur within developed areas typically associated with industrial and commercial districts than less developed or undeveloped areas typical of agricultural and resources districts (see Section 3.4.2, "Land Cover Types"). Regardless, where suitable habitat exists, proposed allowable uses in industrial and commercial districts that involve construction activities and site development would result in similar types of impacts as discussed above for "Proposed Allowable Uses in Industrial and Commercial Districts." This impact would be potentially significant for new development.

Periodic Event Operations for Cannabis

As discussed above in the general discussion, there would be no substantial effects on special-status wildlife and their habitat related to periodic event operations for cannabis. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on special-status wildlife and their habitat. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update would have potentially significant impacts on monarch, mainly through removal of habitat including floral resources, potentially causing direct loss of or injury to monarchs during ground-disturbance activities, such as construction of warehouses and installation of cannabis cultivation sites all resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-2j (DRH or UPC): Avoid Overwintering Monarch Habitat and Conduct Pre-Disturbance Monarch Survey

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that monarch is present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ Monarch Overwintering Sites Identified:
 - To avoid impacts on monarch butterfly, new disturbance activities that remove any vegetation shall not occur in previously identified overwintering sites identified by Xerces (2024) and within a 100-foot buffer surrounding the overwintering site.
 - If, during implementation of Mitigation Measure 3.4-1, a previously undetected monarch overwintering site is found by a qualified biologist, new disturbance related to the Program Update shall be prohibited in the overwintering site and within a 100-foot buffer surrounding the overwintering site.
- ▶ Habitat Potentially Suitable for Overwintering Sites Present on Project Site:
 - If, during implementation of Mitigation Measure 3.4-1a (biotic resources assessment), a qualified biologist determines that habitat suitable for overwintering monarchs is present in a new disturbance area, a qualified biologist familiar with monarchs and monarch overwintering habitat will conduct pre-disturbance surveys for monarch colonies in these areas between October 1 and March 31 and will identify any colonies found within the treatment area. Any identified colonies shall be avoided as described above. If no overwintering colonies are found, further mitigation to protect overwintering monarchs will not be required.
- ▶ Habitat Potentially Suitable for Monarch (Other Than Overwintering Sites) Present on Project Site:
 - If all disturbance activities are completed outside of the period when milkweed plants could host monarch eggs or caterpillars (i.e., all disturbance activities completed between October through February), surveys for

milkweed plants, monarch eggs, and caterpillars would not be required. If disturbance activities cannot be completed between October and February, then during the period of March through September (i.e., when milkweed plants could host monarch eggs or caterpillars), and within no more than 14 days before implementing project activities, a qualified biologist shall conduct pre-disturbance surveys for milkweed plants and inspect these plants for monarch eggs, larvae (i.e., caterpillars), and pupae. Ground disturbance involving outdoor cultivation activities may not occur November 1 through April 15 per *Best Management Practices Cannabis Cultivation* (Sonoma County Department of Agriculture n.d.-a). If monarch eggs, caterpillars, or pupae are found, the host plants shall be avoided until metamorphosis is completed and adult butterflies emerge and leave the host plant. If no eggs or caterpillars are detected, no additional protection measures are necessary.

- ▶ If monarch butterfly is listed, a survey protocol and federal permit requirements for surveyors may be established, in which case, USFWS would not permit these surveys for the project until such a time that cannabis uses are legalized under federal law and federal incidental take permitting may be pursued. In this case, if habitat suitable for monarch is determined to be present on a site during the initial biological survey (see Mitigation Measure 3.4-1a), before commencing any new disturbance activities, a qualified biologist shall conduct an additional habitat suitability study (in addition to the pre-disturbance surveys) to determine whether: (1) the project site is within the range of this species and (2) the project site contains the microhabitat features suitable for this species (e.g., vegetation and habitat type, host plant availability, food plant availability). Surveys to determine host plant and food plant availability shall be conducted during the typical bloom period for this species to increase the chances of detecting the plants, if present.
 - If habitat suitable for monarch (if the species is listed under ESA at the time of the survey) is present in a new disturbance area, the habitat will be considered occupied, and because this species may be listed under ESA, the applicant must avoid impacts by implementing no-disturbance buffers or redesigning the project until such time as federal permits, authorizations, and procedures/protocols can be applied. If the project cannot be redesigned to avoid all habitat suitable for this species and potential edge effects, then the application shall be denied.
- ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways.
- ▶ Polyethylene plastic sheeting shall not be placed directly on the ground.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1a, which consists of a qualified biologist developing a biotic resource assessment report for the project site, would apply to this impact to determine whether there is potential for the species to be present. In addition, implementing Mitigation Measure 3.4-2j would reduce impacts on monarch to a **less-than-significant** level because previously identified overwintering sites (Xerces 2024) would be avoided; pre-disturbance surveys would be conducted; and overwintering sites, milkweed plants, with monarch larvae would be protected from new disturbance related to cannabis activities if detected in a disturbance area. Impacts from nighttime light are discussed further under "Effects of Nighttime Artificial Light on Special-Status Species."

Other Special-Status Butterfly Species

Behren's silverspot butterfly, Callippe silverspot butterfly, and Myrtle's silverspot butterfly, which are all listed as endangered under ESA, could occur in the Program Area. Foraging habitat (i.e., floral resources) and breeding habitat are present in the Program Area. Behren's silverspot butterfly could occur in coastal prairie habitat (which may extend beyond the coastal zone in some areas) where the host plant for the species (*Viola* spp.) is present, Callippe silverspot butterfly could occur in coastal scrub habitat where the host plant for the species (*Viola pedunculata*) is present, and Myrtle's silverspot butterfly could occur in coastal bluff/hill habitat (which may extend beyond the coastal zone in some areas) where the host plant for this species (*Viola adunca*) is present.

Development of cultivation or supply chain cannabis facilities could include removal of floral resources, including potential breeding habitat, which could result in injury or mortality of Behren's silverspot butterfly, Callippe silverspot butterfly, or Myrtle's silverspot butterfly habitat or loss of habitat for these species. In addition, the use of plastic for cultivation activities (e.g., polyethylene plastic for agricultural shade or crop structures, or directly on the ground as weed abatement) may result in indirect effects on other special-status butterflies (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment.

Cannabis related activities would all need to comply with Sonoma County Code provisions, which are outlined above under the main discussion of Impact 3.4-2, which would help prevent some impacts on Behren's silverspot butterfly, Callippe silverspot butterfly, or Myrtle's silverspot butterfly, particularly guidance on retention of trees and vegetation. As noted above under the main discussion of Impact 3.4-2, trees and other vegetation outside of the riparian corridor could still be removed, so impacts on Behren's silverspot butterfly, Callippe silverspot butterfly, or Myrtle's silverspot butterfly could remain (see Impact 3.4-2 for full analysis).

Proposed Allowable Uses in Agricultural and Resources Districts

For the reasons described above for monarch, potential impacts on Behren's silverspot butterfly, Callippe silverspot butterfly, and Myrtle's silverspot butterfly would be potentially significant.

Applications Meeting Crop Swap Requirements

For the reasons described above for monarch, potential impacts on Behren's silverspot butterfly, Callippe silverspot butterfly, and Myrtle's silverspot butterfly would be less than significant.

Construction of Event Facilities and Event Operations

For the reasons described above for monarch, potential impacts on Behren's silverspot butterfly, Callippe silverspot butterfly, and Myrtle's silverspot butterfly would be potentially significant.

Impacts from nighttime light are discussed further under "Effects of Nighttime Artificial Light on Special-Status Species."

Proposed Allowable Uses in Industrial and Commercial Districts

For the reasons described above for monarch, potential impacts on Behren's silverspot butterfly, Callippe silverspot butterfly, and Myrtle's silverspot butterfly would be potentially significant.

Periodic Event Operations for Cannabis

As discussed above in the general discussion, there would be no substantial effects on special-status wildlife and their habitat related to periodic event operations for cannabis. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on special-status wildlife and their habitat. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update would have potentially significant impacts on Behren's silverspot butterfly, Callippe silverspot butterfly, and Myrtle's silverspot butterfly, mainly through removal of habitat including floral resources, potentially causing direct loss of or injury to Behren's silverspot butterfly, Callippe silverspot butterfly, and Myrtle's silverspot butterfly during disturbance activities, such as construction of warehouses and installation of cannabis cultivation sites all resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-2k (DRH or UPC): Avoid Loss of Other Special-Status Butterfly Species and Host Plants

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that Behren's silverspot butterfly, Callippe silverspot butterfly, or Myrtle's silverspot butterfly are present or potentially present on the proposed

cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ To avoid impacts on Behren's silverspot butterfly, Callippe silverspot butterfly, or Myrtle's silverspot butterfly, depending on the species, new disturbance related to cannabis activities shall not occur in coastal prairie habitat, coastal scrub habitat, or coastal dune/hill habitat, respectively. If these habitats can be avoided, no further mitigation is required. If avoidance of these habitats is not feasible, further mitigation would be required.
 - Surveys for federally listed butterfly species, including *Behren's Silverspot Butterfly Minimum Qualifications Guidelines to be Permitted for Presence/Absence Surveys for Adult Butterflies* (USFWS 2024d), require surveyors to have recovery permits for these species pursuant to Section 10(a)(1)(A) of ESA. Because of the current federal legal status of cannabis activities, USFWS would not permit these surveys for the project. Therefore, if habitat suitable for federally listed butterflies is determined to be present on a site during the initial biological survey (see Mitigation Measure 3.4-1a), before commencing any new disturbance activities, a qualified biologist shall conduct an additional habitat suitability study to determine whether: (1) the project site is within the limited range of any federally listed butterfly species and (2) the project site contains the microhabitat features suitable for these species (e.g., vegetation and habitat type, host plant availability, food plant availability). Surveys to determine host plant and food plant availability shall be conducted during the typical bloom period for these species to increase the chances of detecting the plants, if present.
 - If habitat for federally listed butterflies is determined not to be present in a new disturbance area by the qualified biologist, a special-status butterfly report (in addition to the biotic resources assessment [see Mitigation Measure 3.4-1a]) shall be prepared by the qualified biologist and submitted to the County for approval.
 - If habitat suitable for Behren's silverspot butterfly, Callippe silverspot butterfly, or Myrtle's silverspot butterfly is present in a new disturbance area, the habitat will be considered occupied, and because these species are listed under ESA, the applicant must avoid impacts by implementing no-disturbance buffers or redesigning the project until such time as federal permits, authorizations, and procedures/protocols can be applied. If the project cannot be redesigned to avoid all habitat suitable for these species and potential edge effects, then the application shall be denied.
- ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways.
- ▶ Polyethylene plastic sheeting shall not be placed directly on the ground.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1a, which consists of a qualified biologist developing a biotic resource assessment report for the site, would apply to this impact to determine whether there is potential for the species to be present. In addition, implementing Mitigation Measure 3.4-2k would reduce impacts on Behren's silverspot butterfly, Callippe silverspot butterfly, and Myrtle's silverspot butterfly to a **less-than-significant** level because habitats suitable for these species would be avoided and protected from new disturbance related to cannabis activities. Impacts from nighttime light are discussed further under "Effects of Nighttime Artificial Light on Special-Status Species."

California Freshwater Shrimp

California freshwater shrimp is listed as endangered under the ESA and CESA. California freshwater shrimp have been documented in the Program Area, mostly concentrated in the central and southern portions of the County, including occurrences in Green Valley Creek, Franz Creek, Sonoma Creek, and Salmon Creek (CNDDDB 2024). Other low elevation, low gradient streams where riparian cover is moderate to heavy with shallow pools away from main streamflow are present in other portions of the Program Area and likely provide habitat for California freshwater shrimp.

California freshwater shrimp are restricted to low gradient streams, which would be protected under multiple required setbacks required by the Sonoma County Code (see general discussion under Impact 3.4-2) including setbacks that apply to all uses under the Program update, such as Chapter 11 (Construction, Grading and Drainage), Article 14 (Standards) Section 11.14.090 (Setbacks for Lakes, Ponds, and Reservoirs), Section 11.14.100 (Setbacks for Streams), and Section 11.14.110 (Setbacks for Wetlands). In addition, Article 65 (RC Riparian Corridor Combining Zone) Section 26-65-030 (Prohibited Uses and Exceptions) prohibits activities including grading, vegetation removal, agricultural cultivation, structures, and roads within any stream channel or streamside conservation area. Furthermore, as discussed in Section 3.10, "Hydrology and Water Quality," in this Draft EIR, water quality would not be adversely affected. Therefore, because California freshwater shrimp are restricted to low gradient streams, which would be avoided, this impact would be **less-than-significant**

Mitigation Measures

No mitigation required.

American Badger

American badger, which is a CDFW species of special concern, prefers open shrub, forest, and herbaceous habitats, which occur in both the agricultural and resources districts and industrial and commercial districts in the Program Area, with friable (e.g., easily crumbled) soils. American badger has been documented throughout the southern and middle portions of the Program Area (CNDDDB 2024). This includes documented occurrences adjacent to Martin Creek, northeast of Windsor, on either side of Highway 12 between Santa Rosa and Sebastopol, as well as along Bodega Highway near Freestone and Highway 101 south of Cotati (CNDDDB 2024) (i.e., areas that may generally be described as plains and rolling hills). In addition, there are reported occurrences north of the Program Area in Mendocino County (CNDDDB 2024). Habitat potentially suitable for American badger occurs throughout the Program Area. New cannabis cultivation, potential expansion of existing sites, centralized processing, retail activities, manufacturing, and all other cannabis-related activities could result in conversion of habitat, vegetation removal, and ground-disturbing activities, which could cause loss of habitat as well as the direct loss of American badgers if they are occupying burrows on the site during these activities.

Cannabis related activities would all need to comply with Sonoma County Code and provisions, which are outlined above under the main discussion of Impact 3.4-2, which would help prevent some impacts on American badger, including guidance on retention of trees and vegetation. As noted above under the main discussion of Impact 3.4-2, trees and other vegetation outside of the riparian corridor could still be removed, so impacts on American badger could remain (see directly under Impact 3.4-2 for full analysis).

Proposed Allowable Uses in Agricultural and Resources Districts

Proposed allowable uses in agriculture and resource districts could include construction, grading, vegetation removal, and other ground disturbance. All of these allowable uses have the potential to have significant impacts on American badger, which could include loss of habitat as well as the direct loss of American badgers if they are occupying burrows on the site during these activities. In addition, the use of plastic for cultivation activities (e.g., polyethylene plastic for agricultural shade or crop structures, or directly on the ground as weed abatement) may result in indirect effects on American badger (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Because there would be no changes to the existing conditions (beyond change in crop type), activities associated with the implementation of a cannabis cultivation site under crop swap conditions would not substantially affect habitat that could support American badger compared to the existing conditions (i.e., active cultivation). Therefore, the impact on American badger for crop swap is less than significant.

Construction of Event Facilities and Event Operations

For the reasons described above under, "Proposed Allowable Uses in Agricultural and Resources Districts," this impact would be potentially significant.

Impacts from nighttime light are discussed further under “Effects of Nighttime Artificial Light on Special-Status Species.”

Proposed Allowable Uses in Industrial and Commercial Districts

Changes to use type of business (i.e., operation of a cannabis use rather than other types of industrial or commercial uses) at existing buildings would not result in a significant impact because operations would generally be the same at the individual site (e.g., traffic from workers, deliveries, and customers associated with business operations).

Generally, there would be less potential for habitat potentially suitable to support American badger to occur within developed areas typically associated with industrial and commercial districts than less developed or undeveloped areas typical of agricultural and resources districts (see Section 3.4.2, “Land Cover Types”). Regardless, where suitable habitat exists, proposed allowable uses in industrial and commercial districts that involve construction activities and site development would result in similar types of impacts as discussed above for “Proposed Allowable Uses in Industrial and Commercial Districts.” This impact would be potentially significant for new development.

Periodic Event Operations for Cannabis

As discussed above in the general discussion, there would be no substantial effects on special-status wildlife and their habitat related to periodic event operations for cannabis. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on special-status wildlife and their habitat. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update would have potentially significant impacts on American badger, mainly through removal of habitat, potentially causing direct loss of or injury to American badgers during ground-disturbance activities, such as construction of warehouses and installation of cannabis cultivation sites all resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-2I (DRH or UPC): Conduct Pre-Disturbance American Badger Survey and Establish Protective Buffers

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that American badger is present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ Before the commencement of new disturbance activities, a qualified wildlife biologist shall conduct surveys of the grassland or disturbance on the site to identify any American badger burrows/dens. These surveys shall be conducted no more than 30 days before the start of disturbance activities.
- ▶ If no occupied American badger burrows are found, further mitigation is not required.
- ▶ If occupied American badger burrows are found, impacts on active badger burrows shall be avoided through an exclusion zone around all active dens, the size and shape of which shall be established by a qualified biologist, in consultation with CDFW (but at least 100 feet). Within the exclusion zone, all project activities shall be prohibited until denning activities are complete or the den is abandoned. The qualified biologist shall monitor each den once per week to track the status of the den and to determine when it is no longer occupied.
- ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways.

- Polyethylene plastic sheeting shall not be placed directly on the ground.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1a, which consists of a qualified biologist developing a biotic resource assessment report for the site, would apply to this impact to determine whether there is potential for the species to be present. In addition, implementing Mitigation Measure 3.4-2I would reduce impacts on American badger to a **less-than-significant** level because pre-disturbance surveys would be conducted and active badger dens would be protected from new disturbance activities. Impacts from nighttime light are discussed further under "Effects of Nighttime Artificial Light on Special-Status Species."

Northern California Ringtail

Northern California ringtail is fully protected under California Fish and Game Code. Habitat suitable for this species includes riparian habitat, forest habitat, and shrub habitat, which is found in both the agricultural and resources districts and industrial and commercial districts in the Program Area, in lower to middle elevations. Ringtails are usually, but not always found close to a permanent water source. Den habitat includes rock recesses, hollow trees, logs, snags, abandoned burrows, and woodrat nests.

Development of cultivation or supply chain cannabis facilities could result in conversion of habitat, vegetation removal, and ground-disturbing activities, which could result in direct loss of ringtails if present as well as loss of habitat. In addition, the use of plastic for cultivation activities (e.g., polyethylene plastic for agricultural shade or crop structures, or directly on the ground as weed abatement) may result in indirect effects on northern California ringtail (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment.

Cannabis related activities would all need to comply with Sonoma County Code provisions, which are outlined above under the main discussion of Impact 3.4-2, which would help prevent some impacts on Northern California ringtail, including guidance on retention of trees and vegetation. As noted above under the main discussion of Impact 3.4-2, trees and other vegetation outside of the riparian corridor could still be removed, so impacts on Northern California ringtail could remain (see directly under Impact 3.4-2 for full analysis).

Proposed Allowable Uses in Agricultural and Resources Districts

Proposed allowable uses in agriculture and resource districts could include potentially affect Northern California ringtail, which could include loss of habitat as well as the direct loss of Northern California ringtail individuals. In addition, the use of plastic for cultivation activities (e.g., polyethylene plastic for agricultural shade or crop structures, or directly on the ground as weed abatement) may result in indirect effects on Northern California ringtail (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Because there would be no changes to the existing conditions (beyond change in crop type), activities associated with the implementation of a cannabis cultivation site under crop swap conditions would not substantially affect habitat that could support Northern California ringtail compared to the existing conditions (i.e., active cultivation). Therefore, the impact on Northern California ringtail for crop swap is less than significant.

Construction of Event Facilities and Event Operations

For the reasons described above under, "Proposed Allowable Uses in Agricultural and Resources Districts," this impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Changes to use type of business (i.e., operation of a cannabis use rather than other types of industrial or commercial uses) at existing buildings would not result in a significant impact because operations would generally be the same at the individual site (e.g., traffic from workers, deliveries, and customers associated with business operations).

Generally, there would be less potential for habitat potentially suitable to support Northern California ringtail to occur within developed areas typically associated with industrial and commercial districts than less developed or

undeveloped areas typical of agricultural and resources districts (see Section 3.4.2, "Land Cover Types"). Regardless, where suitable habitat exists, proposed allowable uses in industrial and commercial districts that involve construction activities and site development would result in similar types of impacts as discussed above for "Proposed Allowable Uses in Industrial and Commercial Districts." This impact would be potentially significant for new development.

Periodic Event Operations for Cannabis

As discussed above in the general discussion, there would be no substantial effects on special-status wildlife and their habitat related to periodic event operations for cannabis. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on special-status wildlife and their habitat. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update would have potentially significant impacts on northern California ringtail, mainly through removal of habitat, potentially causing direct loss of or injury to northern California ringtails during ground-disturbance activities, such as construction of warehouses and installation of cannabis cultivation sites all resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-2m (DRH or UPC): Conduct Pre-Disturbance Surveys for Ringtail and Implement Avoidance Measures

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that ringtail is present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ If all new disturbance (e.g., tree or shrub removal) is completed outside of the ringtail maternity season (i.e., all disturbance is conducted between July 1 and April 14), then surveys for ringtails would not be required.
- ▶ Before commencement of new disturbance (e.g., tree or shrub removal) occurring during the ringtail maternity season (April 15 through June 30), a qualified wildlife biologist shall conduct pre-disturbance surveys no more than 30 days before the start of disturbance activities of all habitat suitable for ringtail on the site and shall record sightings of individual ringtails, as well as potential dens. No soil disturbance shall occur November 1 through April 15, consistent with *Best Management Practices Cannabis Cultivation* (Sonoma County Department of Agriculture n.d.-a). No action is needed if disturbance occurs outside of the time periods described herein.
- ▶ If no individuals or potential or occupied dens are found, further mitigation is not required.
- ▶ If ringtails are detected or if potential dens of this species are located, an appropriate method shall be used by the qualified wildlife biologist to confirm whether a ringtail is occupying the den. This may involve use of remote field cameras, track plates, or hair snares. Other devices, such as a fiber optic scope, may be used to determine occupancy. If no ringtail occupies the potential den, the entrance shall be temporarily blocked—after it has been fully inspected—so that no other animals occupy the area during ground disturbance, vegetation removal, or installation of cannabis site. The blockage shall be removed after new disturbance activities, including vegetation removal, grading, and construction have been completed.
- ▶ If a den is found to be occupied by a ringtail, a no-disturbance buffer shall be placed around the occupied den location. The no-disturbance buffer shall include the den tree (or other structure) plus a buffer the size of which shall be determined by the biologist in coordination with CDFW to prevent disturbance and abandonment (but at

least 250 feet). Disturbance activities in the no-disturbance buffer shall be avoided until the den is unoccupied as determined by a qualified wildlife biologist in coordination with CDFW.

- ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways.
- ▶ Polyethylene plastic sheeting shall not be placed directly on the ground.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1a, which consists of a qualified biologist developing a biotic resource assessment report for the site, would apply to this impact to determine whether there is potential for the species to be present. In addition, implementing Mitigation Measure 3.4-2m would reduce significant impacts to a **less-than-significant** level because pre-disturbance surveys would be conducted and ringtail and occupied dens would be avoided and protected from new disturbance related to cannabis activities. Impacts from nighttime light are discussed further under "Effects of Nighttime Artificial Light on Special-Status Species."

Special-Status Bats

Three special-status bat species—pallid bat, Townsend's big-eared bat, and western red bat—have been documented in the Program Area and could occur throughout the Program Area where roost habitats suitable for the species is present. All three species are CDFW species of special concern. These species use a variety of habitats to roost, including trees, caves, crevices, high cliffs, rocky outcrops, mines, hollow trees, and buildings. Roosting habitat could be present on cannabis sites in both the agricultural and resources districts and industrial and commercial districts in the Program Area. Tree and building removal is not expected to result in substantial removal of available habitat for special-status bats; however, these activities could result in the direct loss of pallid bat, Townsend's big-eared bat, and western red bat roosts and individuals. In addition, the use of plastic for cultivation activities (e.g., polyethylene plastic for agricultural shade or crop structures, or directly on the ground as weed abatement) may result in indirect effects on special-status bats (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment.

Cannabis related activities would all need to comply with Sonoma County Code provisions, which are outlined above under the main discussion of Impact 3.4-2, which would help prevent some impacts on special-status bat species, including guidance on retention of trees and vegetation. As noted above under the main discussion of Impact 3.4-2, trees and other vegetation outside of the riparian corridor could still be removed that special-status bat species could be roosting on, so impacts on special-status bat species could remain (see directly under Impact 3.4-2 for full analysis).

Proposed Allowable Uses in Agricultural and Resources Districts

Habitat potentially suitable for special-status bat species occurs throughout the agriculture and resource districts (see Section 3.4.2, "Land Cover Types"). Proposed allowable uses in agriculture and resource districts could include construction, grading, vegetation removal, and other ground disturbance. All of these allowable uses have the potential to have significant impacts on special-status bat species, which could include direct loss of special-status bat species individuals. In addition, the use of plastic for cultivation activities (e.g., polyethylene plastic for agricultural shade or crop structures, or directly on the ground as weed abatement) may result in indirect effects on special-status bat species (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Because there would be no changes to the existing conditions (beyond change in crop type), activities associated with the implementation of a cannabis cultivation site under crop swap conditions would not substantially affect habitat that could support special-status bat species compared to the existing conditions (i.e., active cultivation). Therefore, the impact on special-status bat species for crop swap is less than significant.

Construction of Event Facilities and Event Operations

For the reasons described above under, "Proposed Allowable Uses in Agricultural and Resources Districts," this impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Changes to use type of business (i.e., operation of a cannabis use rather than other types of industrial or commercial uses) at existing buildings would not result in a significant impact because operations would generally be the same at the individual site (e.g., traffic from workers, deliveries, and customers associated with business operations).

Generally, there would be less potential for habitat potentially suitable to support special-status bats to occur within developed areas typically associated with industrial and commercial districts than less developed or undeveloped areas typical of agricultural and resources districts (see Section 3.4.2, "Land Cover Types"). Regardless, where suitable habitat exists, proposed allowable uses in industrial and commercial districts that involve construction activities and site development would result in similar types of impacts as discussed above for "Proposed Allowable Uses in Industrial and Commercial Districts." This impact would be potentially significant for new development.

Periodic Event Operations for Cannabis

As discussed above in the general discussion, there would be no substantial effects on special-status wildlife and their habitat related to periodic event operations for cannabis. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on special-status wildlife and their habitat. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update would have potentially significant impacts on special-status bat species, mainly through removal of habitat, potentially causing direct loss of or injury to special-status bat species individuals during ground-disturbance activities, such as construction of warehouses and installation of cannabis cultivation sites all resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-2n (DRH or UPC): Conduct Pre-Disturbance Special-Status Bat Surveys and Establish Protective Buffers

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that pallid bat, Townsend's big-eared bat, or western red bat are present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ Within 30 days of commencing any disturbance related to cannabis activities, a qualified biologist shall conduct surveys for roosting bats. If evidence of bat use is observed, the species and number of bats using the roost shall be determined. Bat detectors may be used to supplement survey efforts. If no evidence of bat roosts is found, then no further mitigation is required.
- ▶ If pallid bats, Townsend's big-eared bats, or western red bats are detected during the surveys, a program addressing mitigation for the specific occurrence (including at a minimum, compensation, exclusion methods, and roost removal procedures) shall be submitted to CDFW by the qualified biologist subject to the review and approval of CDFW. Implementation of the mitigation plan shall be a condition of project approval. The mitigation plan shall establish a buffer area around the roost during hibernation or while females in maternity colonies are nursing young that is large enough to prevent disturbance to the colonies (typically at least 250 feet).

- ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways.
- ▶ Polyethylene plastic sheeting shall not be placed directly on the ground.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1a, which consists of a qualified biologist developing a biotic resource assessment report for the site, would apply to this impact and would determine whether there is potential for the species to be present. In addition, implementing Mitigation Measure 3.4-2n would reduce impacts on special-status bats to a **less-than-significant** level because pre-disturbance surveys would be conducted and active special-status bat roosts would be protected from new disturbance related to cannabis activities. Impacts from nighttime light are discussed further under "Effects of Nighttime Artificial Light on Special-Status Species."

Sonoma Tree Vole

Sonoma tree vole is a CDFW species of special concern and is known to occur in the Program Area. The range of Sonoma tree vole covers the northern and western portions of the Program Area, and there are reported occurrences of this species, mostly in the western portion of the Program Area (CNDDDB 2024). This includes documented occurrences adjacent to Buck Mountain and Cazadero, as well as along Skaggs Spring Road, Highway 116, Bohemian Highway, and Big Ridge Road adjacent to Pechaco Creek (CNDDDB 2024). Habitat for the Sonoma tree vole (North Coast fog belt, Douglas-fir, redwood, and montane hardwood-conifer forests) is located within both the agricultural and resources districts and industrial and commercial districts and is concentrated in the northern and western portions of the Program Area, but occurs interspersed throughout the Program Area, other than the southern portion of the Program Area and areas near the US-101 corridor. This species occurs in coniferous forest, riparian forest, and montane-hardwood conifer forest, usually in areas near streams with dense shrubs.

Development of cultivation or supply chain cannabis facilities could include removal of trees and other vegetation, which could result in loss of Sonoma tree vole habitat or direct loss of or injury to voles. In addition, the use of plastic for cultivation activities (e.g., polyethylene plastic for agricultural shade or crop structures, or directly on the ground as weed abatement) may result in indirect effects on Sonoma tree vole (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment.

Cannabis related activities would all need to comply with Sonoma County Code provisions, which are outlined above under the main discussion of Impact 3.4-2, which would help prevent some impacts on Sonoma tree vole, including guidance on retention of trees and vegetation. As noted above under the main discussion of Impact 3.4-2, trees and other vegetation outside of the riparian corridor could still be removed, so impacts on Sonoma tree vole could remain (see directly under Impact 3.4-2 for full analysis).

Proposed Allowable Uses in Agricultural and Resources Districts

Proposed allowable uses in agriculture and resource districts could include construction, vegetation removal, and other ground disturbance. All of these allowable uses have the potential to have significant impacts on Sonoma tree vole, which could include loss of habitat as well as the direct loss of Sonoma tree voles. In addition, the use of plastic for cultivation activities (e.g., polyethylene plastic for agricultural shade or crop structures, or directly on the ground as weed abatement) may result in indirect effects on Sonoma tree vole (e.g., through entrapment, entanglement, or ingestion) if these materials are introduced into the environment. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Because there would be no changes to the existing conditions (beyond change in crop type), activities associated with the implementation of a cannabis cultivation site under crop swap conditions would not substantially affect habitat that could support Sonoma tree vole compared to the existing conditions (i.e., active cultivation). Therefore, the impact on Sonoma tree vole for crop swap is less than significant.

Construction of Event Facilities and Event Operations

For the reasons described above under, "Proposed Allowable Uses in Agricultural and Resources Districts," this impact would be potentially significant.

Impacts from nighttime light are discussed further under "Effects of Nighttime Artificial Light on Special-Status Species."

Proposed Allowable Uses in Industrial and Commercial Districts

Changes to use type of business (i.e., operation of a cannabis use rather than other types of industrial or commercial uses) at existing buildings would not result in a significant impact because operations would generally be the same at the individual site (e.g., traffic from workers, deliveries, and customers associated with business operations).

Generally, there would be less potential for habitat potentially suitable to support Sonoma tree vole to occur within developed areas typically associated with industrial and commercial districts than less developed or undeveloped areas typical of agricultural and resources districts (see Section 3.4.2, "Land Cover Types"). Regardless, where suitable habitat exists, proposed allowable uses in industrial and commercial districts that involve construction activities and site development would result in similar types of impacts as discussed above for "Proposed Allowable Uses in Industrial and Commercial Districts." This impact would be potentially significant for new development.

Periodic Event Operations for Cannabis

As discussed above in the general discussion, there would be no substantial effects on special-status wildlife and their habitat related to periodic event operations for cannabis. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on special-status wildlife and their habitat. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update would have potentially significant impacts on Sonoma tree vole, mainly through removal of habitat, potentially causing direct loss of or injury to Sonoma tree voles during ground-disturbance activities, such as construction of warehouses and installation of cannabis cultivation sites all resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-2o (DRH or UPC): Conduct Pre-Disturbance Sonoma Tree Vole Surveys and Implement Avoidance Measures

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that Sonoma tree vole is present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ To minimize the potential for loss of or disturbance to Sonoma tree vole habitat and nests, removal of old-growth habitat shall be prohibited, as outlined in Mitigation Measure 3.4-4 below.
- ▶ Before commencing any tree- or other vegetation-removal activities or ground disturbance, and no more than 7 days before disturbance activities commence, a qualified biologist shall conduct pre-disturbance surveys for Sonoma tree vole nests (e.g., searching for nests in trees on the site and confirming that nests belong to voles rather than squirrels or birds). If no evidence of Sonoma tree vole nests is found, then no further mitigation for the species is required.

- ▶ If occupied trees or nests are identified within a minimum of 100 feet of the site, the qualified biologist shall determine whether project disturbance activities shall adversely affect the voles, based on factors such as noise level of disturbance activities or line of sight between the tree and the disturbance source. If it is determined that disturbance activities would not affect the voles, then disturbance can proceed without protective measures.
- ▶ If the biologist determines that disturbance activities would likely disturb Sonoma tree vole nests, a buffer shall be established, the size of which shall be determined by the qualified biologist such that disturbance of the nest would not occur (typically at least 100 feet). No disturbance activities shall occur within the buffer until the nest is determined to be inactive by a qualified biologist.
- ▶ Polyethylene plastic used for agricultural shade or crop structures shall be properly fastened, maintained in good condition, and regularly inspected for degradation from weather to prevent introduction of plastic into the natural environment, including waterways.
- ▶ Polyethylene plastic sheeting shall not be placed directly on the ground.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1a, which consists of a qualified biologist developing a biotic resource assessment report for the site, would apply to this impact to determine whether there is potential for the species to be present. In addition, implementing Mitigation Measure 3.4-2o would reduce impacts on special-status voles to a **less-than-significant** level because preconstruction surveys would be conducted and active vole nests would be protected from new disturbance related to cannabis activities. Impacts from nighttime light are discussed further under "Effects of Nighttime Artificial Light on Special-Status Species."

Effects of Nighttime Artificial Light on Special-Status Species

Cannabis operations under the Program would be allowed to use artificial lighting systems, including outdoor motion-sensor-activated security lights and outdoor event lights. Artificial light can adversely affect many different wildlife species, especially nocturnal animals, such as bats and owls (e.g. northern spotted owl). Bat behavior, for example, is affected by moonlight, so changes in light cycles can lead to changes in bat foraging behavior, emergence, roosting, breeding, and hibernation (Stone et al. 2015). Many nocturnal wildlife species are affected by nighttime artificial light in this way, including small nocturnal prey species (Shier et al. 2020). Artificial light can also result in changes in amphibian mating behavior (Baker and Richardson 2006), impacts on migratory behavior of monarchs (Parlin et al. 2023), and sleeping patterns of bumble bees (Kim et al. 2024). Natural light plays a vital role in ecosystems by functioning as both a source for information and energy (Gaston et al. 2012; Gaston et al. 2013). The addition of artificial light into a landscape, particularly into one that had none or little prior, disrupts this role, altering the natural circadian, lunar, and seasonal cycles under which species have evolved.

All individual projects under the Program update would need to comply with applicable state and local laws and regulations, including Sections 16304(a)(6) and 16304(a)(7) of the CCR, the Outdoor Lighting policies of the County's General Plan, and the County's Zoning Code. Section 26-18-115 of the Cannabis Program Update requires that all lighting at cultivation sites be fully shielded and downward casting and that all light used in cultivation structures be fully contained. Similarly, Sections 16304(a)(6) and 16304(a)(7) of the CCR require that outdoor lighting be shielded and downward facing and lights used for indoor or mixed-light cultivation be shielded from sunset to sunrise to reduce nighttime glare. The Sonoma County General Plan Policies OSRC-4a, OSRC-4b, and OSRC-4c provide guidance for lighting, including that light fixtures should be shielded, cast downward, and use no more than the minimum height and power requirements; continuous all-night exterior lighting in rural areas should not be used, unless in specific circumstances; glare onto adjacent properties and into the night sky should be minimized; and light levels in excess of industry and State standards are discourage.

The reader is referred to Section 3.1, "Aesthetics," for additional analysis on nighttime artificial lighting related to visual character.

Proposed Allowable Uses in Agricultural and Resources Districts

Compliance with state requirements would also require that outdoor lights used for safety or security purposes for cannabis cultivation sites are shielded and downward facing, as well as require that cannabis cultivation artificial lighting is shielded from sunset to sunrise to reduce nighttime glare (CCR, Title 4, Section 16304). In addition, under the Cannabis Program Update, Section 26-18-115(C)(1)(b) would require cannabis cultivation to have all lighting fully shielded and downward casting so that it does not spill over onto neighboring properties and for operations cultivating within structures, all light is to be fully contained so that little to no light escapes at a level that is visible from neighboring parcels.

Cannabis uses in agriculture and resource districts could include the installation of outdoor security lights, outdoor event lighting, or other outdoor lighting. As discussed above, while the Sonoma County General Plan provides guidance on outdoor lighting, there are no requirements provided in the Code other than for cultivation, as noted above. New lighting, if located within proximity to special-status wildlife, could cause nest abandonment or changes to mating behavior. Thus, this impact would be potentially significant for new development.

Applications Meeting Crop Swap Requirements

Cannabis uses approved through crop swap applications may include the installation of outdoor security lights or other outdoor lighting. As discussed above, under the Cannabis Program Update, Section 26-18-115(C)(1)(b) would require cannabis cultivation to have all lighting fully shielded and downward casting so that it does not spill over onto neighboring properties and for operations cultivating within structures, all light is to be fully contained so that little to no light escapes at a level that is visible from neighboring parcels. However, new lighting, if located within proximity to special-status wildlife, could cause nest abandonment or changes to mating behavior. Thus, this impact would be potentially significant for new development.

Construction of Event Facilities and Event Operations

Habitat potentially suitable for special-status wildlife occurs throughout the agriculture and resource districts, as discussed above for proposed allowable uses in agricultural and resources districts. Proposed allowable uses in agriculture and resource districts could include the installation of outdoor security lights, outdoor event lighting, or other outdoor lighting. As discussed above, while the Sonoma County General Plan provides guidance on outdoor lighting, there are no requirements provided in the Code other than for cultivation, as noted above. New lighting, if located within proximity to special-status wildlife, could cause nest abandonment or changes to mating behavior. Thus, this impact would be potentially significant for new development.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses supply chain uses, as well as accessory uses. While new cannabis uses could be located within existing buildings, new structures may be developed within the County.

Cannabis uses in these zones would also all need to comply with applicable Sonoma County Code provisions (reviewed directly above under "Effects of Nighttime Artificial Light on Special-Status Species"), which would help prevent impacts on special-status wildlife related to lighting impacts. Use of existing buildings and developed sites would not result in new lighting impacts. As discussed above, while the Sonoma County General Plan provides guidance on outdoor lighting, there are no requirements provided in the Code other than for cultivation, as noted above. Regardless, new lighting, if located within proximity to special-status wildlife, could cause nest abandonment or changes to mating behavior. Thus, this impact would be potentially significant for new development.

Periodic Event Operations for Cannabis

As discussed above in the general discussion, there would be no substantial effects on special-status wildlife and their habitat related to periodic event operations for cannabis. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial changes to artificial lighting. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update would have potentially significant impacts on special-status wildlife related to lighting impacts, mainly through adding outdoor security or event lighting. As discussed above, while the Sonoma County General Plan provides guidance on outdoor lighting, there are no requirements provided in the Code. New lighting, if located within proximity to special-status wildlife, could cause nest abandonment or changes to mating behavior. Thus, this impact would be **potentially significant** for new development.

Mitigation Measures

Mitigation Measure 3.4-2p (ZPC, UPC, DRH): Implement Mitigation Measure 3.1-4b

- ▶ Mitigation Measure 3.1-4b: (ZPC, UPC, DRH): Implement New Light and Glare Requirements

Significance after Mitigation

Implementation of Mitigation Measure 3.4-2p would apply to all future development and use within the County. These requirements would prevent spillover of light onto adjacent property, limit the types of materials that may be used on buildings and at cultivation sites that could create glare. With implementation of these mitigation measures, there would not be substantial new sources of light or glare associated with the proposed Program. Therefore, this impact would be reduced to **less than significant**.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

With implementation of 3.4-2p, outdoor lighting would be consistent with guidance provided in General Plan Policies OSRC-4a, OSRC-4b, and OSRC-4c. These mitigation measures would also be consistent with biological resource protection policies and mitigation measures of the Franz Valley Area Plan, Penngrove Area Plan, Petaluma Dairy Belt Area Plan, Sonoma Mountain Area Plan, South Santa Rosa Area Plan, and the West Petaluma Area Plan.

Effects of Operational Noise on Special-Status Wildlife

The Cannabis Program Update would include activities including cultivation, centralized processing, testing, manufacturing, retail activities, which could involve activities that cause operational noise including use of emergency generators and holding cannabis events. Generator sound can range from approximately 70 to 87 decibels (USFWS 2020b). Effects of anthropogenic noise on wildlife species is an issue that is complex and poorly understood. Anthropogenic noise can result in elevated stress levels in wildlife species, including the northern spotted owl (Hayward et al. 2011). Stress in wildlife species can cause reduced overall fitness and reduced reproductive success, which could have far-reaching consequences for special-status, ESA-listed, and CESA-listed species. Noise disturbance on marbled murrelets can lead to a behavioral response, which can draw the attention of predators (e.g., Steller's jay, common raven) to their cryptic nests (Hebert et al. 2006). Although there has been concern for listed species, such as northern spotted owl and marbled murrelet, other avian species are also likely adversely affected by anthropogenic noise. Operational noise including cannabis events (see Table 3.4-22 for sound levels) and generator use could lead to disturbance to or loss of northern spotted owl, marbled murrelet, or other special-status wildlife species, due to exposure of excessive project-generated sound.

Table 3.4-22 Typical Noise Source Levels for Special Events

Event Activity	Typical Noise Level (L ₅₀ dBA) at 50 feet
Amplified music	72
Amplified speech	70
Non-amplified (acoustic) music	67
300 guests in raised conversation with background music	71
200 guests in raised conversation with background music	68
100 guests in raised conversation with background music	60
Films—voices/music	64

Notes: dBA = A-weighted decibels.

Source: Compiled by Ascent in 2023.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures and site improvements could be constructed and operated for cultivation, wholesale nursery, centralized processing, and events. Accessory uses would be allowed, such as propagation, research and development, processing, manufacturing (carbon dioxide only), packaging and labeling, retail, and self-distribution. In addition, existing cultivation sites may be expanded to support additional areas of cultivation or may construct new buildings to support proposed allowable uses.

Operational noise from cannabis events, HVAC operation, and generator use related to the Program has the potential to negatively affect wildlife species, particularly special-status birds. Under the proposed Cannabis Program Update, all cannabis cultivation, including accessory uses to cultivation, would be required to comply with Section 26-18-115(C)(1)(d) which prohibits generator use except for emergency back-up use.

Marbled murrelet and northern spotted owl tend to occur in late successional forest habitat (i.e., large trees and a high degree of canopy cover – see Figure 3.4-13). As discussed in Section 3.4.2, “Environmental Setting,” the range of marbled murrelet overlaps the western edge of the Program area, but they typically occur in the greatest concentrations offshore in areas with intact old-growth forests in the Program area. Critical habitat for this species is present within the Program area occurs as one large area in the western portion of the Program area, mostly overlapping Austin Creek State Recreation Area, as well as in Armstrong Woods State Park, the latter of which contains old-growth redwood forest habitat (Figure 3.4-7). Northern spotted owl has documented occurrences heavily concentrated in the western portion of the Program area, but also has been identified along the eastern boundary of the Program area (CNDDDB 2024). Critical habitat is concentrated in the southeastern portion of the Program area, close to the Sonoma-Napa county line, with one area bordering the northern boundary of Sugarloaf State Park, another overlapping Hood Mountain Regional Park, and the third northeast of Sonoma, California (Figure 3.4-7). That is, while marbled murrelet and northern spotted owl occur with the Project Area, they require specific conditions that are not presented on most eligible parcel.

As discussed in detail in Section 3.12, “Noise and Vibration,” Noise sources associated with cannabis sites within agricultural and resources districts could include cannabis events and the use of refrigerated storage units with externally mounted air conditioning units and dehumidifiers to store fresh frozen commercial cannabis after harvest as well as HVAC equipment for typical building operations. Dehumidifiers and refrigerated noise sources would generate similar noise levels to HVAC equipment. Noise levels from HVAC equipment vary substantially depending on unit efficiency, size, and location but generally range from 60 to 70 dBA L_{eq} at 3 feet (Carrier 2022). Conservatively assuming HVAC equipment operates at a reference level of 70 dBA L_{eq} at 3 feet, noise from HVAC units would exceed County daytime noise standards (i.e., 50 dBA L_{eq}) and nighttime noise standards (i.e., 45 dBA L_{eq}) for noise-sensitive uses within 30 feet and 54 feet, respectively.

Additionally, emergency generator use may be necessary to support cannabis operations due to utility company blackouts to avoid wildfire condition, or other storm or emergency related conditions. As discussed above, a louder generator may emit 87 dBA. However, levels would decrease rapidly to approximately 60 dba with 35 feet in hard ground conditions. This level likely presents an increase to ambient noise of less than 25 dBA (i.e., baseline noise level of 35 dBA); thus, a level that would not likely disturb marbled murrelet and northern spotted owl. However, if a nest is present within 35 feet of an operating generator or if ambient noise levels are very low, individuals may be disturbed and potentially abandon a nest at a further distance. Thus, this impact would be potentially significant.

The reader is referred to Section 3.12, “Noise and Vibration,” for a further discussion of noise principles.

Applications Meeting Crop Swap Requirements

Because there would be no changes to the existing conditions (beyond change in crop type in an area already disturbed), activities associated with the implementation of a cannabis cultivation site under crop swap conditions would not substantially affect habitat that could support special-status wildlife compared to the existing conditions

(i.e., active cultivation). Because no substantial new noise sources would be associated with an application meeting crop swap requirements, this impact would be less than significant.

Construction of Event Facilities and Event Operations in Agricultural and Resources Districts

Habitat potentially suitable for special-status wildlife, including marbled murrelet and northern spotted owl occurs throughout the agriculture and resource districts, as discussed above under “Proposed Allowable Uses in Agricultural and Resources Districts.” Proposed allowable uses in agriculture and resource districts include hosting events, which could have the potential to adversely affect special-status wildlife, including marbled murrelet and northern spotted owl, as discussed above and identified in noise levels provided in Table 3.4-22. Thus, this impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses supply chain uses, as well as accessory uses. While new cannabis uses could be located within existing buildings, new structures may be developed within the County. Use of existing buildings and developed sites would not result in new noise impacts as uses would be contained within the buildings. As described above regarding northern spotted owl impacts, most of the industrial and commercial zoned areas are located outside of habitat areas and known occurrences of northern spotted owl (see Figure 3.4-6 and 3.4-13) and along highways in the county (e.g., US 101) where county-wide ambient noise conditions are higher due to traffic noise and land use activities. Thus, allowable uses in industrial and commercial district could adversely affect special-status wildlife, including marbled murrelet and northern spotted owl, as discussed above as some commercial sites are located in habitat areas. Thus, this impact would be potentially significant.

Periodic Event Operations for Cannabis

As discussed above in the general discussion, there would be no substantial effects on special-status wildlife and their habitat related to periodic event operations for cannabis. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial changes to operational noise levels. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update could result in disturbance or loss of special-status wildlife related to operational noise impacts, including northern spotted owl and marbled murrelet, all resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-2q (DRH or UPC): Implement Operational Noise Reduction Measures for Northern Spotted Owl and Marbled Murrelet

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that northern spotted owl or marbled murrelet habitat occurs within 0.25 mile of a proposed cannabis premises, the applicant shall demonstrate compliance (e.g., prepare a noise analysis) with the following standards for all operational noise-generating activities through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones.

- ▶ Project-generated sound must not exceed ambient nesting conditions (determined by a qualified biologist) by 20–25 A-weighted decibels (dBA).
- ▶ Project-generated sound, when added to existing ambient conditions, must not exceed 90 dBA.

Significance after Mitigation

Implementation of Mitigation Measures 3.4-2q would substantially reduce operational noise that could disturb northern spotted owl or marbled murrelet that may be present in identified late successional forest habitat. Because disturbance to these species would be avoided this impact would be **less than significant**.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

With implementation of Mitigation Measure 3.4-1a and 3.4-2a through 3.4-2q, the Cannabis Program Update would not result in disturbance to or loss of special-status wildlife species and habitat. These measures would require projects to conduct a biotic resources assessment to determine what biological impacts could potentially apply to the specific project site, which would be reviewed by the County. In addition, conducting protocol-level or pre-disturbance special-status wildlife surveys, conducting habitat assessments, and implementing avoidance buffers may be required, depending on site conditions generally consistent with County Code provisions (e.g., Chapter 26, Article 66, 67, and 88). This is consistent with General Plan Policy OSRC-7b which includes a required biotic resource assessment in some areas for discretionary projects and General Plan Natural Resource Land Use Policy goal of protecting natural resource lands including, but not limited to watershed, fish and wildlife habitat and biotic areas. Furthermore, this is consistent with General Plan Policy OSRC-7d which encourages property owners to minimize the use of outdoor lighting that could disrupt native wildlife movement activity. These mitigation measures would also be consistent with biological resource protection policies and mitigation measures of the Franz Valley Area Plan, Penngrove Area Plan, Petaluma Dairy Belt Area Plan, Sonoma Mountain Area Plan, South Santa Rosa Area Plan, and the West Petaluma Area Plan.

Impact 3.4-3: Result in Disturbance to or Loss of Special-Status Fisheries

Surface water diversions for cannabis cultivation sites that may occur under the Cannabis Program Update could adversely affect several special-status fish species. Special-status fish species are protected under the ESA, CESA, and other regulations. The alteration of surface water conditions that support special-status fish species would be a **less-than-significant** impact.

Twelve special-status fish species are known to occur in the Program Area: Chinook salmon (California coastal ESU), Coho salmon (central California ESU), green sturgeon (southern DPS), Gualala roach, hardhead, longfin smelt, northern coastal roach, Russian River tule perch, Sacramento splittail, steelhead (central California coast DPS), winter-run steelhead (northern California DPS), and tidewater goby. Critical habitat is present within the Program Area for Chinook salmon (California coastal ESU), Coho salmon (Central California coast ESU), green sturgeon (southern DPS), and steelhead (central California coast DPS) (Figure 3.4-7). Aquatic habitat for these species occurs in both the agricultural and resources districts as well as the industrial and commercial districts (see "Aquatic Habitats" under Section 3.4.2). The following special-status fish species may occur in the Program Area: Delta smelt, southern coastal roach, and tidewater goby. As shown in Table 3.10-8 (see Section 3.10, "Hydrology and Water Quality"), cannabis-related operations would have a total estimated annual demand of 500 acre-feet per year (excluding water demands from cannabis events), which could result in surface water flow impacts if surface water diversions are used. See Section 3.10, "Hydrology and Water Quality," for additional analysis, including potential changes to surface water flows and water quality.

Individual cannabis projects, approved through the Cannabis Program Update would have to comply with applicable provisions of the Sonoma County Code, including Chapter 11 (Construction Grading and Drainage), Article 14 (Standards), Section 11.14.090 (Setbacks for Lakes, Ponds, and Reservoirs) and Section 11.14.100 (Setbacks for Streams). These setbacks would help minimize impacts on special-status fisheries. In addition, projects would also have to comply with Sonoma County Code, Chapter 26 (Sonoma County Zoning Regulations), including Article 65 (RC Riparian Corridor Combining Zone) Section 26-65-030 (Prohibited Uses and Exceptions) which prohibits activities including grading, vegetation removal, agricultural cultivation, structures, and roads within any stream channel or streamside conservation area, which would also help protect special-status fisheries.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Cannabis cultivation is required to follow Best Management Practices Cannabis Cultivation, which has requirements regarding water use and storage and prohibits work in the riparian zone (Sonoma County Department of Agriculture n.d.-a). In addition, all permitted cannabis cultivation operations are required to comply with the numeric and narrative instream flow requirements for all diversions of surface water and groundwater as part of compliance with Attachment A (Section 3 – Numeric and Narrative Instream Flow Requirements) of SWRCB Order WQ 2023-0102-DWQ. These requirements include design requirements for fish screens, diversion structures, off-stream storage reservoirs, and storage bladders. The SWRCB Order WQ 2023-0102-DWQ only applies to cannabis cultivation uses and does not apply to supply chain uses not associated with cultivation (planting, growing, pruning, harvesting, drying, curing, or trimming of cannabis).

Diversion provisions of the standards are based on three types of requirements:

- ▶ dry season forbearance period and limitations on the wet season diversions,
- ▶ narrative instream flow requirements, and
- ▶ numeric instream flow requirements during the wet season.

Instream flow requirements during the wet season were established by SWRCB in consultation with CDFW for the protection of aquatic species life history needs, including those of endangered anadromous salmonids. Numeric instream flow requirements (minimum instream flows required to protect aquatic species) are established for each region in the state in Attachment A of SWRCB Order WQ 2023-0102-DWQ. Aquatic base flows have also been established to address instream flow impacts from groundwater diversions. The aquatic base flow is the set of chemical, physical, and biological conditions that represent limiting conditions for aquatic life in stream environments.

Surface water and groundwater diversions for cannabis cultivation operations are limited in the following manner:

- ▶ Surface water diversions shall be prohibited from April 1 through October 31 each year (forbearance period).
- ▶ Surface water diversions may occur from November 1 through March 31 each year subject to the following requirements:
 - Surface water diversions shall not occur until the real-time daily average flow is greater than the minimum monthly instream flow requirement at a compliance gage for 7 consecutive days or after December 15 when flows are greater than the numeric flow requirement.
 - Surface water diversions must bypass a minimum of 50 percent of the streamflow past the point of diversion as estimated based on the cannabis cultivator's visual observation.
- ▶ SWRCB shall monitor instream flows during the dry season and evaluate the number or location of groundwater diversions to determine whether a groundwater forbearance period or other measures should be imposed. SWRCB shall notify cannabis cultivators if a groundwater forbearance period or other measures may be imposed to address the low-flow condition.
- ▶ SWRCB flow standards and diversion requirements were developed to protect fish spawning, migration, and rearing for endangered anadromous salmonids, as well as flows needed to maintain natural flow variability in each watershed. The diversion requirements were set up to prevent the individual and cumulative effects of water diversions and discharges associated with cannabis cultivation from affecting instream flows necessary for fish

spawning, migration, and rearing for endangered anadromous salmonids, as well as flows needed to maintain natural flow variability (SWRCB 2017a). The policy was scientifically peer-reviewed by four experts. The peer review determined that water quality, instream flow, and diversion requirements of the policy were based on sound scientific knowledge, methods, and data (SWRCB 2017b).

The effectiveness of compliance with numeric flow standards, associated curtailment of water diversions during flow periods, and the use of water storage is supported by research conducted by the UC Berkeley Cannabis Research Center of 91 watersheds in Humboldt and Mendocino Counties. This research identified that permitted cannabis cultivation sites generated substantially less impact on watershed flow conditions than unlicensed cannabis cultivation sites, as well as residential uses, and consist of 1 to 4 percent of available surface water flows depending on the extent of water storage used. (Dillis et al. 2024)

Consistent with Attachment A of SWRCB Order WQ 2023-0102-DWQ, for any water diversion or waste discharge related to cannabis cultivation, Terms 1 through 14 (Requirements Related to Water Diversions and Waste Discharge for Cannabis Cultivation) shall apply, which include best management practices, including erosion control, cannabis cultivation-related waste disposal, refuse and human waste disposal, and stream-crossing installation and maintenance. It is acknowledged that SWRCB has identified the following Sonoma County watersheds as Cannabis Priority Watersheds because of water quality, low flow, and other related issues potentially associated with the operation of unpermitted cannabis cultivation sites in these watersheds:

- ▶ Mark West Creek (124,584 acres of Cannabis Program Area),
- ▶ Dry Creek (111,422 acres of Cannabis Program Area), and
- ▶ Kelsey Creek-Clear Lake (32 acres of Cannabis Program Area).

In addition, cannabis operations are required to comply with Term 3 (General Requirements and Prohibitions), which requires application for a LSA Agreement and the requirements therein, or consultation with CDFW for any activity that may substantially divert, obstruct, alter, or deposit into any river, stream, or lake. Furthermore, cultivation operations are required to comply with Term 63 of Attachment A (Requirements Related to Water Diversions and Waste Discharge for Cannabis Cultivation) of SWRCB Order WQ 2023-0102-DWQ, which requires no disturbance of aquatic or riparian habitat, such as pools, spawning sites, large wood, or shading vegetation unless authorized under proper permits (e.g., CDFW LSA Agreement), as well as Term 64 of Attachment A (Requirements Related to Water Diversions and Waste Discharge for Cannabis Cultivation), which requires maintaining riparian habitat.

The SWRCB Order WQ 2023-0102-DWQ, which applies only to cultivation uses, includes requirements related to water supply, diversion, and storage, which includes prohibition of surface water diversions unless diverted in accordance with an existing water right as well as numeric and narrative instream flow requirements when water is allowed to be diverted. Cannabis cultivation would be required to follow best management practices for cannabis cultivation (see Chapter 2, "Project Description"). Cannabis cultivation operations also would be subject to CCR, Title 4, Section 15011(a)(11), which requires applicants for licensure to provide evidence that their proposed cannabis cultivation site is not located in whole or in part in a watershed or other geographic area that SWRCB or CDFW has determined to be significantly adversely affected by cannabis cultivation pursuant to Section 26060(a)(2) of the Business and Professions Code. For the reasons discussed above, this impact would be less than significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. If groundwater is used, there could be no net increase in water use. Any surface water diversion would require an appropriative water right and a Lake and Streambed Alteration Agreement, with a maximum of 100,000 gallons of new storage. Because operation of the site would be limited to the existing boundaries of active cultivation, there would be no changes to the existing conditions (beyond change in crop type). Therefore, impacts on special-status fish species for crop swap would be less than significant.

Construction of Event Facilities and Event Operations

For the reasons described above under, "Proposed Allowable Uses in Agricultural and Resources Districts," this impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Changes to use type of business (i.e., operation of a cannabis use rather than other types of industrial or commercial uses) at existing buildings would not result in a significant impact because operations would generally be the same at the individual site (e.g., traffic from workers, deliveries, and customers associated with business operations).

Proposed allowable uses in industrial and commercial districts that would involve new construction and site development uses would rely either on well water or existing retail/municipal supplies and would not substantially alter surface water flow conditions such that there would be significant adverse effect on special-status fish. This impact would be less than significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on special-status fisheries. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update likely would not result in impacts on special-status fisheries, all resulting in a **less than significant** impact.

Mitigation Measures

No mitigation required.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

As discussed above, implementation of State and County regulations, mainly pertaining to protection of streams, would ensure that disturbance to or loss of special-status fisheries is less than significant. This is consistent with General Plan Policy OSRC-8e, which prohibits certain activities in streamside conservation areas. This is also consistent with General Plan, Sonoma County Airport Industrial Area Specific Plan, Bennett Valley Area Plan, Franz Area Plan, Penngrove Area Plan, Petaluma Area Plan, Sonoma Mountain Area Plan, South Santa Rosa Area Plan, and West Petaluma Area Plan policy provisions of protecting natural resource lands including, but not limited to watershed, fish and wildlife habitat and biotic areas.

Impact 3.4-4: Result in Disturbance to or Loss of Sensitive Natural Communities, Riparian Habitat, Old-Growth Habitat, or Other Sensitive Habitats

Potential land use conversion and development that may occur from cannabis cultivation sites, associated processing and ancillary operations, and all other cannabis-related activities under the Program Update operations could adversely affect riparian habitat, old-growth habitat, and other sensitive natural communities if they are present on the site. Development-related disturbance activities, including ground disturbance, old-growth habitat removal, removal of riparian vegetation, or disturbance of stream and river habitat, would be a **potentially significant** impact.

There are 23 sensitive natural communities and other sensitive habitats known to occur (which there is mapping for) within the Program Area in both the both the agricultural and resources districts as well as the industrial and commercial districts (Table 3.4-17). For sensitive natural communities in particular, there are seventy-one that could potentially be present within the Program Area, 16 of which are known to occur, and 56 have potential to occur. Additionally, there are 15 legacy sensitive natural communities that potentially occur within the Program Area,

including eight terrestrial plant communities, including Mendocino pygmy cypress forest and northern hardpan vernal pool. As noted in Section 3.4.2 in “Late Successional Forest” and “Sensitive Natural Communities and Other Sensitive Habitats,” sensitive natural communities, riparian habitat, old-growth habitat, and other sensitive habitats are present in both the agricultural and resources districts as well as the industrial and commercial districts. See “Late Successional Forest” and “Sensitive Natural Communities and Other Sensitive Habitats” under Section 3.4.2, “Environmental Setting,” for more detail. Riparian habitat in the County can be found adjacent to aquatic habitat such as streams, rivers, and large creeks, including near the Russian River, Gualala River, Dry Creek, and Mark West Creek, and their tributaries. Old-growth forest habitat occurs throughout the County (Figure 3.4-6). Old-growth and late-successional forests include features such as very large trees, large snags, complex canopy structure (i.e., understory, midstory, overstory), and coarse woody debris (e.g., large logs) on the forest floor—all features that provide unique habitat for many wildlife species. Many special-status wildlife species, including northern spotted owl, marbled murrelet, and Sonoma tree vole, use old-growth forest habitat for nesting and movement corridors. In addition, there is also a substantial amount of oak woodland in the Program Area, in both the agricultural and resources districts as well as the industrial and commercial districts, comprising blue oak, blue oak-foothill pine, coastal oak, and valley oak woodland. Cultivation or supply chain cannabis operations under the Program may include construction, grading, vegetation removal, and other ground-disturbance, which could result in the direct loss of sensitive natural communities, riparian habitat, old-growth habitat, and other sensitive habitats if they are present.

Individual cannabis projects approved through the Cannabis Program Update would have to comply with applicable provisions of the Sonoma County Code, including Chapter 11 (Construction Grading and Drainage), Article 14 (Standards), Section 11.14.090 (Setbacks for Lakes, Ponds, and Reservoirs), Section 11.14.100 (Setbacks for Streams), and Section 11.14.110 (Setbacks for Wetlands). Although the setbacks described in these provisions would help protect some sensitive natural communities and other sensitive habitats that grow within these setbacks, sensitive natural communities and other sensitive habitats occur outside of these setbacks throughout the Program Area. In addition, projects would also have to comply with Sonoma County Code, Chapter 26 (Sonoma County Zoning Regulations), including Article 65 (RC Riparian Corridor Combining Zone) Section 26-65-030 (Prohibited Uses and Exceptions) which prohibits activities including grading, vegetation removal, agricultural cultivation, structures, and roads within any stream channel or streamside conservation area. Although, the RC Riparian Corridor Combining Zone only puts limits on agricultural activities within those setbacks. In addition, the RC Riparian Corridor Combining Zone only covers approximately 74 percent of riparian areas mapped in the Program Area. Riparian habitat mapped within the Program Area that is not covered by the RC Riparian Corridor Combining Zone includes land from both the agricultural and resources districts as well as the industrial and commercial districts. Although Article 65 (RC Riparian Corridor Combining Zone) Section 26-65-030 (Prohibited Uses and Exceptions) would protect sensitive natural communities and riparian habitat within the RC Riparian Corridor Combining Zone, some sensitive natural communities and other sensitive habitats occur outside of this zone, including riparian habitat mapped in the Program Area, and therefore impacts would still remain. Individual projects would also have to comply with Article 66 (BH Biotic Habitat Combining Zone) Section 26-66-020 (Standards for Biotic Habitats), which requires proposed structures to be set back a minimum of 50 feet from the edge of any wetland within a designated biotic habitat area. This would protect sensitive natural communities and other sensitive habitats within these setbacks, though there is an exception for existing farm structures, which may be expanded or modified (provided that the expansion or modification shall not encroach further into any wetland), so in some cases this setback would not be as protective. In addition, sensitive natural communities and other sensitive habitats occur outside of this setback in the Program Area and designated biotic habitat areas only constitute approximately 3.2 percent of the Program Area as a whole, so impacts on sensitive natural communities and other sensitive habitats would still remain. Individual projects would also have to comply with Article 67 (OAK Oak Woodland Combining District and VOH Valley Oak Habitat Combining District) Section 26-67-020 (Applicability), which prohibits impacts including type conversion to oak woodlands to the entirety of each parcel that intersects the Valley Oak Habitat combining zone and the entirety of each parcel containing at least 0.5 acre of the Oak Woodland combining district, though one-time limited conversion up to 0.5 acres may be allowed with a zoning permit. This would help protect some oak woodland, though because some type conversion is still allowed, impacts could still remain for oak woodlands. In addition, the Valley Oak Habitat Combining District covers a small portion of the designated habitat compared to what is mapped in the Program

Area making up only approximately 15 percent of valley oak woodland mapped in the Program Area (constituting about the same in agricultural and resources districts and approximately 78 percent in industrial and commercial districts). Furthermore, individual projects would also need to comply with Article 88 (General Exceptions and Special Use Standards) Section 26-88-015 (Tree Protection Ordinance) which require certain types permits to be acquired depending on the tree species and location of the tree removal, though this does not prevent trees from being removed, so impacts on sensitive natural communities and other sensitive habitats would still remain.

Individual projects would also need to comply with state requirements, which includes protection for oak woodlands. Oak woodlands are considered under the state Oak Woodlands Conservation Act, which requires the County to determine whether proposed disturbance would result in conversion of oak woodlands that would have a significant adverse effect on the environment. Although, oak woodlands can still be removed if certain mitigation is applied including the purchase of conservation easements, contributing to conservation fund, or planting of oaks, though there is no requirement to have plantings occur within the project site. Since the mitigation required through the act mostly concentrates on off-site mitigation and it is unclear what type of mitigation would be required, mitigation is proposed below that focuses on avoiding impacts on the project site.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements).

Cannabis related activities would all need to comply with Sonoma County Code provisions, which include those outlined above, which would help prevent some impacts on sensitive natural communities and other sensitive habitats, particularly within protective buffers for wetlands and other waters. Discretionary cannabis projects would also need to comply with Chapter 26 (Sonoma County Zone Regulations), Article 66 (BH Biotic Habitat Combining Zone), Section 26-66-020 (Standards for Biotic Habitats), which requires a biotic resource assessment for discretionary projects that could adversely impact a designated critical habitat area. This would help protect sensitive natural communities and other sensitive habitats being affected by discretionary projects within critical habitat areas. Although, USFWS critical habitat only constitutes approximately 5.4 percent of the Program Area. NOAA Fisheries designated critical habitat is provided in mileage, of which there is minimal habitat (i.e., approximately 1,052 miles) designated compared to the entire Program Area. In addition, biotic habitat areas only constitute approximately 3.3 percent of the agricultural and resources districts within the Program Area and mitigation proposed in the assessment is not known at this time. Therefore, impacts on sensitive natural communities and other sensitive habitats would still remain.

The proposed Cannabis Program Update also includes the proposed Section 26-18-020 (Agricultural Crop Production and Cultivation) which would require cannabis cultivation to comply with parts of Sonoma County Code Chapter 36 (New Vineyard and Orchard Development, Vineyard and Orchard Replanting, and Agricultural Grading and Drainage), including Article 20 (Standards). This would include compliance with Section 36.20.060 (Removal of Trees and Other Vegetation), which would require cannabis cultivation and related activities to only remove or disturb trees or other vegetation using *Best Management Practices and Technical Report Guidelines for New VESCO* (Sonoma County Department of Agriculture n.d.-b). The *Best Management Practices and Technical Report Guidelines for New VESCO* mainly focuses on tree removal, but also has guidance for other vegetation removal. All vegetation that is to be preserved outside of the development area must be identified and protected from damage by marking, fencing, or other measures. Although this would help protect some sensitive natural communities and other sensitive habitats, under these best management practices, vegetation from sensitive natural communities and other sensitive habitats may still be removed. In addition, tree removal is only permitted April 1st through October 15th. Moreover, Sections 36.20.090 (Setbacks for Lakes, Ponds, and Reservoirs), 36.20.110 (Setbacks for Streams), and 36.20.120 (Setbacks for Wetlands), have certain setback requirements for lakes, ponds, reservoirs, streams, and wetlands, which range from 25 feet to 100 feet, and in some cases are more restrictive, depending on the zoning code. Although these setbacks

would help protect some sensitive natural communities and other sensitive habitats that grow within these setbacks, sensitive natural communities and other sensitive habitats occur outside of these setbacks throughout the Program Area and therefore the potential for impacts would still remain.

Cannabis cultivation and accessory use projects would be required to comply with the Best Management Cannabis Cultivation (Sonoma County Department of Agriculture n.d.-a), which contain best management practices to address potential impacts in riparian zones, which is a sensitive habitat itself and could also contain other sensitive natural communities. Best Management Cannabis Cultivation, as described in Section 3.4.1, "Regulatory Setting," direct projects to apply riparian setbacks for agricultural areas already required by the code (and reviewed above) and prohibits vegetation removal, staging, and other activities within these designated riparian corridors. In addition, projects must leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter and avoid soil disturbance between November 1 and April 15. Although, impacts would still remain for sensitive natural communities and other sensitive habitats that occur outside of the designated riparian zone. Furthermore, projects will need to comply with the Sonoma County General Plan, including Policy OSRC-7b which has certain requirements including requiring a site assessment and adequate mitigation in designated biotic habitat areas. Although, since these only cover a minimal amount of the Program Area and only apply to discretionary cannabis projects, impacts on sensitive natural communities and other sensitive habitats would still remain. In addition, mitigation is required for these site assessments, which is provided below.

The project would also be required to comply with Term 10 of Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ, which requires that sensitive habitats be avoided and buffers be established in consultation with CDFW and CAL FIRE. Additionally, Term 10 of Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ requires site evaluations by a qualified biologist to determine whether sensitive habitats occur on the site before development or site expansion. Cannabis operations are required to comply with Attachment A of SWRCB Order WQ 2023-0102-DWQ Term 37 (Section 1, General Requirements and Prohibitions), which requires setback areas from the edge of surface water of at least 50 feet, dependent upon the type of stream (e.g., ephemeral, perennial), and requires water quality control measures. In addition, cannabis operations are required to comply with Term 3 (Section 1, General Requirements and Prohibitions), which requires application for a LSA Agreement and the requirements therein, or consultation with CDFW for any activity that may substantially divert, obstruct, alter, or deposit into any river, stream, or lake. Furthermore, cannabis operations are required to comply with Term 63 of Attachment A (Section 2, Requirements Related to Water Diversions and Waste Discharge for Cannabis Cultivation) of SWRCB Order WQ 2023-0102-DWQ, which requires no disturbance of aquatic or riparian habitat, such as pools, spawning sites, large wood, or shading vegetation unless authorized under proper permits (e.g., CDFW LSA Agreement), as well as Term 64 of Attachment A (Section 2, Requirements Related to Water Diversions and Waste Discharge for Cannabis Cultivation), which requires maintaining riparian habitat. However, these setbacks may not always capture all riparian habitat present. Streams supporting riparian and wetland vegetation are regulated by CDFW under section 1600 et seq. of the Fish and Game Code, which provides for the protection of fish, wildlife, and native plant resources. Additionally, although Term 37 in Attachment A (Section 1, General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ requires setback areas from the edge of surface water up to 150 feet, dependent upon the type of stream (e.g., ephemeral, perennial), these setbacks may not always capture all riparian habitat present. Similarly, Terms 63 and 64 of Attachment A (Section 2, Requirements Related to Water Diversions and Waste Discharge for Cannabis Cultivation) of SWRCB Order WQ 2023-0102-DWQ require no disturbance of riparian habitat and retention of riparian vegetation in aquatic habitat. However, riparian habitat has not been mapped within much of the Program Area, and without mapping the vegetation on-site, some riparian vegetation may still be damaged or removed.

Sensitive natural communities and other sensitive habitats occurs or potentially could occur throughout the agriculture and resource districts (see Section 3.4.2, "Land Cover Types," "Late Successional Forest," and "Sensitive Natural Communities and Other Sensitive Habitats"). Proposed allowable uses in agriculture and resource districts could include construction, grading, other ground disturbance, and vegetation removal. All of these allowable uses have the potential to have significant impacts on sensitive natural communities and other sensitive habitats either by direct loss including type conversion of sensitive natural communities and other sensitive habitats. Sensitive natural communities and other sensitive habitats can be adversely affected by trampling or direct removal of sensitive natural

communities and other sensitive habitats, as well as by being type converted or degraded due to the introduction of invasive species. Impacts include impacts on riparian habitat that occurs outside of the RC Riparian Corridor Combining Zone for supply chain activities. Thus, this impact would be **potentially significant**.

Applications Meeting Crop Swap Requirements

Analysis for the northwestern pond turtle impact above under “Applications Meeting Crop Swap Requirements” applies to sensitive natural communities and other sensitive habitats for crop swap. Therefore, the impact on sensitive natural communities and other sensitive habitats for crop swap is less than significant.

Construction of Event Facilities and Event Operations

Sensitive natural communities and other sensitive habitats occurs or potentially could occur throughout the agriculture and resource districts, as discussed above under “Proposed Allowable Uses in Agricultural and Resources Districts.” Proposed allowable uses in agriculture and resource districts could include construction, installation of cannabis event facilities, grading, vegetation removal, or other ground disturbance. All of these allowable uses have the potential to have significant impacts on sensitive natural communities and other sensitive habitats, as discussed above. Thus, this impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses supply chain uses, as well as accessory uses. While new cannabis uses could be located within existing buildings, new structures may be developed within the County.

Cannabis uses in these zones would also all need to comply with applicable Sonoma County Code provisions (reviewed in the general discussion of the impact above, discussing all districts), which would help prevent some impacts on sensitive natural communities and other sensitive habitats, particularly within protective buffers for wetlands and other waters, for construction, grading, and agriculture activities. Although, impacts on sensitive natural communities and other sensitive habitats would still remain. For the reasons described above under “Proposed Allowable Uses in Agricultural and Resources Districts,” development and operation of cannabis facilities could result in project-related loss of sensitive natural communities and other sensitive habitats. Although substantially less than agriculture and resource districts, habitat potentially suitable for sensitive natural communities and other sensitive habitats occurs within the industrial and commercial districts (see Section 3.4.2, “Land Cover Types” and “Aquatic Habitats”). Use of existing buildings and developed sites would not result in impacts. Proposed allowable uses in industrial and commercial districts that would involve new construction and site development could result in impacts. For the reasons described above, this impact would be potentially significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County’s existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on sensitive natural communities. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update could result in trampling or removal of sensitive natural communities and other sensitive habitat, as well as exclusion from their habitat due to the introduction of invasive species, all resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-1c (DRH or UPC): Implement Measures to Avoid Introduction or Spread of Invasive Plant and Wildlife Species

Mitigation Measure 3.4-4 (DRH or UPC): Identify, Avoid, and Protect Sensitive Natural Communities, Riparian Habitat, Old-Growth Habitat, or Other Sensitive Habitats or Provide Compensation

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that sensitive natural communities, riparian habitat, old-growth habitat, or other sensitive habitats are present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ The qualified biologist shall perform a protocol-level survey following the CDFW *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (current version dated March 20, 2018) of the site before the start of new disturbance related to cannabis activities. Sensitive natural communities shall be identified using the best means possible, including keying them out using the most current edition of *A Manual of California Vegetation* (including updated natural communities data at <http://vegetation.cnps.org/>) or referring to relevant reports (e.g., reports found on the VegCAMP website).
- ▶ All sensitive habitat areas identified in the biotic resources assessment under Mitigation Measure 3.4-1a shall be flagged or fenced with brightly visible construction flagging and/or fencing under the direction of the qualified biologist before disturbance activities begin, along with the appropriate buffer size. The buffer size shall be determined by the qualified biologist (such that the sensitive habitat is protected from direct and indirect impacts) .. In addition, no vegetation removal shall occur in these areas. Foot traffic by project personnel shall also be prohibited in these areas to prevent the introduction of invasive or weedy species. Periodic inspections during disturbance activities shall be conducted by the monitoring biologist to maintain the integrity of exclusion fencing/flagging during ground-disturbing activities.
- ▶ If the biotic resource assessment report prepared under Mitigation Measure 3.4-1a documents that site disturbance would affect the bed, bank, channel, or associated riparian habitat subject to CDFW jurisdiction under Fish and Game Code Section 1602, a Streambed Alteration Notification shall be submitted to CDFW, pursuant to section 1600 et seq. of the Fish and Game Code. If proposed activities are determined to be subject to CDFW jurisdiction, the applicant shall abide by the conditions of any executed agreement before any ground disturbance.
- ▶ Old-growth habitat identified shall be avoided. Applications proposing to alter old-growth habitat shall be denied. "Old-growth habitat alteration" is defined as any human caused tree removal, change in canopy cover, removal of understory vegetation, or impact to the root systems of a tree within old-growth habitat that occurs as a result of disturbance activities, direct or indirect.
- ▶ In consultation with the County and CDFW, applicants shall compensate for permanent loss of riparian habitat at a minimum of a 2:1 ratio through contributions to a CDFW-approved wetland mitigation bank or through the development and implementation of a Compensatory Stream and Riparian Mitigation and Monitoring Plan for creating or restoring in-kind habitat in the surrounding area. If mitigation credits are not available, stream and riparian habitat compensation shall include establishment of riparian vegetation on currently unvegetated bank portions of streams affected by the project and enhancement of riparian habitat through removal of nonnative species, where appropriate, and planting of additional native riparian plants to increase the cover, continuity, and width of the riparian corridor along streams in the site and surrounding areas.
- ▶ The Compensatory Stream and Riparian Mitigation and Monitoring Plan shall identify:

- compensatory mitigation sites and criteria for selecting these mitigation sites;
- in-kind reference habitats for comparison with compensatory riparian habitats (using performance and success criteria) to document success;
- monitoring protocol, including schedule and annual sensitive habitat report requirements (compensatory habitat shall be monitored for a minimum of 5 years from completion of mitigation, or human intervention [including recontouring and grading], or until the success criteria identified in the approved mitigation plan have been met, whichever is longer);
- ecological performance standards, based on the best available science and including specifications for native riparian plant densities, species composition, amount of dead woody vegetation gaps and bare ground, and survivorship; at a minimum, compensatory mitigation planting sites must achieve 80-percent survival of planted riparian trees and shrubs by the end of the 5-year maintenance and monitoring period, or dead and dying trees shall be replaced and monitoring continued until 80-percent survivorship is achieved;
- corrective measures if performance standards are not met;
- responsible parties for monitoring and preparing sensitive habitat reports; and
- responsible parties for receiving and reviewing sensitive habitat reports and for verifying success or prescribing implementation or corrective actions.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1a, which consists of a qualified biologist developing a biotic resource assessment report for the site, would apply to this impact and would determine whether there is potential for the sensitive natural communities to be present. In addition, implementing Mitigation Measure 3.4-4 would reduce significant impacts on sensitive natural communities, riparian habitat, and other sensitive habitats to a **less-than-significant** level because it would require applicants to identify and avoid sensitive resources or provide compensation for the loss of riparian habitat through mitigation banks and a Compensatory Stream and Riparian Mitigation and Monitoring Plan, which can include enhancement of existing populations, creation and management of off-site populations, conservation easements, or other appropriate measures. These mitigation measures are consistent with the requirements of Attachment A (Section 1, General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ and Sonoma County codes, including area plans. In addition, implementing Mitigation Measure 3.4-1c would help prevent the spread of invasive plant species, which could cause type conversion or compete with individuals within those sensitive natural communities or other sensitive habitats.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

With implementation of Mitigation Measure 3.4-1a and 3.4-4, the Cannabis Program Update would not result in disturbance to or loss of sensitive natural communities, riparian habitat, old-growth habitat, or other sensitive habitats generally consistent with County Code provisions (e.g., Chapter 26, Article 66, 67, and 88). These measures would require projects to conduct a biotic resources assessment to determine what biological impacts could potentially apply to the specific project site, which would be reviewed by the County. In addition, conducting protocol-level surveys for these sensitive habitats and implementing avoidance buffers may be required, depending on site conditions. This is consistent with General Plan Policy OSRC-7b which includes a required biotic resource assessment in some areas for discretionary projects, as well as General Plan, Sonoma County Airport Industrial Area Specific Plan, Bennett Valley Area Plan, Franz Area Plan, Penngrove Area Plan, Petaluma Area Plan, Sonoma Mountain Area Plan, South Santa Rosa Area Plan, and West Petaluma Area Plan policy provisions of protecting sensitive habitat areas.

Impact 3.4-5: Result in Disturbance to or Loss of State or Federally Protected Wetlands and Other Waters

Potential land use conversion and development in agricultural and resources districts and industrial and commercial districts from potential expansion of existing sites and newly permitted cannabis sites, associated processing and ancillary operations, and all other cannabis-related activities under the Program could adversely affect state or federally protected wetlands and other waters, such as streams, rivers, and lakes. This impact would be **potentially significant**.

The Program Area contains aquatic communities in both agricultural and resources districts and industrial and commercial districts (see “Aquatic Habitats” under Section 3.4-2). Aquatic communities include major rivers and creeks (e.g., Russian River, Gualala River, Mark West Creek, and Dry Creek) and their tributaries, lakes, ponds, and associated wetland habitat (Table 3.4-9 and Table 3.4-10). Many of these features likely qualify as state or federally protected wetlands or other waters or are both state and federally protected. New cannabis cultivation, expansion of existing sites, centralized processing, retail activities, manufacturing, and all other cannabis-related activities (i.e., cultivation or supply chain) under the Program may include ground disturbance, vegetation removal, and grading, which could result in the direct loss of state or federally protected wetlands or other waters if they are present, which are both within agricultural and resources districts and industrial and commercial districts in the Program Area.

Individual cannabis projects approved through the Cannabis Program Update would have to comply with applicable provisions of the Sonoma County Code, including Chapter 11 (Construction Grading and Drainage), Article 14 (Standards), Section 11.14.090 (Setbacks for Lakes, Ponds, and Reservoirs; 50 feet setback), Section 11.14.100 (Setbacks for Streams; 25 feet setback), and Section 11.14.110 (Setbacks for Wetlands; 50 to 100 foot setbacks). Although, there are exceptions to these setback requirement for activities including construction drainage. So, although the setbacks described in these provisions would help protect impacts on some wetland and other waters that occur within these setbacks, some impacts on wetlands could potentially occur due to site conditions, and may require more than a 100-foot buffer to avoid impacts. In addition, without requiring a delineation of wetlands and other waters buffers may not be implemented properly and exceptions to these codes for construction drainage could lead to impacts on wetlands and other waters. In addition, projects would also have to comply with Sonoma County Code, Chapter 26 (Sonoma County Zoning Regulations), including Article 65 (RC Riparian Corridor Combining Zone) Section 26-65-030 (Prohibited Uses and Exceptions) which prohibits activities including grading, vegetation removal, agricultural cultivation, structures, and roads within any stream channel or streamside conservation area, though exceptions include for drainage, in some situations. Although this would usually protect wetlands and other waters within the RC Riparian Corridor Combining Zone, exceptions to the code for drainage could potentially lead to impacts of wetlands and other waters. In addition, wetlands occur outside of this zone, and therefore impacts would still remain on wetlands. Individual projects would also have to comply with Article 66 (BH Biotic Habitat Combining Zone) Section 26-66-020 (Standards for Biotic Habitats), which requires proposed structures to be set back a minimum of 50 feet from the edge of any wetland within a designated biotic habitat area. This would protect wetlands within these setbacks, depending on site conditions (as noted above in this paragraph) though there is an exception for existing farm structures, which may be expanded or modified (provided that the expansion or modification shall not encroach further into any wetland), so in some cases this setback would not be as protective. In addition, designated biotic habitat areas only constitute approximately 3.2 percent of the Program Area as a whole, so impacts on wetlands and other waters would still remain.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements).

Cannabis related activities would all need to comply with Sonoma County Code provisions, which include those outlined above, which would help prevent some impacts on wetlands and all impacts on other waters, particularly within protective buffers for wetlands and other waters. Although, impacts on wetlands may remain, depending on site conditions. Discretionary cannabis projects would also need to comply with Chapter 26 (Sonoma County Zone Regulations), Article 66 (BH Biotic Habitat Combining Zone), Section 26-66-020 (Standards for Biotic Habitats), which requires a biotic resource assessment for discretionary projects that could adversely affect a designated critical habitat area. This would help protect wetlands and other waters being affected by discretionary projects that happen to be within critical habitat areas. Although, USFWS critical habitat only constitutes approximately 5.4 percent of the Program Area. NOAA Fisheries designated critical habitat is provided in mileage, of which there is minimal habitat (i.e., approximately 1,052 miles) designated compared to the entire Program Area. In addition, biotic habitat areas only constitute approximately 3.3 percent of the agricultural and resources districts within the Program Area. Therefore, impacts on wetlands would still remain.

The proposed Cannabis Program Update also includes the proposed Section 26-18-020 (Agricultural Crop Production and Cultivation) which would require cannabis cultivation to comply with parts of Sonoma County Code Chapter 36 (New Vineyard and Orchard Development, Vineyard and Orchard Replanting, and Agricultural Grading and Drainage), including Article 20 (Standards). This would include compliance Sections 36.20.090 (Setbacks for Lakes, Ponds, and Reservoirs), 36.20.110 (Setbacks for Streams), and 36.20.120 (Setbacks for Wetlands), which have certain setback requirements for lakes, ponds, reservoirs, streams, and wetlands, which range from 25 feet to 100 feet, and in some cases are more restrictive, depending on the zoning code. Although these setbacks would help protect some wetlands that grow within these setbacks, depending on site conditions, impacts on wetlands could still remain. In addition, without requiring a delineation of wetlands and other waters, buffers may not be implemented properly.

For cultivation activities in these riparian corridor setbacks, compliance with guidelines in *Best Management Practices Cannabis Cultivation* is required by the Sonoma County Department of Agriculture, which prohibits the following activities: removal of vegetation; storage of equipment, vehicles, or other materials, and composting (Sonoma County Department of Agriculture n.d.-a). In addition, all cannabis cultivation would be required to meet the requirements of Attachment A (Section 1, General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ under Terms 1, 10, and 37 regarding setbacks and other protection measures for all water features and a required site visit for any future site expansion activities. In addition, cannabis operations are required to comply with Term 3 (General Requirements and Prohibitions), which requires application for a LSA Agreement and the requirements therein, or consultation with CDFW for any activity that may substantially divert, obstruct, alter, or deposit into any river, stream, or lake (in compliance with Fish and Game Code Section 1602). Term 10 of Attachment A (Section 1, General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ requires site evaluations by a qualified biologist to determine whether sensitive communities occur on the site before development or site expansion. Because the SWRCB Order WQ 2023-0102-DWQ is intended to apply statewide, project specifics (e.g., bloom dates for potential wetland plants, locations of wetlands, quality of wetlands) were not considered. In addition, Term 37 of Attachment A (Section 1, General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102 requires delineation of wetlands and other waters using the *US Army Corps of Engineers Wetlands Delineation Manual* and 100-foot riparian setbacks for any wetlands or other waters delineated. There may be instances in which wetlands or other waters identified will not receive sufficient protection from the 100-foot setback due to conditions such as topography or quality of wetland (e.g., habitat suitable for endangered species). It is important to note that SWRCB Order WQ 2023-0102-DWQ only applies to cannabis cultivation uses and not other types of cannabis facilities.

Wetlands and other waters occur or potentially could occur throughout the agriculture and resource districts (see Section 3.4.2, "Land Cover Types" and "Aquatic Habitats"). Proposed allowable uses in agriculture and resource districts could include construction, installation of event facilities such as tents or other activities that could involve trampling, grading, other ground disturbance, and vegetation removal. All of these allowable uses have the potential to have significant impacts on wetlands either by impacting hydrology of wetland and other waters, potentially removing water from wetlands and other waters, as well as by being type converted or degraded due to the introduction of invasive species. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Analysis for Impact 3.4-4 under “Applications Meeting Crop Swap Requirements” related to crop swap applies to this impact. Therefore, the impact on wetlands and other waters for crop swap is less than significant.

Construction of Event Facilities and Event Operations

Wetlands and other waters occur or potentially could occur throughout the agriculture and resource districts, as discussed above under “Proposed Allowable Uses in Agricultural and Resources Districts.” Proposed allowable uses in agriculture and resource districts could include construction, installation of cannabis event facilities, grading, vegetation removal, or other ground disturbance. All of these allowable uses have the potential to have significant impacts on wetlands and other waters, as discussed above. Thus, this impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses supply chain uses, as well as accessory uses. While new cannabis uses could be located within existing buildings, new structures may be developed within the County.

Cannabis uses in these zones would also all need to comply with applicable Sonoma County Code provisions (reviewed in the general discussion of the impact above, discussing all districts), which would help prevent some impacts on wetlands and other waters, particularly within protective buffers for wetlands and other waters, for construction, grading, and agriculture activities. Although, impacts on wetlands and other waters could still remain. For the reasons described above under “Proposed Allowable Uses in Agricultural and Resources Districts,” development and operation of cannabis facilities could result in project-related loss of wetlands and other waters. Although substantially less than agriculture and resource districts, wetlands and other waters occurs or has potential to occur within the industrial and commercial districts (see Section 3.4.2, “Land Cover Types” and “Aquatic Habitats”). Use of existing buildings and developed sites would not result in impacts. Proposed allowable uses in industrial and commercial districts that would involve new construction and site development could result in impacts. For the reasons described above, this impact would be potentially significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County’s existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on wetlands and other waters. This impact would be less than significant.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update could result in impacts on wetlands and other waters, including hydrology impacts as well as type conversion or degraded processes due to the introduction of invasive species, all resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-1c (DRH or UPC): Implement Measures to Avoid Introduction or Spread of Invasive Plant and Wildlife Species

Mitigation Measure 3.4-5 (DRH or UPC): Identify State or Federally Protected Wetlands and Other Waters and Avoid These Features

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that state and federally protected wetlands or other waters are present or potentially present on the project site, Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ The application shall include a summary of sensitive resources, including wetlands, streams, and rivers, that were identified during the biotic resource assessment survey conducted under Mitigation Measure 3.4-1a. State and federally protected wetlands or other waters are of special concern to resource agencies and are afforded specific consideration, based on Section 404 and Section 401 of the CWA, the Porter-Cologne Water Quality Control Act, and other applicable regulations.
- ▶ If the biotic resource assessment report documents that state or federally protected wetlands or other waters are present, a delineation of these resources shall be prepared by a qualified biologist. The delineation shall be submitted to the County and the RWQCB.

If, based on the delineation, it is determined that fill of any state or federally protected wetlands would result from implementation of the project, then the applicant shall modify the proposed project to avoid these resources by providing a buffer of at least 100 feet around these features. Depending on site features, a buffer of greater than 100 feet may be required. Buffer size shall be determined in consultation with CDFW and RWQCB.

- ▶ If the project cannot be redesigned to avoid all federally protected wetlands and other waters, then the application shall be denied.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1a, which consists of a qualified biologist developing a biotic resource assessment report for the site, would apply to this impact and would determine whether there is potential for state or federally protected wetlands or other waters to be present. In addition, implementing Mitigation Measure 3.4-5 would reduce impacts on state or federally protected wetlands or other waters to a **less-than-significant** level because it would require the proposed projects to avoid these features and provide a protective buffer. In addition, implementing Mitigation Measure 3.4-1c would help prevent the spread of invasive plant species, which could cause type conversion or compete with individuals within those sensitive natural communities or other sensitive habitats.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

With implementation of Mitigation Measure 3.4-1a and 3.4-5, the Cannabis Program Update would not result in disturbance to or loss of state or federally protected wetlands and other waters. These measures would require projects to conduct a biotic resources assessment to determine what biological impacts could potentially apply to the specific project site, which would be reviewed by the County. In addition, conducting a delineation of wetlands and other waters and implementing avoidance buffers of these resources may be required, depending on site conditions. This is consistent with General Plan Policy OSRC-7b which includes a required biotic resource assessment in some areas for discretionary projects and General Plan Natural Resource Land Use Policy goal of protecting natural resource lands including, but not limited to watershed, fish and wildlife habitat and biotic areas. This is also consistent with General Plan Policy LU-7b which says to limit development in certain wetlands mapped in the General Plan.

Impact 3.4-6: Interfere with Resident or Migratory Wildlife Corridors or Native Wildlife Nursery Sites

Potential land use conversion and development from cannabis cultivation and supply chain uses under the Cannabis Program Update could adversely affect resident or migratory wildlife corridors, as well as wildlife nursery sites, through habitat fragmentation; degradation of aquatic habitat (e.g., streams, rivers); disturbance from increased noise and human presence, as well as increased trash, which may attract predators and discourage wildlife use of surrounding natural habitat; and disruption of important wildlife migration paths. The impact on movement corridors and habitat connectivity for these species as well as wildlife nursery sites would be **potentially significant**.

As shown in Figures 3.4-9, 3.4-10, and 3.4-11, the Program Area contains several large areas of relatively undisturbed wildlife habitat, including protected land in areas, such as Armstrong Woods State Park, Austin Creek State Recreation Area, Sugarloaf State Park, and Trione-Annadel State Park; lands set aside as preserves and conservation easements, including Jenner Headlands; and many regional parks interspersed throughout the Program Area, including Hood Mountain Regional Park. Although cannabis activities are prohibited on public land and therefore would not occur in these areas, these large tracts of land represent potential wildlife habitat and movement corridors. Therefore, wildlife may move through the Program Area to get to these undeveloped areas. In addition, major river systems throughout the Program Area also contain undisturbed wildlife habitat. Furthermore, the Program Area likely contains native wildlife nursery sites that have not been identified and mapped.

Aquatic Corridors

Aquatic wildlife movement corridors in the Program Area include all major rivers and their tributaries. Several anadromous fish species, including steelhead, Chinook salmon, and Coho salmon, have runs in the Program Area rivers and streams from spring to winter. Adverse effects on these aquatic wildlife corridors could include degradation of streams and rivers (e.g., inadvertent fill) or improper surface water diversion, which could create isolated pools and decreased survival of young salmonids.

Refer to Impact 3.4-5 for a discussion of codes that apply. Any future proposed disturbance of surface water diversion infrastructure or stream crossing could adversely affect resident or migratory wildlife corridors through habitat fragmentation, degradation of aquatic habitat (e.g., streams, rivers), or disruption of important wildlife migration paths.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements).

Aquatic movement corridors occur throughout the agriculture and resource districts (see Section 3.4.2, "Aquatic Habitats"). Proposed allowable uses in agriculture and resource districts could include construction, grading, other ground disturbance, and vegetation removal. All of these allowable uses have the potential to have significant impacts on aquatic movement corridors, which could include disturbance of surface water diversion infrastructure or stream crossing could adversely affect resident or migratory wildlife corridors through habitat fragmentation, degradation of aquatic habitat (e.g., streams, rivers), or disruption of important wildlife migration paths. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Analysis for Impact 3.4-4 under "Applications Meeting Crop Swap Requirements" related to crop swap applies to this impact. Therefore, the impact on aquatic movement corridors for crop swap is less than significant.

Construction of Event Facilities and Event Operations

Aquatic movement corridors occur throughout the agriculture and resource districts, as discussed above under "Proposed Allowable Uses in Agricultural and Resources Districts." Proposed allowable uses in agriculture and resource districts could include construction, installation of cannabis event facilities, grading, vegetation removal, or other ground disturbance. All of these allowable uses have the potential to have significant impacts on aquatic movement corridors, as discussed above. Thus, this impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. While new cannabis uses could be located within existing buildings, new structures may be developed within the County.

Cannabis uses in these zones would also all need to comply with applicable Sonoma County Code provisions (reviewed in the general discussion of the impact above, discussing all districts), which would help prevent some impacts on aquatic movement corridors, particularly within protective buffers for wetlands and other waters, for construction, grading, and agriculture activities. Although, impacts on wetlands would still remain. For the reasons described above under "Proposed Allowable Uses in Agricultural and Resources Districts," development and operation of cannabis facilities could result in project-related degradation and potential loss of aquatic movement corridors. Although substantially less than agriculture and resource districts, aquatic movement corridors occur within the industrial and commercial districts (see Section 3.4.2, "Aquatic Habitats"). Use of existing buildings and developed sites would not result in impacts. Proposed allowable uses in industrial and commercial districts that would involve new construction and site development could result in impacts. For the reasons described above, this impact would be potentially significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on aquatic wildlife corridors or native wildlife nursery sites.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update could result in impacts on aquatic movement corridors, including could include disturbance of surface water diversion infrastructure or stream crossing could adversely affect resident or migratory wildlife corridors through habitat fragmentation, degradation of aquatic habitat (e.g., streams, rivers), or disruption of important wildlife migration paths, all resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-5 (DRH or UPC): Identify State or Federally Protected Wetlands and Other Waters and Avoid These Features

Significance after Mitigation

Implementation of Mitigation Measure 3.4-1a, which consists of a qualified biologist developing a biotic resource assessment report for the project site, would apply to this impact to determine whether there is potential for the species to be present. In addition, implementation of Mitigation Measure 3.4-5 would reduce impacts on aquatic

corridors to a **less-than-significant** level because it would identify other waters and require avoidance buffers and approval from CDFW and the RWQCB of avoidance buffers and result in no net loss of functions and acreage of wetlands and other waters, including aquatic corridors, through avoidance of these features.

Terrestrial Corridors

New cannabis cultivation site locations, as well as potential expansion of existing sites, centralized processing facilities, retail activities, manufacturing, and all other cannabis-related activities, including construction, grading, vegetation removal, and other ground disturbance under the Program may overlap with migratory deer ranges and thus also overlap with mountain lion home ranges. Black-tailed deer have a substantial amount of core habitat available throughout the Program Area, including in the agricultural and resources districts and minimally in the industrial and commercial districts (see "Wildlife Movement Corridors" under Section 3.4.2); "core habitat" is defined as areas likely capable of supporting the species for several generations (although with erosion of genetic material if the population is isolated) (Figure 3.4-10) (Penrod 2014). In addition, the range for resident mountain lions includes most of the County. Mountain lions occupy a variety of habitats but are most abundant in riparian habitats, which are present in both the agricultural and resources districts as well as in industrial and commercial districts (see "Land Cover" under Section 3.4.2). Species' habitat use is typically associated with prey availability, and black-tailed deer make up a large percentage of mountain lion diet. Mountain lion home ranges can be greater than 200 square miles, although home ranges typically range from 5 to 100 square miles (Allen, Elbroch, et al. 2015). Priority areas including different types of habitat linkages and intact landscape for wildlife habitat and movement have been mapped throughout the Program Area in both the agricultural and resources districts as well as in industrial and commercial districts, as well as critical climate linkages that will be important for the future of terrestrial wildlife movement throughout the Program Area in the agricultural and resources districts (Tables 3.4-20 and 3.4-21; Figures 3.4-11 and 3.4-12).

Cultivation or supply chain cannabis operations under the Program, which could include construction, grading, vegetation removal, other ground disturbance, and holding cannabis events, may cause adverse effects on terrestrial wildlife corridors, which could include land conversion of natural habitats through the development of structures or other infrastructure (e.g., fencing, roads). In addition, wildlife may become entangled or trapped in fencing as well as in plastic netting, which is commonly used as trellising on cannabis plants. Entrapment can threaten raptors because their talons can become entrapped within the bolt holes of metal fence stakes resulting in mortality (Audubon 2024). Furthermore, the Program Area likely contains native wildlife nursery sites that have not been identified and mapped, and resources that have not been identified cannot be effectively avoided.

Individual cannabis projects, approved through the Cannabis Program Update would have to comply with applicable provisions. This includes Sonoma County General Plan Policy OSRC-7d, which encourages property owners to utilize wildlife friendly fencing. Although compliance with this policy may reduce some impacts on wildlife corridors, the measures are encouraged and not required.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements).

Cannabis related activities would all need to also comply with Sonoma County General Plan Policy OSRC-7b(1)(c), which applies to all discretionary projects and encourages property owners to consult with CDFW, install wildlife friendly fencing, and provide for roadway under crossings and oversized culverts and bridges to allow movement of terrestrial wildlife when the project is within a designated Habitat Connectivity Corridors. Although compliance with this policy may reduce some impacts on wildlife corridors, the measures are encouraged and not required. In addition, Sonoma County Code Article 66 requires a site assessment for discretionary projects in designated biotic

habitat areas. Although, since designated biotic habitat areas only cover a minimal amount of the Program Area and only apply to discretionary cannabis projects, impacts on terrestrial wildlife movement corridors would still remain. In addition, adequate mitigation is required for these site assessments, which is provided below.

Terrestrial wildlife movement corridors and black-tailed deer habitat (and therefore mountain lion habitat) occur throughout the agriculture and resource districts (see “Wildlife Movement Corridors” under Section 3.4.2). Proposed allowable uses in agriculture and resource districts could include construction, grading, vegetation removal (i.e., vegetation removal), and other ground disturbance. All of these allowable uses have the potential to have significant impacts on terrestrial wildlife movement corridors which could include conversion of natural habitat and entrapment of wildlife in fences and plastic. In addition, as noted above, since the Program Area likely contains native wildlife nursery sites that have not been identified and mapped, and resources that have not been identified cannot be effectively avoided, impacts could still remain. Therefore, impacts on terrestrial wildlife movement corridors and wildlife nursery sites could still occur. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

In addition, biotic habitat areas only constitute approximately 3.3 percent of the agricultural and resources districts within the Program Area. Therefore, impacts on sensitive natural communities and other sensitive habitats would still remain.

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. Although, new fences could be erected on the property for security, potentially causing impacts on terrestrial wildlife movement corridors. Therefore, the impact on terrestrial wildlife movement corridors for crop swap would be potentially significant.

Construction of Event Facilities and Event Operations

Terrestrial wildlife movement corridors and wildlife nursery sites occur or potentially could occur throughout the agriculture and resource districts, as discussed above under “Proposed Allowable Uses in Agricultural and Resources Districts.” Proposed allowable uses in agriculture and resource districts could include construction, installation of cannabis event facilities, grading, vegetation removal, other ground disturbance, and holding the cannabis events. All of these allowable uses have the potential to have significant impacts on terrestrial wildlife movement corridors and wildlife nursery sites, as discussed above. Thus, this impact would be potentially significant. Impacts from nighttime light are discussed further under “Effects of Nighttime Artificial Light on Special-Status Species” under Impact 3.4.2.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses supply chain uses, as well as accessory uses. While new cannabis uses could be located within existing buildings, new structures may be developed within the County.

Cannabis uses in these zones would also all need to comply with applicable Sonoma County Code provisions (reviewed in the general discussion of the impact above, discussing all districts), which could help prevent some impacts on terrestrial wildlife movement corridors and wildlife nursery sites, though the policy discussed only encourages and does not require anything, so impacts on terrestrial wildlife movement corridors and wildlife nursery sites would still remain. For the reasons described above under “Proposed Allowable Uses in Agricultural and Resources Districts,” development and operation of cannabis facilities could result in project-related loss of terrestrial wildlife movement corridors and wildlife nursery sites. Although substantially less than agriculture and resource districts, terrestrial wildlife movement corridors and wildlife nursery sites occurs or has potential to occur within the industrial and commercial districts (see Section 3.4.2, “Wildlife Movement Corridors”). Use of existing buildings and developed sites would not result in impacts. Proposed allowable uses in industrial and commercial districts that would involve new construction and site development could result in impacts. For the reasons described above, this impact would be potentially significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on terrestrial wildlife corridors or native wildlife nursery sites.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update could result in impacts on terrestrial wildlife movement corridors and wildlife nursery sites, including conversion of natural habitat and entrapment of wildlife in fences and plastic, and impacts to native wildlife nursery sites that have not been identified and mapped, all resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-6a (ZPC): Utilize Wildlife-Friendly Building and Fencing Designs

Add the following standard to Section 26-18-115 (C)(4)(h):

Wildlife-friendly fencing designs shall be incorporated into projects located within a Habitat Connectivity Corridor mapped by the Sonoma County General Plan or a priority wildlife habitat or movement area mapped by the Sonoma County Ag + Open Space Vital Lands Initiative, or Conservation Lands Network. This design shall be based on the following standards:

- ▶ To avoid impacts on wildlife, monofilament plastic netting, which is commonly used as trellising on cannabis plants, shall be taken down immediately after plants are harvested and disposed of properly.
 - Fencing associated with the Program update including processing and ancillary activities will utilize wildlife-friendly fencing designed to minimize the risk of entanglement, entrapment, or impalement of wildlife. The fencing design shall meet the minimum following standards:
 - Minimize the chance of wildlife entanglement by not using barbed wire, loose or broken wires, or any material that could impale, snag, or entrap a leaping animal (e.g., wrought iron fencing with spikes).
 - Allow wildlife to jump over easily without injury. Typically, fences should be no more than 40 inches high on flat ground to allow adult deer to jump over. If fencing is required to be greater than 40 inches high for security or logistical purposes, then the fencing shall be high enough to deter wildlife from attempting to jump over (i.e., greater than 8 feet tall).
 - Hollow posts and pipes shall be capped, and metal fence stakes used in the project shall be plugged with bolts or other plugging materials.
 - Allow smaller wildlife to pass under easily without injury or entrapment by ensuring that fencing material is not installed directly touching the earth.

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Biological Surveys and Project-Level Analysis

Mitigation Measure 3.4-4 (DRH or UPC): Identify, Avoid, and Protect Sensitive Natural Communities, Riparian Habitat, and Old-Growth Habitat, or Other Sensitive Habitats or Provide Compensation

Mitigation Measure 3.4-6b (DRH and UPC): Review Mapping and Analyze Landscape Impacts for Approval

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that the proposed project site is located within a Habitat Connectivity Corridor mapped by the Sonoma County General Plan or a priority wildlife

habitat or movement area mapped by the Sonoma County Ag + Open Space Vital Lands Initiative, or Conservation Lands Network, Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ If significant effects related to interference with wildlife corridors are identified as part of the biotic resources assessment required by Mitigation Measures 3.4-1a, and consultation with CDFW has been conducted, additional mitigation will be required for project approval. At a minimum, additional mitigation may include the following measures such that CDFW would be satisfied that impacts on wildlife movement would be less than significant:
 - Redesigning the project to allow the corridor to continue to function,
 - Building design or lighting measures,
 - On-site habitat restoration, or
 - Compensatory mitigation.

Mitigation Measure 3.4-6c (DRH or UPC): Utilize Wildlife-Friendly Building and Fencing Designs

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that wildlife habitat and movement occurs or potentially occurs on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ To avoid impacts on wildlife,, monofilament plastic netting, which is commonly used as trellising on cannabis plants, shall be taken down immediately after plants are harvested and disposed of properly.
- ▶ Buildings and other permanent structures in the Program Area that would be constructed under the Program update, including for processing and ancillary activities shall be designed to minimize impacts on wildlife, including disruption to wildlife movement, bird strikes, and wildlife entanglement.
 - Building design shall utilize guidelines regarding building height, materials, external lighting, and landscaping provided in the *American Bird Conservancy's Bird-Friendly Building Design* (American Bird Conservancy 2015). The County shall require review of the conceptual design plans by a qualified biologist to determine whether the plans are sufficient to reduce the likelihood of bird strikes or recommend additional measures.
 - Fencing associated with the Program update, including for cultivation sites or around buildings for processing and ancillary activities will utilize wildlife-friendly fencing designed to minimize the risk of entanglement, entrapment, or impalement of wildlife. The County shall require the review of fencing design by a qualified biologist prior to installation. The fencing design shall meet, but not be limited, to the following standards:
 - Minimize the chance of wildlife entanglement by not using barbed wire, loose or broken wires, or any material that could impale, snag, or entrap a leaping animal (e.g., wrought iron fencing with spikes).
 - Allow wildlife to jump over easily without injury. Typically, fences should be no more than 40 inches high on flat ground to allow adult deer to jump over. The determination of appropriate fence height will consider slope because steep slopes are more difficult for wildlife to pass. If fencing is required to be greater than 40 inches high for security or logistical purposes, then the fencing shall be high enough to deter wildlife from attempting to jump over (i.e., greater than 8 feet tall).
 - Hollow posts and pipes shall be capped, and metal fence stakes used in the project shall be plugged with bolts or other plugging materials.
 - Allow smaller wildlife to pass under easily without injury or entrapment by ensuring that fencing material is not installed directly touching the earth.

Mitigation Measure 3.4-6d (DRH or UPC): Retain Wildlife Nursery Habitat and Implement Buffers to Avoid Wildlife Nursey Sites

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that wildlife nursery habitat is present or potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), Sonoma County shall require the following standards through the design review approval process for new construction in industrial and commercial zones and for new cannabis uses requiring a use permit in agricultural and resources zones:

- ▶ A qualified biologist shall conduct a pre-disturbance survey no more than 14 days prior to disturbance activities to identify the important habitat features of the wildlife nursery and, prior to commencement of disturbance activities (e.g., ground disturbance, vegetation removal, staging), shall mark these features for avoidance and retention during project construction and operation to maintain the function of the nursery habitat.
- ▶ A no-disturbance buffer shall be established around the nursery site if disturbance activities are required while the nursery site is active/occupied. The appropriate size and shape of the buffer shall be determined by a qualified biologist based on potential effects of project-related habitat disturbance, noise, visual disturbance, and other factors but shall typically be a minimum of 100 feet. No project activity shall commence within the buffer area until a qualified biologist confirms that the nursery site is no longer active/occupied. Monitoring of the effectiveness of the no-disturbance buffer around the nursery site by a qualified biologist during disturbance activities may be required. If disturbance activities cause agitated behavior of the individual(s), as observed during monitoring, the buffer distance shall be increased or disturbance activities modified until the agitated behavior stops. The qualified biologist shall have the authority to stop any disturbance activities that could result in potential adverse effects on wildlife nursery sites.

Significance after Mitigation

Mitigation Measure 3.4-6a (ZPC) would place standards on fencing that require features important for habitat connectivity, protect wildlife from entanglement in fences, thus allowing safe passage of terrestrial species through movement corridors.

Implementation of Mitigation Measure 3.4-1a would apply to this impact to determine whether there is potential for wildlife movement corridors or nursery sites to be present. In addition, the above mitigation measures would reduce impacts on terrestrial wildlife movement corridors to a **less-than-significant** level because it would retain features important for habitat connectivity, protect wildlife from entanglement in fences, and require consultation with CDFW to determine project approval in certain priority areas for habitat connectivity. Implementation of Mitigation Measure 3.4-6d (DHR and UPC) would reduce impacts on wildlife nursery sites to a **less-than-significant** level because a qualified biologist would conduct pre-disturbance survey to identify any nursery sites in the project area and a no-disturbance buffer will be implemented with periodic monitoring to observe behavior to determine if the buffer is effective.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

With implementation of Mitigation Measure 3.4-1a, 3.4-5, and 3.4-6a through 3.4-6c, the Cannabis Program Update would not interfere with resident or migratory wildlife corridors or native nursery sites. These measures would require projects to conduct a biotic resources assessment to determine what biological impacts could potentially apply to the specific project site, which would be reviewed by the County. In addition, these measures would require the delineation of wetlands and other waters, reviewing of certain data for wildlife movement, potential redesigning of projects, utilizing wildlife-friendly building design and fencing, retaining wildlife nursery habitat, and implementing avoidance buffers may be required, depending on site conditions. This is consistent with General Plan Policy OSRC-7b which requires a biotic resource assessment in some areas for discretionary projects as well as encouraging property owners to consult with CDFW, install wildlife friendly fencing to allow movement of terrestrial wildlife and General Plan Natural Resource Land Use Policy goal of protecting natural resource lands including, but not limited to watershed, fish and wildlife habitat and biotic areas. Furthermore, this is consistent with General Plan Policy OSRC-7d which encourages property owners to utilize wildlife friendly fencing. These mitigation measures would also be consistent with Sonoma County Airport Industrial Area Specific Plan, Bennett Valley Area Plan, Franz Area Plan,

Penngrove Area Plan, Petaluma Area Plan, Sonoma Mountain Area Plan, South Santa Rosa Area Plan, and West Petaluma Area Plan policy provisions of protecting riparian corridors that provide wildlife movement.

Impact 3.4-7: Conflict with Any Local Policies or Ordinances Protecting Biological Resources

Multiple policies in the Sonoma County General Plan, multiple area plans, and Sonoma County Code protect biological resources. Mitigation measures identified in Impacts 3.4-1, 3.4-2, 3.4-3, 3.4-4, 3.4-5, and 3.4-6 would be consistent Sonoma County policies and requirements that protect biological resources. This impact would be **less than significant**.

The Sonoma County General Plan, Sonoma County Airport Industrial Area Specific Area Plan, Bennett Valley Area Plan, Franz Valley Area Plan, Penngrove Area Plan, Petaluma Dairy Belt Area Plan, Sonoma Mountain Area Plan, South Santa Rosa Area Plan, West Petaluma Area Plan, and Sonoma County Code include policies protecting biological resources, such as rivers, streams, creeks, wetlands, riparian habitat, special-status plants, special-status wildlife, sensitive habitats, and migration corridors.

As described in Impacts 3.4-1, 3.4-2, 3.4-3, 3.4-4, 3.4-5, and 3.4-6, above, although new cannabis cultivation, centralized processing, retail activities, manufacturing, and all other cannabis-related activities under the Program would affect these resources, mitigation measures for cannabis uses would reduce all potentially significant impacts to a less-than-significant level. These mitigation measures would be included either as standards for cannabis uses that could be approved through ministerial permits or as conditions of approval for projects subject to use permits or design review hearings under the Program. Furthermore, all applicants are required to comply with SWRCB Order WQ 2023-0102-DWQ, which includes additional protective measures for biological resources for cultivation activities. As discussed above under Impacts 3.4-1, 3.4-2, 3.4-3, 3.4-4, 3.4-5, and 3.4-6, above, with implementation of the mitigation measures, the proposed Cannabis Program Update would be consistent with land use plans, policies, or regulations adopted to avoid or mitigate environmental effects; thus, this impact would be **less than significant**.

Mitigation Measures

No mitigation required.

Impact 3.4-8: Conflict with Provisions of an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or Other Approved Local, Regional, or State Habitat Conservation Plan

All districts in the Program Area overlap the Santa Rosa Plain Conservation Strategy plan area. It is currently not possible to obtain a federal permit, including an incidental take permit for a federally listed species, which would be the case unless cannabis is legalized under federal law; therefore, cannabis activities in the Conservation Strategy plan area could result in conflict with the plan. This impact would be **potentially significant**.

All districts in the Program Area overlap the plan area for the Santa Rosa Plain Conservation Strategy (Conservation Strategy) (Table 3.4-23). The Conservation Strategy plan area overlaps approximately 5 percent of agricultural and resources districts and approximately 48 percent of industrial and commercial districts present within the Program Area. As described above in Section 3.4.1, "Regulatory Setting," the Conservation Strategy covers and provides an incidental take permitting mechanism for California tiger salamander and four listed plant species (Burke's goldfield, Sonoma sunshine, Sebastopol meadowfoam, and many-flowered navarretia), herein referred to as Conservation Strategy special-status plants. All of these species are listed under ESA and CESA. As described above under Impacts 3.4-1 and 3.4-2, cannabis activities could result in adverse effects on special-status plant and wildlife species, including species covered under the Conservation Strategy.

Table 3.4-23 Santa Rosa Plain Conservation Strategy within the Program Area

Plan	Agricultural and Resources Districts (acres)	Industrial and Commercial Districts (acres)	Total (acres)
Santa Rosa Plain Conservation Strategy	32,864	1,367	34,231

Source: Data downloaded from CDFW in 2024; compiled by Ascent in 2025.

Portions of the Conservation Strategy plan area have been identified as containing or being within 1.3 miles of a California tiger salamander breeding occurrence or having potential for California tiger salamander presence (pursuant to modeling in the Conservation Strategy). Applicants for development projects in these areas would receive state and federal incidental take permitting pursuant to CESA and ESA for California tiger salamander and the four listed plant species through participation in the plan and would also be subject to minimization measures therein. Because cannabis activities are currently illegal under federal law, a federal permit, including an incidental take permit for a federally listed species, may not be issued for cannabis activities associated with the Program until such time as federal permits, authorizations, and procedures/protocols under the plan can be applied. Therefore, new disturbance activities, which include construction, installation of event facilities such as tents or other activities that could involve trampling, grading, vegetation removal, and other ground disturbance activities, associated with the Program within the Santa Rosa Plan Conservation Strategy Area would result in a conflict with the plan, because applicants could not comply with the provisions of the plan associated with federal take permitting. Conflict with the Santa Rosa Plain Conservation Strategy would be a potentially significant impact.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements).

Habitat potentially suitable for California tiger salamander and special-status plants covered under the Conservation Strategy occurs throughout the agriculture and resource districts (see Section 3.4.2). In addition, California tiger salamander has designated critical habitat in the agriculture and resource districts. Proposed allowable uses in agriculture and resource districts could include construction, grading, other ground disturbance, and vegetation removal. All of these allowable uses have the potential to have significant impacts on California tiger salamander and special-status plants, which could include crushing of California tiger salamander and trampling or removal of special-status plants from the ground. Because some projects would be exempt, impacts on special-status plants could still occur, which is why mitigation measures are proposed below. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

The discussion in Impact 3.4-1 (Special-Status Plants) related to crop swap applies to this impact. Therefore, the impact on California tiger salamander and Conservation Strategy special-status plants for crop swap is less than significant.

Construction of Event Facilities and Event Operations

Habitat potentially suitable for California tiger salamander and Conservation Strategy special-status plants occurs throughout the agriculture and resource districts, as discussed above. Proposed allowable uses in agriculture and resource districts could include construction, grading, other ground disturbance, and vegetation removal. All of these allowable uses have the potential to have significant impacts on for California tiger salamander and Conservation Strategy special-status plants, as discussed above for proposed allowable uses in agricultural and resources districts. Thus, this impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Although substantially less than agriculture and resource districts, habitat potentially suitable for California tiger salamander and Conservation Strategy special-status plants occurs within the industrial and commercial districts (see Section 3.4.2). In addition, California tiger salamander has approximately 679 acres of designated critical habitat in industrial and commercial districts, which is approximately 24 percent of the Program Area that is within industrial and commercial districts. Use of existing buildings and developed sites would not result in impacts. Proposed allowable uses in industrial and commercial districts that would involve new construction and site development could result in impacts. For the reasons described above, this impact would be potentially significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Conclusion

Due to the reasons discussed directly above, the Cannabis Program Update would have potentially significant impacts on California tiger salamander and Conservation Strategy special-status plants, mainly resulting from crushing of California tiger salamander, and trampling or removal of special-status plants, as well as excluding special-status plants from their habitat due to the introduction of invasive species, resulting in a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.4-1a (DRH or UPC): Conduct Biotic Resource Assessment Consisting of Pre-Application Surveys and Project-Level Analysis

Mitigation Measure 3.4-1b (DRH or UPC): Conduct Special-Status Plant Surveys and Implement Avoidance Measures and Mitigation

Mitigation Measure 3.4-2a (DRH or UPC): Conduct Pre-Disturbance Surveys for Special-Status Amphibians and Implement Avoidance Measures

Mitigation Measure 3.4-8 (DRH or UPC and ZPC): Limit New Disturbance Activities in the Santa Rosa Plain Conservation Strategy Plan Area

If the biotic resources assessment (see Mitigation Measure 3.4-1a) determines that California tiger salamander or Conservation Strategy special-status plants are present, potentially present on the proposed cannabis site (including cannabis premises and supporting improvements outside of the premises), or the project site is within the Conservation Strategy plan boundary, the following shall apply:

- ▶ If a new disturbance area is within the Santa Rosa Plain Conservation Strategy plan area and is specifically located within 1.3 miles of known California tiger salamander breeding or in an area with potential for California tiger salamander presence, as defined in the Conservation Strategy, the project shall be redesigned such that all new disturbance activities which include construction, installation of temporary event facilities such as tents or other activities that could involve trampling, grading, vegetation removal, and other ground disturbance activities, would occur outside of these designations. If the project cannot be redesigned to avoid these designations (e.g., the applicant's parcels are completely within the designations), then the application will be denied, and cannabis activities will not be permitted on the site. These prohibitions shall apply until such a time that cannabis uses are

legalized under federal law and federal incidental take permitting through participation in the Conservation Strategy may be pursued. This measure shall apply to ministerial and discretionary permits under the Program.

Significance after Mitigation

Implementation of Mitigation Measures 3.4-1b, 3.4-2a, and 3.4-8 would reduce impacts related to conflict with the Santa Rosa Plain Conservation Strategy to a **less-than-significant** level because they would prohibit new disturbance activities in areas identified as containing or being within 1.3 miles of a California tiger salamander breeding occurrence or having potential for California tiger salamander presence (pursuant to modeling in the Conservation Strategy) such that federal incidental take permitting under the Conservation Strategy would not be required. In addition, protocol-level surveys for special-status plants and avoidance of California tiger salamander and special-status plants would be required. Moreover, Mitigation Measure 3.4-1a which consists of Sonoma County review and required approval of the biotic resource assessment report.

The Program would not interfere with the biological goals and objectives of the Santa Rosa Plain Conservation Strategy (e.g., preserve establishment and management, maintenance of genetic diversity of California tiger salamander and listed plants, preserve habitat connectivity) because cannabis activities would not occur in established preserves or conservation areas, and implementation of Mitigation Measures 3.4-1b and 3.4-2a would result in identification and avoidance of additional occurrences of Conservation Strategy special-status plants and California tiger salamander outside of Conservation Strategy preserves and conservation areas.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

With implementation of Mitigation Measure 3.4-1a, 3.4-1b, and 3.4-8, the Cannabis Program Update would not conflict with provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. These measures would require projects to conduct a biotic resources assessment to determine what biological impacts could potentially apply to the specific project site, which would be reviewed by the County. In addition, conducting protocol-level surveys for plants, pre-disturbance surveys for special-status amphibians, implementing avoidance buffers, as well as limiting new disturbance activities in the Santa Rosa Plain Conservation Strategy Plan Area may be required, depending on site conditions. This is consistent with General Plan Policy OSRC-7a required biotic resource assessment in some areas for discretionary projects and General Plan Natural Resource Land Use Policy goal of protecting natural resource lands including, but not limited to watershed, fish and wildlife habitat and biotic areas. Furthermore, this is consistent with the Santa Rosa Plain Conservation Strategy Plan.

This page is intentionally left blank.

3.5 CULTURAL RESOURCES

This section identifies the regulatory context and policies related to cultural resources, describes the existing and potential cultural resource conditions in the Program area, and evaluates potential impacts of the proposed Cannabis Update Program on known and unknown cultural resources. Cultural resources include districts, sites, buildings, structures, or objects generally older than 50 years and considered to be important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. They include prehistoric resources and historic-period resources. Archaeological resources are locations where human activity has measurably altered the earth or left deposits of prehistoric or historic-period physical remains (e.g., stone tools, bottles, former roads, house foundations). Historical (or built-environment) resources include standing buildings (e.g., houses, barns, outbuildings, cabins) and intact structures (e.g., dams, bridges, roads, districts) or landscapes. A cultural landscape is defined as a geographic area (including both cultural and natural resources and the wildlife therein) associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. Potential impacts on tribal cultural resources are addressed in Section 3.15, "Tribal Cultural Resources."

No comment letters regarding cultural resources were received in response to the notice of preparation (NOP). All comments received in response to the NOP are presented in Appendix A of this EIR.

3.5.1 Regulatory Setting

FEDERAL

National Register of Historic Places

The National Register of Historic Places (NRHP) is the nation's master inventory of known historic properties. It is administered by the National Park Service and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level.

The formal criteria (36 Code of Federal Regulations [CFR] Section 60.4) for determining NRHP eligibility are as follows:

1. The property is at least 50 years old (however, properties under 50 years of age that are of exceptional importance or are contributors to a district can also be included in the NRHP);
2. It retains integrity of location, design, setting, materials, workmanship, feeling, and associations; and
3. It possesses at least one of the following characteristics:
 - Criterion A Is associated with events that have made a significant contribution to the broad patterns of history (events).
 - Criterion B Is associated with the lives of persons significant in the past (persons).
 - Criterion C Embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant, distinguishable entity whose components may lack individual distinction (architecture).
 - Criterion D Has yielded, or may be likely to yield, information important in prehistory or history (information potential).

For a property to retain and convey historic integrity it must possess most of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. Location is the place where the historic property was constructed or the place where a historic event occurred. Integrity of location refers to whether the property has been moved since its construction. Design is the combination of elements that create the form, plan, space, structure, and style of a property. Setting is the physical environment of a historic property that illustrates the character of the

place. Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. This is an intangible quality evoked by physical features that reflect a sense of a past time and place. Association is the direct link between the important historic event or person and a historic property. Continuation of historic use and occupation help maintain integrity of association.

Listing in the NRHP does not entail specific protection or assistance for a property, but it does guarantee consideration in planning for federal or federally assisted projects, eligibility for federal tax benefits, and qualification for federal historic preservation assistance. In addition, project effects on properties listed in the NRHP must be evaluated under CEQA.

The National Register Bulletin series was developed to assist evaluators in the application of NRHP criteria. For example, National Register Bulletin #36 provides guidance in the evaluation of archaeological site significance. If a property cannot be placed within a particular theme or time period, and thereby lacks "focus," it will be unlikely to possess characteristics that would make it eligible for listing in the NRHP. Evaluation standards for linear features (such as roads, trails, fence lines, railroads, ditches, and flumes) are considered in terms of four related criteria that account for specific elements that define engineering and construction methods of linear features: (1) size and length, (2) presence of distinctive engineering features and associated properties, (3) structural integrity, and (4) setting. The highest probability for NRHP eligibility exists in the intact, longer segments, where multiple criteria coincide.

STATE

California Register of Historical Resources

All properties in California that are listed in or formally determined eligible for listing in the NRHP are also listed in the California Register of Historical Resources (CRHR). The CRHR is a list of State of California resources that are significant in the context of California's history. It is a statewide program with a scope and with criteria for inclusion similar to those used for the NRHP. In addition, properties designated under municipal or county ordinances are also eligible for listing in the CRHR.

A historical resource must be significant at the local, state, or national level under one or more of the criteria defined in the California Code of Regulations (CCR), Title 15, Chapter 11.5, Section 4850 to be included in the CRHR. The CRHR criteria are tied to CEQA because any resource that meets the criteria below is considered a significant historical resource under CEQA. As noted above, all resources listed in or formally determined eligible for listing in the NRHP are automatically listed in the CRHR.

The CRHR uses four evaluation criteria:

- Criterion 1. Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- Criterion 2. Is associated with the lives of persons important to local, California, or national history.
- Criterion 3. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic values.
- Criterion 4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Similar to the NRHP, a historical resource must meet one of the above criteria and retain integrity to be listed in the CRHR. The CRHR uses the same seven aspects of integrity used by the NRHP.

California Historical Landmark (CHL) buildings, structures, sites, and places that have been determined to have statewide historical significance are also automatically listed in the CRHR. California Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR.

California State Historical Landmarks

The State of California began memorializing sites of statewide historic importance in 1932 with what is now known as the California Historical Landmarks program. The criteria for consideration have been refined over the long history of this program; today a CHL must be the first, last, only, or most significant of a type in a large geographic area.

California Points of Historical Interest

California Points of Historical Interest are sites, buildings, features, and events that are of local (city or county) significance and must be:

- ▶ the first, last, only, or most significant of its type in the state or within the local geographic region (city or county);
- ▶ associated with an individual or group having a profound influence on the history of the local area;
- ▶ a prototype of, or an outstanding example of, a period, style, or architectural movement or construction; or
- ▶ one of the more notable works or the best-surviving work in the local region of a pioneer architect, designer, or master builder.

If a Point of Historical Interest is subsequently granted status as a CHL, the Point of Historical Interest designation will be retired.

California Environmental Quality Act

CEQA requires public agencies to consider the effects of their actions on “historical resources” and “unique archaeological resources.” Pursuant to Public Resources Code (PRC) Section 21084.1, a “project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.” Section 21083.2 requires agencies to determine whether projects would have effects on unique archaeological resources.

Historical Resources

“Historical resource” is a term with a defined statutory meaning (PRC Section 21084.1; State CEQA Guidelines Sections 15064.5[a] and [b]). Under State CEQA Guidelines Section 15064.5(a), historical resources include the following:

- 1) A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the CRHR (PRC Section 5024.1).
- 2) A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g), will be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- 3) Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be historically significant if the resource meets the criteria for listing in the CRHR (PRC Section 5024.1).
- 4) The fact that a resource is not listed in or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC Section 5020.1(k)), or identified in a historical resources survey (meeting the criteria in PRC Section 5024.1(g)) does not preclude a lead agency from determining that the resource may be a historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

Unique Archaeological Resources

CEQA also requires lead agencies to consider whether projects will affect unique archaeological resources. PRC Section 21083.2(g) states that “unique archaeological resource” means 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 one or more of the following criteria:

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

Public Resources Code Section 21083.2

Treatment options under PRC Section 21083.2(b) to mitigate impacts to archaeological resources include activities that preserve such resources in place in an undisturbed state. PRC Section 21083.2 states:

- (a) As part of the determination made pursuant to Section 21080.1, the lead agency shall determine whether the project may have a significant effect on archaeological resources. If the lead agency determines that the project may have a significant effect on unique archaeological resources, the environmental impact report shall address the issue of those resources. An environmental impact report, if otherwise necessary, shall not address the issue of nonunique archaeological resources. A negative declaration shall be issued with respect to a project if, but for the issue of nonunique archaeological resources, the negative declaration would be otherwise issued.
- (b) If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:
 - (1) Planning construction to avoid archaeological sites.
 - (2) Deeding archaeological sites into permanent conservation easements.
 - (3) Capping or covering archaeological sites with a layer of soil before building on the sites.
 - (4) Planning parks, greenspace, or other open space to incorporate archaeological sites.
- (c) To the extent that unique archaeological resources are not preserved in place or not left in an undisturbed state, mitigation measures shall be required as provided in this subdivision.
- (d) Excavation as mitigation shall be restricted to those parts of the unique archaeological resource that would be damaged or destroyed by the project.
- (e) In no event shall the amount paid by a project applicant for mitigation measures required pursuant to subdivision (c) exceed the following amounts:
 - (1) An amount equal to one-half of 1 percent of the projected cost of the project for mitigation measures undertaken within the site boundaries of a commercial or industrial project.
 - (2) An amount equal to three-fourths of 1 percent of the projected cost of the project for mitigation measures undertaken within the site boundaries of a housing project consisting of a single unit.
 - (3) If a housing project consists of more than a single unit, an amount equal to three-fourths of 1 percent of the projected cost of the project for mitigation measures undertaken within the site boundaries of the project for the first unit plus the sum of the following:
 - (A) Two hundred dollars (\$200) per unit for any of the next 99 units.
 - (B) One hundred fifty dollars (\$150) per unit for any of the next 400 units.
 - (C) One hundred dollars (\$100) per unit in excess of 500 units.
- (f) Unless special or unusual circumstances warrant an exception, the field excavation phase of an approved mitigation plan shall be completed within 90 days after final approval necessary to implement the physical development of the project or, if a phased project, in connection with the phased portion to which the specific mitigation measures are applicable. However, the project applicant may extend that period if he or she so elects. Nothing in this section shall nullify protections for Indian cemeteries under any other provision of law.

California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural, and Sacred Sites Act (PRC Section 5097.9) applies to both state and private lands. The act requires, upon discovery of human remains, that construction or excavation activity cease and that the county coroner be notified. If the remains are those of a Native American, the coroner must notify the Native American Heritage Commission (NAHC), which notifies and has the authority to designate the most likely descendant (MLD) of the deceased. The act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

Health and Safety Code, Sections 7050.5

Section 7050.5 of the Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If they are determined to be those of a Native American, the coroner must contact NAHC.

Public Resources Code, Section 5097

PRC Section 5097 specifies the procedures to be followed if human remains are unexpectedly discovered on nonfederal land. The disposition of Native American burials falls within the jurisdiction of NAHC. Section 5097.5 of the code states:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

California Code of Regulations

CCR, Title 4, Section 16304(a)(3) provides that commercial cannabis cultivation activities should be immediately halted and the requirements of Section 7050.5(b) of the Health and Safety Code should be implemented if human remains are discovered.

State Water Resources Control Board Order WQ 2023-0102-DWQ

Attachment A (Section 1, General Requirements and Prohibitions) of the State Water Resources Control Board (SWRCB) Order WQ 2023-0102-DWQ, General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities, includes the following requirements (terms) for state-licensed cultivation sites:

18. Cannabis cultivators shall not commit trespass. Nothing in this Policy or any program implementing this Policy shall be construed to authorize cannabis cultivation: (a) on land not owned by the cannabis cultivator without the express written permission of the landowner; or (b) inconsistent with a conservation easement, open space easement, or greenway easement. This includes, but is not limited to, land owned by the United States or any department thereof, the State of California or any department thereof, any local agency, or any other person who is not the cannabis cultivator. This includes, but is not limited to, any land owned by a California Native American tribe, as defined in section 21073 of the Public Resources Code, whether or not the land meets the definition of tribal lands and includes lands owned for the purposes of preserving or protecting Native American cultural resources of the kinds listed in Public Resources Code section 5097.9 and 5097.993. This includes, but is not limited to, conservation easements held by a qualifying California Native American tribe pursuant to Civil Code section 815.3 and greenway easements held by a qualifying California Native American tribe pursuant to Civil Code section 816.56.
19. Prior to acting on a cannabis cultivator's request to cultivate cannabis on tribal lands¹ or within 600 feet of tribal lands, the Water Boards will notify the governing body of any affected California Native American tribe or the governing body's authorized representative, as applicable. A 45-day review period will commence upon receipt of the notice batty the affected tribe.

¹ "Tribal lands" means lands recognized as "Indian country" within the meaning of title 18, United States Code, section 1151.

During the 45-day review period, the affected tribe may, at its discretion, accept, reject, or not act regarding the cannabis cultivation proposal. If the tribe rejects the proposed cultivation, the cannabis cultivator is prohibited from cultivating cannabis on or within 600 feet of the affected tribe's tribal lands. If the affected tribe accepts the cannabis cultivation proposal or does not act during the 45-day review period, the Water Boards may proceed with a decision on the cannabis cultivation request as though the affected tribe accepted the cannabis cultivation proposal. The Water Boards will consider requests to extend the 45-day review period on a case-by-case basis.

The governing bodies of California Native American tribes may, at their discretion, notify the State Water Board's Executive Director in writing that they: a) reject all proposed cannabis cultivation; or b) waive the 45-day review period for all current and future proposed cannabis cultivation on their tribal lands, on portions of their tribal lands, or within 600 feet of their tribal lands. Upon the Executive Director's receipt of written notice, the Water Boards will, based on the nature of the request, either:

- a. Not approve cannabis cultivation proposals on or within 600 feet of the affected tribe's tribal lands, as applicable; or
- b. Abide by the waiver and, at the Water Boards discretion, act on cannabis cultivation requests on or within 600 feet of tribal lands, as applicable, as though the affected tribe accepted the proposal.

The governing bodies of California Native American tribes may, at their discretion, withdraw a previously issued decision regarding cannabis cultivation on or within 600 feet of their tribal lands. In such instances, the governing body of the affected tribe should notify the State Water Board's Executive Director in writing. The Water Boards will abide by the withdrawal of the affected tribe's decision for any new cannabis cultivation proposals received after the date the State Water Board Executive Director has notified the governing body of the affected tribe that its decision was received. The Water Boards will coordinate with the affected tribe to address existing permitted cannabis cultivation sites on the affected tribe's lands, as necessary. Nothing in this provision shall be construed to modify or interpret tribal law or tribal jurisdiction in any way.

20. No cannabis cultivation activities shall occur within 600 feet of an identified tribal cultural resource site. The State Water Board may modify this requirement for specific identified tribal cultural resource sites at the request of an affected California Native American tribe(s) after consultation with the affected tribe(s). The cannabis cultivator is solely responsible for identifying any tribal cultural resource sites² within the cannabis cultivation area.
21. Prior to land disturbance activities for new or expanded cannabis cultivation activities, the cannabis cultivator shall perform a records search of potential Native American archeological or cultural resources at a California Historical Resources Information System (CHRIS) information center. Any person who meets qualification requirements for access to the CHRIS may perform the initial CHRIS records search and document the results. The requirement to perform a CHRIS records search may be satisfied by using the results of a previous CHRIS records search completed within the previous 10 years for the specific parcel or parcels where new or expanded cannabis cultivation activities are proposed to occur.

Prior to land disturbance activities for new or expanded cannabis cultivation activities, the cannabis cultivator shall also request a search of the Sacred Lands Inventory that is maintained by the Native American Heritage Commission pursuant to Public Resources Code sections 5097.94, subdivision (a), and 5097.96 (Sacred Lands Inventory). If the Sacred Lands Inventory search reveals the presence or potential presence of Native American places of special or social significance to Native Americans, Native American known graves or cemeteries, or Native American sacred places, the cannabis cultivator shall consult with the tribe or tribes that are culturally affiliated with the area in which these Native American cultural resources exist or potentially exist prior to conducting any land disturbance activities. The information provided by tribes through consultation with the cannabis cultivator shall be maintained as confidential by the cannabis

² "Identified tribal cultural resource site" means a tribal cultural resource that meets the requirements of section 21074, subdivision (a)(1) of the Public Resource Code.

cultivator and its agents. A new Sacred Lands Inventory search is always required prior to ground disturbing activities for new or expanded cannabis cultivation.

The cannabis cultivator shall notify the Appropriate Person within seven days of receiving a CHRIS positive result or Sacred Lands Inventory positive result. The Appropriate Person is the Deputy Director for Water Rights (Deputy Director) if the cannabis cultivator is operating under the Cannabis Small Irrigation Use Registration (SIUR), the Executive Officer of the applicable Regional Water Board (Executive Officer) if the cannabis cultivator is operating under the Cannabis Cultivation General Order or Cannabis General Water Quality Certification, or both if the cannabis cultivator is operating under both programs.

In the event that prehistoric archeological materials or indicators are identified in a CHRIS positive result, the cannabis cultivator shall also notify the Native American Heritage Commission within seven days of receiving the CHRIS positive result and request a list of any California Native American tribes that are potentially culturally affiliated with the positive result. The cannabis cultivator shall notify any potentially culturally affiliated California Native American tribes of the CHRIS positive result within 48 hours of receiving a list from the Native American Heritage Commission.

The cannabis cultivator shall promptly retain a Professional Archeologist³ to evaluate the CHRIS positive result and recommend appropriate conservation measures. In the event of a Sacred Lands Inventory positive result, the cannabis cultivator shall develop appropriate mitigation and conservation measures in consultation with the affected California Native American tribe, and shall promptly retain a Professional Archeologist to assist in this task in the event of a Sacred Lands Inventory positive result related to human remains or archeological resources. The cannabis cultivator shall submit proposed mitigation and conservation measures to the Appropriate Person(s) (Deputy Director for the Cannabis SIUR and Executive Officer for the Cannabis Cultivation General Order or Cannabis General Water Quality Certification) for written approval. The Appropriate Person may require all appropriate measures necessary to conserve archeological resources and tribal cultural resources, including but not limited to Native American monitoring, preservation in place, and archeological data recovery.

In the event that prehistoric archeological materials or indicators are identified in a CHRIS positive result, or in the event of a Sacred Lands Inventory positive result, the cannabis cultivator shall also provide a copy of the final proposed mitigation and conservation measures to any culturally affiliated California Native American tribes identified by the Native American Heritage Commission. The Appropriate Person will carefully consider any comments or mitigation measure recommendations submitted by culturally affiliated California Native American tribes with the goal of conserving tribal cultural resources and prehistoric archeological resources with appropriate dignity.

Ground-disturbing activities shall not commence until all approved measures have been completed to the satisfaction of the Deputy Director and/or Executive Officer, as applicable.

22. If any buried archeological materials or indicators⁴ are uncovered or discovered during any cannabis cultivation activities, all ground-disturbing activities shall immediately cease within 100 feet of the find.

The cannabis cultivator shall notify the Appropriate Person within 48 hours of any discovery. The Appropriate Person is the Deputy Director if the cannabis cultivator is operating under the Cannabis SIUR, the Regional Water Board Executive Officer if the cannabis cultivator is operating under the Cannabis General Order or Cannabis General Water Quality Certification, or both if the cannabis cultivator is operating under both programs.

³ A professional archaeologist is one that is qualified by the Secretary of Interior, Register of Professional Archaeologists, or Society for California Archaeology.

⁴ Prehistoric archaeological indicators include, but are not limited to: obsidian and chert flakes and chipped stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars, and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone, fire affected stones, shellfish, or other dietary refuse.

In the event that prehistoric archeological materials or indicators are discovered, the cannabis cultivator shall also notify the Native American Heritage Commission within 48 hours of any discovery and request a list of any California Native American tribes that are potentially culturally affiliated with the discovery. The cannabis cultivator shall notify any potentially culturally affiliated California Native American tribes of the discovery within 48 hours of receiving a list from the Native American Heritage Commission.

The cannabis cultivator shall promptly retain a professional archeologist⁵ to evaluate the discovery. The cannabis cultivator shall submit proposed mitigation and conservation measures to the appropriate person(s) (Deputy Director for the Cannabis SIUR and Regional Water Board Executive Officer for the Cannabis General Order or Cannabis General Water Quality Certification) for written approval. The appropriate person may require all appropriate measures necessary to conserve archeological resources and tribal cultural resources, including but not limited to Native American monitoring, preservation in place, and archeological data recovery.

In the event of a discovery of prehistoric archeological materials or indicators are discovered, the cannabis cultivator shall also provide a copy of the final proposed mitigation and conservation measures to any culturally affiliated California Native American tribes identified by the Native American Heritage Commission. The appropriate person will carefully consider any comments or mitigation measure recommendations submitted by culturally affiliated California Native American tribes with the goal of conserving prehistoric archeological resources and tribal cultural resources with appropriate dignity.

Ground-disturbing activities shall not resume within 100 feet of the discovery until all approved measures have been completed to the satisfaction of the Deputy Director and/or Executive Officer, as applicable.

23. Upon discovery of any human remains, cannabis cultivators shall immediately comply with Health and Safety Code section 7050.5 and, if applicable, Public Resources Code section 5097.98. The following actions shall be taken immediately upon the discovery of human remains:

All ground-disturbing activities in the vicinity of the discovery shall stop immediately. The cannabis cultivator shall immediately notify the County coroner. Ground disturbing activities shall not resume until the requirements of Health and Safety Code section 7050.5 and, if applicable, Public Resources Code section 5097.98 have been met. The cannabis cultivator shall ensure that the human remains are treated with appropriate dignity.

Per Health and Safety Code section 7050.5, the coroner has two working days to examine human remains after being notified by the person responsible for the excavation, or by their authorized representative. If the remains are Native American, the coroner has 24 hours to notify the Native American Heritage Commission.

Per Public Resources Code section 5097.98, the Native American Heritage Commission will immediately notify the persons it believes to be the most likely descended from the deceased Native American. The most likely descendent has 48 hours to make recommendations to the landowner or representative for the treatment or disposition, with proper appropriate dignity, of the human remains and any associated grave goods. If the Native American Heritage Commission is unable to identify a descendant; the mediation provided for pursuant to subdivision (k) of Public Resources Code section 5097.94, if invoked, fails to provide measures acceptable to the landowner; or the most likely descendent does not make recommendations within 48 hours; and the most likely descendants and the landowner have not mutually agreed to extend discussions regarding treatment and disposition pursuant to subdivision (b)(2) of Public Resources Code section 5097.98, the landowner or their authorized representative shall reinter the human remains and items associated with the Native American human remains with appropriate dignity on the property in a location not subject to further and future disturbance consistent with subdivision (e) of Public Resources Code section 5097.98. If the landowner does not accept the descendant's recommendations, the landowner or the descendants may request mediation by the Native American Heritage Commission pursuant to Public Resources Code section 5097.94, subdivision (k).

⁵ A professional archaeologist is one that is qualified by the Secretary of Interior, Register of Professional Archaeologists, or Society for California Archaeology.

LOCAL

Sonoma County General Plan

The 2020 Sonoma County General Plan includes the following policies associated with cultural resources that are relevant to the project:

- ▶ **Objective OSRC-19.3:** Encourage protection and preservation of archaeological and cultural resources by reviewing all development projects in archaeologically sensitive areas.
- ▶ **Objective OSRC-19.5:** Encourage the identification, preservation, and protection of Native American cultural resources, sacred sites, places, features, and objects, including historic or prehistoric ruins, burial grounds, cemeteries, and ceremonial sites. Ensure appropriate treatment of Native American and other human remains discovered during a project.
- ▶ **Objective OSRC-19-6:** Develop and employ procedures to protect the confidentiality and prevent inappropriate public exposure of sensitive archaeological resources and Native American cultural resources, sacred sites, places, features, or objects.
- ▶ **Policy OSRC-19b:** Refer proposals for County Landmark status and rezonings to the Historic Combining District to the County Landmarks Commission.
- ▶ **Policy OSRC-19c:** The County Landmarks Commission shall review Historic Building Surveys and make recommendations for designation of structures or cemeteries as County landmarks.
- ▶ **Policy OSRC-19e:** Refer applications that involve the removal, destruction or alteration of a structure or cemetery identified in a historic building survey to the Landmarks Commission for mitigation. Measures may include reuse, relocation, or photo documentation.
- ▶ **Policy OSRC-19f:** Use the Heritage or Landmark Tree Ordinance and the design review process to protect trees.
- ▶ **Policy OSRC-19i:** Develop a historic resources protection program that provides for an ongoing process of updating the inventory of historic resources. Such a program should include:
 - 1) Periodic historic building surveys,
 - 2) Formalized recognition of the inventory of historic resources as recommended by the State Office of Historic Preservation, including rezoning to the Historic Combining District (HD), and
 - 3) Procedures for the protection of recognized historic resources for both ministerial and discretionary permits.
- ▶ **Policy OSRC-19j:** Develop an archaeological and paleontological resource protection program that provides: (1) Guidelines for land uses and development on parcels identified as containing such resources, (2) Standard project review procedures for protection of such resources when discovered during excavation and site disturbance, and (3) Educational materials for the building industry and the general public on the identification and protection of such resources.
- ▶ **Policy OSRC-19k:** Refer applications for discretionary permits to the Northwest Information Center to determine if the project site might contain archaeological or historical resources. If a site is likely to have these resources, require a field survey and preparation of an archaeological report containing the results of the survey and include mitigation measures if needed.
- ▶ **Policy OSRC-19n:** Develop procedures for complying with the provisions of State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, if applicable, in the event of the discovery of a burial or suspected human bone. Develop procedures for consultation with the Most Likely Descendant as identified by the California Native American Heritage Commission, in the event that the remains are determined to be Native American.

Petaluma Dairy Belt Area Plan

The Petaluma Dairy Belt Area Plan was initially adopted by the County in 1985 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan, and its primary priority shall be to preserve and enhance the agricultural resources and protect the agricultural industry. The plan area is located west of the City of Petaluma along the county's western boundary.

Policies of the Petaluma Dairy Belt Area Plan that address cultural resources include the following:

Natural Resources

A. Historic and Archaeological Sites

- (1) Preserve adequate open space around historic settlements and buildings, areas of archaeological significance, and other features important to the human history of the County, so that the natural settings of such areas are retained.
- (2) Historic sites, whether or not they include standing structures, may merit preservation; care should be taken when preserving or otherwise modifying historic structures.

Sonoma Mountain Area Plan

The Sonoma Mountain Area Plan was initially adopted by the County in 1978 and has been amended through 2012. It is guided by the policy provisions of the Sonoma County General Plan. The plan area is located west of the US 101 in the southern portion of the county.

Policies of the Sonoma Mountain Area Plan that address cultural resources include the following:

Historic Sites and Archaeologically Sensitive Areas

- (1) Preserve adequate open space around missions, historic settlements and buildings, areas of archaeological significance, and other features important to the human history of the County so that the natural settings of such areas are retained.
- (2) Establish a mechanism for identification, review, evaluation, and protection of archaeological sites.

South Santa Rosa Area Plan

The South Santa Rosa Area Plan was initially adopted by the County in 1982 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan and consists of approximately 18,000 acres. The plan area is bisected by US Highway 101 and is located east of State Route 116 and south of State Route 12. is located west of the US Highway 101 in the southern portion of the county.

Policies of the South Santa Rosa Area Plan that address cultural resources include the following:

Historic Preservation

- (1) Ensure adequate open space around historic buildings, areas of archaeological significance, and other features important to the human history of the County, so that the natural settings of subareas are retained.
- (2) Continue the established practices for identification, review, evaluation and protection of archaeological sites.
- (3) Recognize that historic sites, not only prehistoric sites, have archaeological importance; therefore, historic sites, whether or not they include standing structures, may merit preservation; care should be taken when preserving or otherwise modifying historic structures.

West Petaluma Area Plan

The West Petaluma Area Plan was initially adopted by the County in 1981 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan and consists of approximately 11,000 acres. The plan area is located west of US Highway 101 and the City of Petaluma.

Policies of the West Petaluma Area Plan that address cultural resources include the following:

C. Open Space

Goal 2.2: Preserve significant archaeological and historical sites.

- (1) Establish a mechanism for identification, review, evaluation, and protection of historical and archaeological sites.

Sonoma County Code

Construction Grading and Drainage

Chapter 11, "Construction Grading and Drainage," outlines standards required in construction or grading in Article 14, including the protection of human remains and archaeological resources (Section 11.14.050). Where human remains or archaeological resources are discovered during construction grading and drainage, all work shall be halted in the vicinity of the find. If human remains or suspected human remains are discovered, the permittee shall notify the county coroner and comply with all state law requirements, including Health and Safety Code Section 7050.5 and PRC Section 5097.98, to ensure proper disposition of the human remains or suspected human remains, including those identified to be Native American remains.

Sonoma County Landmarks Commission

The Sonoma County Landmarks Commission was established in 1974 and charged with the authority to designate Historic Landmarks and Historic Districts zoning. Sonoma County Code Section 26-68-005 states:

Intent and Purpose. The Board of Supervisors finds and declares that the preservation of structures, sites, and areas of historical, architectural, and aesthetic interest promotes the general welfare of the citizens of Sonoma County. The purpose of this district is to protect those structures, sites, and areas that are reminders of past eras, events and persons important in local, state, or national history, or which provide significant examples of architectural styles of the past, or which are unique and irreplaceable assets to the County and its communities, or which provide for this and further generations examples of the physical surroundings in which past generations lived, so that they may serve an educational and cultural function for the citizens of Sonoma County and for the general public.

All structures, sites, and areas associated with significant events or persons, or that are important examples of architectural styles, are eligible for consideration as a Sonoma County Historic Landmark. As revised in 2008, the following criteria, which are based on NRHP and CRHR designation criteria, are used by the Landmark Commission for designation (Sonoma County Landmarks Commission, adopted April 3, 1978; revised June 30, 2008).

The quality of significance in Sonoma County, California, or American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, association, and one or more of the following:

- ▶ that are associated with events that have made a significant contribution to the broad patterns of our history
- ▶ that are associated with the lives of persons significant in our past
- ▶ that embody 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
- ▶ that have yielded, or may be likely to yield, information important in prehistory or history

Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible as an Historic Landmark. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- ▶ A religious property deriving primary significance from architectural or artistic distinction or historical importance

- ▶ A building or structure removed from its original location, but that is significant primarily for architectural value, or which is the surviving structure most importantly associated with an historic person or event
- ▶ A birthplace or grave of an historical figure of outstanding importance if there is no other appropriate site or building directly associated with his/her productive life
- ▶ A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with an historic event
- ▶ A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived within that area
- ▶ A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance
- ▶ A property achieving significance within the past 50 years, if it is an important element to the environment of a particular community.

Agricultural Grading and Drainage

Chapter 36 of the Sonoma County Code regulates agricultural grading and drainage in the unincorporated area of the County, and establishes a ministerial standard for those activities.

An agricultural grading permit is required prior to commencing any agricultural grading or related work, including preparatory land clearing, vegetation removal, or other ground disturbance, except under circumstances including: emergency agricultural grading; environmental remediation; exploratory excavations; minor cut; minor fill outside the flood-prone urban area and special flood hazard areas; and resource conservation, restoration, and enhancement projects. An agricultural drainage permit is required prior to commencing any agricultural drainage involving construction or modification of drainage facilities or related work, including preparatory land clearing, vegetation removal, or other ground disturbance, except under circumstances including: emergency agricultural drainage; existing private drainage facilities; minor pipe and vee-ditch swale systems; resource conservation, restoration, and enhancement projects; and seasonal drainage swales.

Chapter 36, Article 20, of the County code contains standards for agricultural grading, drainage, protection of human remains and archaeological resources, protection of listed species, removal of trees and other vegetation, road network requirements, setbacks from certain soil conditions, and requirements for best management practices (BMPs).

3.5.2 Environmental Setting

GEOLOGY AND SOILS

The topography in Sonoma County is varied, including several mountain ranges, distinctive valleys, and coastal terraces. The geology is quite complex and is continually evolving because of its location at an active plate margin. The County is bounded on the south by the San Pablo Bay and associated wetlands. The Cotati and Petaluma Valleys create the wide basin stretching from Santa Rosa to the Bay. Rolling hills and grasslands predominate here, as well as in Marin County to the south. The rugged Mayacamas and Sonoma Mountains geographically form the eastern boundary and physically separate Sonoma County from Lake and Napa Counties. The Sonoma Valley runs north-south between the Sonoma Mountains to the west and the taller Mayacamas Mountains to the east. The Geysers geothermal field, located in the northeastern section of the County, extends into both Sonoma and Lake Counties. The Mendocino Highlands form a common geographic unit with Mendocino County to the north. The Alexander Valley runs from northwest to southeast, bounded on the east by the Mayacamas Mountains and on the west by the Coast Range. The Pacific Ocean forms the western County boundary, including an interesting assemblage of steep hills, marine terraces, beaches, and offshore sea stacks.

The geology of Sonoma County is a result of the past tectonic, volcanic, erosion, and sedimentation processes of the California Coast Range geomorphic province. Ongoing tectonic forces resulting from the collision of the North American Plate with the Pacific Plate, combined with more geologically recent volcanic activity, have resulted in mountain building and down warping of parallel valleys. The margin of the two tectonic plates is defined by the San Andreas Fault system: a broad zone of active, dormant, and inactive faults dominated by the San Andreas Fault, which trends along the western margin of the County. This fault system results in the northwestern structural alignment that controls the overall orientation of the County's ridges and valleys. The land has been modified by more recent volcanic activity, evidenced by Mount St. Helena that dominates the northeastern part of the County. Erosion, sedimentation, and active faulting occurring in recent times have further modified Sonoma County's landscape to its current form (Sonoma County 2006: 4.7-1).

Soil is defined by soil scientists as earth surface material that has been so modified or acted upon by physical, chemical, or biological agents that it supports plant life. Engineers and geologists define soil as an earth material that is soft enough that it can be removed without blasting. Characteristics such as depth, compressive strength, density, expansion potential, corrosivity, permeability, ability to hold water, and fertility vary widely from place to place. Soils analysis for planning is performed to determine the suitability of soils for agriculture or other resource uses and to characterize engineering properties as they relate to the soils' constraints on development. For planning purposes in Sonoma County, both agricultural resource and engineering properties are discussed.

There are 259 soil types mapped within Sonoma County. To facilitate evaluation of these soils, they are classified into 15 major soil associations, with each soil association typically correlated to a particular geographic area. There are five soil associations found in basins, tidal flats, flood plains, terraces, and alluvial fans. The remaining 10 soil associations are characteristic of high terraces, foothills, uplands, and mountains. Soils associations are divided into broad groups based upon color and texture. These groups illustrate the general pattern of soil occurrence in Sonoma County; the first group includes soils found primarily in basins, flood plains, terraces, and alluvial fans whereas the second group includes soils found primarily in high terrace, foothill, upland, and mountain areas. The associations provide information for general planning and resource management, but do not provide specific technical data on a particular soil. The Sonoma County Soils Survey contains detailed information on individual soil series. For project planning within the County, site-specific geotechnical or agricultural soil investigations may be required prior to environmental review and design of the project (Sonoma County 2006: 4.7-12).

Archaeological Sensitivity

Archaeological sensitivity is based on the age and distribution of surface deposits, as well as the type and position of historic-era streams. Landforms that predate the Holocene (>11,700 years) have little or no potential to contain buried resources because there were few, if any, people yet present in the region. Previous studies have shown that known prehistoric sites tend to be located within 200 meters (656 feet) or less of a known stream or other water source (Rosenthal and Meyer 2004). Conversely, younger Holocene-age depositional landforms (e.g., alluvial fans and floodplains) have a general "geologic potential" to contain buried sites because they were formed after the arrival and occupation of the region by Native American people. Thus, Holocene-age terrestrial deposits located within 200 meters of a historic-era stream are considered to have an elevated potential to contain buried sites. Because specific soils series are typically associated with Quaternary deposits of a particular age and depositional environment, they can be used to define the extent and chronological relationship of Quaternary-age landforms and have been used successfully to estimate archaeological sensitivity throughout California (e.g., Meyer and Rosenthal 2007; Rosenthal and Meyer 2004).

PRE-EUROPEAN CONTACT SETTING

The archaeological taxonomy used in the North Coast Range today is a hybrid of classification systems proposed by pioneering California archaeologists, such as Richard Beardsley and Dave Fredrickson. This hybrid system defines broad temporal sequences based on both stylistic changes in technologies and cultural changes in lifeways, such as in settlement, subsistence, and mortuary patterns. Subsequent research has helped fine-tune the date ranges for each pattern, allowing for more localized and detailed analyses (Zelazo 2022).

Post Pattern (13,400 to 10,500 BP)

The Post Pattern is the oldest known occupation of the North Coast Range. It dates back to the end of the Pleistocene at roughly 13,400 to 10,500 years before present (BP). Artifacts associated with this pattern include Clovis-like fluted concave-base projectile points, which were most likely used in conjunction with an atlatl, chipped stone crescents, and single-shoulder bifaces shaped for hafting.

Due to the paucity of sites and artifacts associated with the Post Pattern, little inference can be made about the culture, except to say lacustrine sites were being utilized for resource procurement. From the lithic assemblage however, it is likely that the dart and atlatl were used for hunting game, while crescent points may have been used as transverse projectile points for hunting birds (Zelazo 2022).

Borax Lake Pattern (10,500 to 7,000 BP)

Climate change during Pleistocene/Holocene transition saw the onset of warmer and drier conditions. Many of the large lakes that dominated Californian valleys began to dry up. As a result, an increased emphasis on plant foods during this period can be inferred by the widespread appearance of milling slabs and handstones. The appearance of milling technology may also indicate less emphasis on hunting as individuals became more familiar with local plant resources. Most artifacts during this period were manufactured of local materials, and trade appears to have been limited.

Technologically, milling slabs and handstones are prevalent in Borax Lake Pattern sites, as are square stemmed projectile points, large bladelet flakes, and unifacial flaked stone tools. Together these artifacts suggest a broad-based diet where plant resources appear to be a primary focus, instead of large mammals, which predominated the previous period (Zelazo 2022).

The Mendocino Pattern (7,500 to 1,200 BP)

This pattern is a distinct regional pattern seen more in the uplands and mountains of the North Coast Range. The Mendocino Pattern is characterized by notched, concave-based, and leaf-shaped projectile points indicative of the continuing spear throwing technology. Milling equipment includes shaped and cobble manos and metates, mortars and pestles, and basalt core tools. Rock-lined hearth and oven features, as well as other rock features are common. Burials exhibit flexed skeletons with cobbles and “killed mortars and milling equipment” placed over the burial.

The Berkeley Pattern (7,000 to 1,200 BP)

The Berkeley Pattern is characterized by tightly flexed burials with very few associated grave goods, Olivella saucer- and saddle-shaped beads and *Haliotis* ornaments and concave-base and non-stemmed projectile points. This pattern also exhibits an advanced bone-tool industry. Spear technology was still in use as evidenced by bone and antler hooks and large dart-sized projectile points. Although mano and metate milling tools were still in use, an increase in mortars and pestles suggests a shift toward an acorn-based economy.

The Augustine Pattern (1,200 BP to Historic Era Period)

The beginning of the Augustine Pattern is marked by a change in technology and subsistence strategies, expanding sedentism and population growth, and an increase in trade. This pattern is associated with the influence of Patwin speakers from the lower Sacramento Valley.

While the Augustine Pattern was prevalent throughout the entire San Francisco Bay and North Coast Ranges, the particular variant of the pattern in the County was the St. Helena Aspect. The St. Helena Aspect is characterized by the findings associated with cultural sites located west of Lake Berryessa. Constituents discovered at the site included small, sometimes serrated projectile points with either parallel or corner-notched stems; examples of corner-notched points manufactured from discarded bottle glass introduced with European colonization have been found in sites dating to the historic era, which began approximately 230 years ago. Larger shouldered bifaces, bipoints, and leaf-shaped points were absent. Well-shaped mortars, hopper-mortars, and pestles were also prevalent. An increase in discovery of bone awls at Augustine sites likely indicates an increase in the production of basketry. Tubular stone or bone tobacco pipes are also common. Beads and ornaments were made from shell as in earlier patterns, but now stone and bone beads have become common. All these changes coincided with an increase in trade items from greater distances, such as obsidian from eastern Sierra sources and shell beads from southern California.

HISTORIC SETTING

Regional History

Spanish Period (1769--1822)

Gaspar de Portolá and Franciscan Father Junípero Serra established the first Spanish settlement in Alta California at Mission San Diego de Alcalá in 1769. This was the first of 21 missions erected by the Spanish between 1769 and 1823. Portolá continued north, reaching the San Francisco Bay in 1769. Short on food and supplies, the expedition turned back to San Diego. In 1770, Pedro Fages began his expedition, reaching the San Francisco Bay Area and exploring the region in 1772. Although the Spanish, Portuguese, British, and Russian explorers sailed the Alta (upper) California coast and made limited inland expeditions for the 200 years prior, they had not established permanent settlements (Rincon 2022).

In 1770, the mission and presidio at Monterey were founded, and 3 years later Juan Bautista de Anza proposed to open a land route from Sonora to Monterey. The viceroy at the time, Antonio de Bucareli, sanctioned Anza's expedition and proposed he extend it to form a settlement at the bay of San Francisco. Anza's first expedition traveled from Mexico City to Monterey. During this time, various sea expeditions from Monterey resulted in the discovery of Nootka Sound, the Columbia River, and the Golden Gate straight. Anza's second expedition began in 1775 and led to the establishment of the presidio and Mission Dolores at San Francisco. Spanish colonial activity in the Bay Area concentrated on Mission Dolores and the presidio. Mission San Francisco Solano was founded in Solano during the Mexican Period, in 1823, and was the last California mission established.

Mexican Period (1822-1848)

The Mexican Period commenced when news of the success of the Mexican Revolution (1810–1821) against the Spanish crown reached California in 1822. This period saw the privatization of mission lands in California with the passage of the Secularization Act of 1833. This Act enabled Mexican governors in California to distribute mission lands to individuals in the form of land grants. Successive Mexican governors made more than 700 land grants between 1822 and 1846, putting most of the state's lands into private ownership for the first time.

The Mexican Period saw an increased importance of sea trade and an influx of American settlers, which motivated the United States to expand its territory into California. The United States supported a small group of insurgents from Sonoma during the Bear Flag Revolt, during which the Bear Flaggers captured Sonoma in June 1846. The next month, Commodore John Drake Sloat landed in Monterey and proceeded to take Yerba Buena, Sutter's Fort, Bodega Bay, and Sonoma. Fighting between American and Mexican forces continued until Mexico surrendered in 1847.

American Period (1848-Present)

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico \$15 million for the conquered territory that included California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. Settlement of California continued to increase during the early American Period. Many ranchos in Sonoma County were sold or otherwise acquired by Americans, and most were subdivided into agricultural parcels or towns.

The discovery of gold in northern California in 1848 led to the California Gold Rush, and California's population grew exponentially. During this time, San Francisco became California's first true city, growing from a population of 812 to 25,000 in only a few years (Rincon 2022).

Sonoma County

In 1833, Governor Figueroa initiated a plan to settle Marin and Sonoma counties. In 1835, the Plaza de Sonoma was founded by Vallejo at Mission San Francisco Solano. Vallejo laid out the new pueblo around a plaza. The plaza was used by the soldiers assigned to defend the settlement for a drilling ground from 1835–1846. Vallejo's home, barracks, and a number of adobes were built around the plaza in the 1840s. The lands of the Pueblo of Sonoma totaled 5,872 acres, with ownership confirmed in 1851 (De Novo Planning Group 2022).

Rancho Petaluma was the land grant made to General Vallejo in 1843 by Governor Micheltorrena. The grant originally consisted of 10 leagues of land, with an additional 5 leagues given to him in 1844. The patent to the lands was finally

confirmed in 1873. On the rancho lands, Vallejo built a large adobe. Extending northward from the lands of the Pueblo de Sonoma is the land grant of Rancho Agua Caliente. Governor Alvarado had awarded this land grant along Sonoma Creek to Lazaro Piña in 1840 (De Novo Planning Group 2022).

After statehood, logging along the coast hills, cattle ranching, wheat and potato farming, and the early development of the wine industry supported the sparsely settled County. During the 1860s to the 1890s, Petaluma, at the head of navigation on Petaluma Creek, enjoyed rapid economic growth that fueled the construction of its downtown. Around the turn of the century, the Russian River developed as a vacation resort, a destination for those in the San Francisco Bay Area. During this time, Santa Rosa also enjoyed an increase in population and importance as the center of finance and County government. Until World War II, the poultry industry, the processing of local fruit, and the production of hops sustained the economy throughout the County. In 1935, Sonoma County ranked 10th in the nation in overall agricultural production (Sonoma County 2024a).

Today the southwestern part of the County continues to support cattle grazing and dairy farms. Toward the north, many of the ranches and orchards have been replaced with acres of vineyards, and poultry farms, fruit growers, and dairy operations have been replaced with small specialty farms and sustainable and organic ranches. The Russian River area still caters to vacationers, but on a smaller scale, and the cities along the freeway continue to expand to provide housing and services with new subdivisions, business parks, and strip-mall shopping centers. With 467,000 residents, the County has doubled its population since 1980 (Sonoma County 2024a).

Railroads and Agriculture

The San Francisco & North Pacific Railroad, the first Sonoma County railroad began operating in 1870, meeting ferries from San Francisco, just south of Petaluma. In 1875 the North Pacific Coast Railroad linked Sausalito to the coastal communities along Tomales Bay. Further east, the Sonoma Valley Railroad began operation in 1879. These lines merged in 1914 to form the Northwestern Pacific Railroad, which operated from Sausalito to Eureka, until the 1990s.

After statehood, logging along the coastal hills, cattle and dairy ranching, and potato farming supported the County. During the first half of the 20th century, the poultry industry, fruit and fruit processing, and hops production were briefly profitable. Today wineries have replaced many of the ranches, most of which relocated to California's Central Valley.

The growth of the dairy industry during the 1870s and 1880s was unparalleled by other Sonoma County agricultural industries. Sonoma County produced more than 762,000 pounds of butter and 356,000 pounds of cheese in 1872, some 62 percent and 77 percent more, respectively, than neighboring Napa, Lake, and Mendocino Counties combined. By 1877, more than two million pounds of butter and 250,000 pounds of cheese were reportedly produced in the County. While the production of butter and cheese decreased around the turn of the 20th century, milk production increased (Barrow 2018:8).

As herds became larger, the need for speed and efficiency was foremost to dairy owners. Preceded by hand milking and bucket milking, both with inherent time and sanitation issues, the first pipeline milker was introduced in the United States during the 1920s and was known as the DeLaval Relay Milker. This closed system used easily cleaned, hygienic pipelines from cow to receiving vat, lessening the opportunity for contamination. In the years following release of the DeLaval system, a variety of milking machines and components were introduced, all aimed at increasing efficiency and milk production. The arrangement of milking parlors was also explored to achieve maximum production in the least amount of time (Barrow 2018:8).

Economists Alan Olmstead and Paul Rhode report that while overall livestock production in California declined during the 20th century, dairying and poultry production increased. In 1961, cattle and milk ranked first and second, respectively, in the state's top 20 crop and livestock commodities. The two exchanged rankings a decade later, and by 2001 cattle production had fallen to fifth overall while milk production held the primary spot. In 1993, California overtook Wisconsin as the nation's top milk-producing state; a position the state has held ever since (Barrow 2018:8).

The primacy of dairy farming in Sonoma County was challenged during the late 1920s and 1930s, and by 1936 poultry farming overtook dairying as the County's leading agricultural industry. Still, revenue from the estimated 52,000 dairy cows reported in the County in 1936 was nearly \$3 million, keeping the dairy industry high on the County's economic

ladder. Eventually, the egg boom died back, and milk was the prime agricultural product once again, a position it held until 1987 when grapes took the lead (Barrow 2018:8).

RECORDS SEARCHES

On June 2, 2023, a records search for the County of Sonoma was conducted at the Northwest Information Center (NWIC) at California State University, Sonoma (File no. 22-1228). The following information was reviewed:

- ▶ site records of previously recorded cultural resources,
- ▶ previous cultural studies,
- ▶ NRHP and CRHR listings, and
- ▶ the California Historic Resources Inventory.

The records search identified a total of 6,550 cultural resources with state issued primary numbers (Table 3.5-1). Some of these resources that hold a single primary number contain multiple resource types and age ranges. In the County, there are 2,946 primary numbers that include the resource type “Building,”; 520 primary numbers that include the resource type “Structure,” 3,229 primary numbers that include “Site,” 65 primary numbers that include “Object,” 65 primary numbers that include “District,” 772 primary numbers that include an “Element of District,” and 276 primary numbers that include “Other.” These resource type terms are defined as follows:

- ▶ Building: A building, such as a house, barn, church, hotel, or similar construction, is created principally to shelter any form of human activity. “Building” may also be used to refer to a historically and functionally related unit, such as a courthouse and jail or a house and barn.
- ▶ Structure: The term “structure” is used to distinguish from buildings those functional constructions made usually for purposes other than creating human shelter.
- ▶ Object: The term “object” is used to distinguish from buildings and structures those constructions that are primarily artistic in nature or are relatively small in scale and simply constructed. Although it may be, by nature or design, movable, an object is associated with a specific setting or environment.
- ▶ Site: A site is the location of a significant event, a precontact or historic era occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value regardless of the value of any existing structure.
- ▶ District: A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.
- ▶ Element of a District: This could be a site, building, structure, or object that is a contributing element of a district.
- ▶ Other: This category is used for resources that cannot be readily classified as one of the above categories.

Table 3.5-1 Resources Previously Recorded within Sonoma County

	Building	Structure	Site	Object	District	Element of District	Other
Precontact	-	-	2363	14	7	92	201
Protohistoric-era	-	-	58	-	2	2	5
Historic-era	2946	520	1146	54	65	687	88
Unknown	-	-	18	-	-	-	3

Note: The term “protohistoric” refers to archaeological sites that have an indigenous and Euro-American components after European contact.

Source: Compiled by Ascent in 2024.

State-Listed Resources

Table 3.5-2 shows 84 properties in the County that have been determined eligible for listing in the NRHP, in the CRHR, as a CHL, or as a California Point of Historical Interest.

Table 3.5-2 Eligible Resources within Sonoma County

Name (Landmark Plaque Number)	NRHP	CHL	CRHR	PHI	City (County)
Bear Flag Monument (7)		X			(Sonoma)
Blue Wing Inn (17)		X			Sonoma (Sonoma)
Bodega Bay (N270)	X		X		Bodega Bay (Sonoma)
Bodega Bay And Harbor (833)		X			Bodega Bay (Sonoma)
Buena Vista Vineyards--Buena Vista Vinicultural Society (N1449)	X		X		Sonoma (Sonoma)
Burbank, Luther, House And Garden (234)	X	X	X		Santa Rosa (Sonoma)
Carriger, Nicholas, Estate (N2152)	X		X		Sonoma (Sonoma)
Cloverdale Railroad Station (N467)	X		X		Cloverdale (Sonoma)
Cnopius House (N1090)	X		X		Santa Rosa (Sonoma)
Condominium 1 (N2293)	X		X		The Sea Ranch (Sonoma)
Cooper's Sawmill (835)		X			Santa Rosa (Sonoma)
Cotati Downtown Plaza (879)		X			Cotati (Sonoma)
De Turk Round Barn (N2237)	X		X		Santa Rosa (Sonoma)
Dry Creek-Warm Springs Valleys Archeological District (N546)	X		X		Healdsburg (Sonoma)
Duncan's Landing Site (N136)	X		X		Jenner (Sonoma)
Ellis-Martin House (N2343)	X		X		Petaluma (Sonoma)
Fort Ross (5)	X	X	X		Jenner (Sonoma)
Fort Ross Commander's House (N56)	X		X		Fort Ross (Sonoma)
Free Public Library Of Petaluma (N1568)	X		X		Petaluma (Sonoma)
Gables, The (N1318)	X		X		Santa Rosa (Sonoma)
General M. G Vallejo Home (4)		X			Sonoma (Sonoma)
Geyserville Union School (N826)	X		X		Geyserville (Sonoma)
Glen Oaks Ranch (N1880)	X		X		Glen Ellen (Sonoma)
Gold Ridge Farm (N718)	X		X		Sebastopol (Sonoma)
Gould--Shaw House (N1793)	X		X		Cloverdale (Sonoma)
Guerneville Bridge (N1609)	X		X		Guerneville (Sonoma)
Healdsburg Carnegie Library (N1573)	X		X		Healdsburg (Sonoma)
Hicks House (N1536)	X		X		Graton (Sonoma)
Hinds Hotel (N750)	X		X		Freestone (Sonoma)
Hood House (692)		X			Santa Rosa (Sonoma)
Hood, William, House (N2014)	X		X		Santa Rosa (Sonoma)
Hotel Chauvet (N1627)	X		X		Glen Ellen (Sonoma)
Hotel La Rose (N652)	X		X		Santa Rosa (Sonoma)
Icaria-Speranza Commune (981)		X			Sonoma (Sonoma)
Italian Swiss Colony (621)		X			Asti (Sonoma)

Notes: PHI = Points of Historical Interest.

Name (Landmark Plaque Number)	NRHP	CHL	CRHR	PHI	City (County)
Jack London State Historic Park (743)		X			(Sonoma)
Knipp And Stengel Ranch Barn (N1480)	X		X		Sea Ranch (Sonoma)
Laughlin, James H. And Frances E., House (N768)	X		X		Windsor (Sonoma)
Llano Road Roadhouse (N618)	X		X		Sebastopol (Sonoma)
London, Jack, Ranch (N33)	X		X		Glen Ellen (Sonoma)
Lumsden, W. H., House (N1219)	X		X		Santa Rosa (Sonoma)
Madrona Knoll Rancho District (N1502)	X		X		Healdsburg (Sonoma)
Mcdonald Mansion (N276)	X		X		Santa Rosa (Sonoma)
Mission San Francisco Solano (3)		X			Sonoma (Sonoma)
Nash Adobe (667)		X			Sonoma (Sonoma)
Old Petaluma Opera House (N733)	X		X		Petaluma (Sonoma)
Old Post Office (N839)	X		X		Santa Rosa (Sonoma)
Orange Lawn (N2408)	X		X		Sonoma (Sonoma)
Park Apartments (N769)	X		X		Santa Rosa (Sonoma)
Petaluma Adobe (18)	X	X	X		Petaluma (Sonoma)
Petaluma And Santa Rosa Railway Powerhouse (N1707)	X		X		Sebastopol (Sonoma)
Petaluma Historic Commercial District (N1907)	X		X		Petaluma (Sonoma)
Petaluma Silk Mill (N1428)	X		X		Petaluma (Sonoma)
Petrified Forest (915)		X			Calistoga (Sonoma)
Pinschower, Simon, House (N1046)	X		X		Cloverdale (Sonoma)
Presidio Of Sonoma (Sonoma Barracks) (316)		X			Sonoma (Sonoma)
Railroad Square District (N763)	X		X		Santa Rosa (Sonoma)
Ranch Site, The (N104)	X		X		Bodega Bay (Sonoma)
Rosenburg's Department Store (N1899)	X		X		Santa Rosa (Sonoma)
Salt Point State Park Archeological District (N72)	X		X		Stewarts Point (Sonoma)
Salvador Vallejo Adobe (501)		X			Sonoma (Sonoma)
Sebastopol Depot Of The Petaluma And Santa Rosa Railway (N1937)	X		X		Sebastopol (Sonoma)
Shaw, Isaac E., Building (N1671)	X		X		Cloverdale (Sonoma)
Sonoma Depot (N341)	X		X		Sonoma (Sonoma)
Sonoma Grammar School (N933)	X		X		Sonoma (Sonoma)
Sonoma Plaza (N342)	X		X		Sonoma (Sonoma)
Sonoma Plaza (Boundary Increase) (N1771)	X		X		Sonoma (Sonoma)
Sonoma State Home--Main Building (N2106)	X		X		Eldridge (Sonoma)
Ss Pomona (Shipwreck) (N2387)	X		X		(Sonoma)
St. Teresa's Church (820)		X			Bodega Bay (Sonoma)
Strout, George A., House (N883)	X		X		Sebastopol (Sonoma)
Sweed, Philip, House (N1778)	X		X		Petaluma (Sonoma)
Sweet House (N1547)	X		X		Santa Rosa (Sonoma)

Notes: PHI = Points of Historical Interest.

Name (Landmark Plaque Number)	NRHP	CHL	CRHR	PHI	City (County)
Swiss Hotel (496)		X			Sonoma (Sonoma)
Temelec (N2322)	X		X		Sonoma (Sonoma)
Temelec Hall (237)		X			Sonoma (Sonoma)
Union Hotel And Union Hall (627)		X			Sonoma (Sonoma)
Us Post Office--Petaluma (N1338)	X		X		Petaluma (Sonoma)
Vallejo Estate (N185)	X		X		Sonoma (Sonoma)
Vineyard And Winery (San Francisco Solano Mission Vineyard) (739)		X			Sonoma (Sonoma)
Walters Ranch (N521)	X		X		Healdsburg (Sonoma)
Walters Ranch Hop Kiln (893)		X			Healdsburg (Sonoma)
Wasserman House (N751)	X		X		Santa Rosa (Sonoma)
Watson School (P189)	X		X	X	Bodega (Sonoma)

Notes: PHI = Points of Historical Interest.

Source: OHP 2024.

County-Listed Resources

In addition, Sonoma County has approximately 190 Historic Landmarks, mostly designated between the mid-1970s to mid-1980s. Sonoma County Historic Landmarks are historic resources that the Landmarks Commission has determined to be significant based on local, state, and federal criteria. Sonoma County also has multi-parcel Historic Districts; these are specific areas of the County in which there is a significant concentration or continuity of historic sites, buildings, structures, and objects of historic merit or that represent an historic theme important to Sonoma County, the State of California, or the nation. Each of the existing five multi-parcel Historic Districts have also been designated as a County Landmark. Sonoma County has five multi-parcel Historic Districts: Bodega, Duncans Mills, Freestone, Occidental, and Penngrove (Sonoma County 2024b).

Bodega Historic District

The County adopted Ordinance No. 3217 establishing the Bodega Historic District on October 31, 1983, and designated it as County Landmark #136. The boundary of the Bodega Historic District encompasses primarily the downtown section of Bodega, along both sides of Bodega Highway from about Bodega Calvary Cemetery northeast to about Salmon Creek, including the north and west sides of Bodega Lane.

Duncans Mills Historic District

The County adopted Ordinance No. 2949 establishing the Duncans Mills Historic District on March 2, 1982, and designated it as County Landmark #139. The boundary of the Duncans Mills Historic District encompasses the area on the west side of State Highway 116 from the intersection with Moscow Road to about 1,500 feet northwest and along the east and west sides of State Highway 116 from the intersection with Moscow Road to about 700 feet southwest.

Freestone Historic District

The County adopted Ordinance No. 1849 establishing the Freestone Historic District on December 17, 1974, and designated it as County Landmark #1. The boundary of the Freestone Historic District encompasses primarily the downtown section of Freestone along Bohemian Highway from Bodega Road to the northern limits of town. Five buildings in the Freestone Historic District are designated as Historic Landmarks: an 1867 Greek Revival Schoolhouse, 1872 Greek Revival Hotel, 1876 Italianate General Store, and two Greek Revival private residences.

Occidental Historic District

The County adopted Ordinance No. 2611 establishing the Occidental Historic District on March 4, 1980, and designated it as County Landmark #137. The boundary of the Occidental Historic District encompasses generally downtown Occidental, the east and west sides of both Bohemian Highway and Main Street between 1st Street and

Graton Road, and extends along the west side of Bohemian Highway from the intersection with Graton Road to about 1,000 feet northwest and along both sides of Coleman Valley Road from the intersection with Bohemian Highway to about 400 feet northwest.

Penngrove Historic District

The County adopted Ordinance No. 3273 adopting the Penngrove Specific Plan, established the Penngrove Historic District on April 10, 1984, and designed it as County Landmark #138. The boundary of the Penngrove Historic District encompasses generally the east and west sides of Main Street from the intersection with Old Redwood Highway to Adobe Road. In two locations, the Historic District is only on the west side of Main Street.

3.5.3 Environmental Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, "Project Description," and Section 3.0, "Approach to the Environmental Analysis," regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

The impact analysis for archaeological and historical resources is informed by the provisions and requirements of federal, state, and local laws and regulations that apply to cultural resources.

PRC Section 21083.2(g) defines a "unique archaeological resource" as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one or more of the following CRHR-related criteria: (1) that it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; (2) that it has a special and particular quality, such as being the oldest of its type or the best available example of its type; or (3) that it is directly associated with a scientifically recognized important prehistoric or historic event or person. An impact on a resource that is not unique is not a significant environmental impact under CEQA (State CEQA Guidelines Section 15064.5[c][4]). If an archaeological resource qualifies as a resource under CRHR criteria, then the resource is treated as a unique archaeological resource for the purposes of CEQA.

In addition, according to PRC Section 15126.4(b)(1), if a project adheres to the Secretary of the Interior's Standards for the Treatment of Historic Properties, the project's impact "will generally be considered mitigated below the level of significance and thus is not significant."

For the purposes of the impact discussion, "historical resource" is used to describe built-environment historic-period resources. Archaeological resources (both prehistoric and historic-period), which may qualify as "historical resources" pursuant to CEQA, are analyzed separately from built-environment historical resources.

There are no proposed changes to the General Plan, area plans, or County Code that address cultural resources.

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the State CEQA Guidelines, the Cannabis Program Update would result in a significant impact on cultural resources if it would:

- ▶ cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 of the State CEQA Guidelines;

- ▶ cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines; or
- ▶ disturb any human remains, including those interred outside of formal cemeteries.

ISSUES NOT DISCUSSED FURTHER

The proposed Cannabis Program Update does not include changes to personal cultivation standards that would be substantially different from existing requirements such that physical changes to the environment could occur that would create significant impacts related to cultural resources. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Cause a Substantial Adverse Change in the Significance of a Historical Resource

Implementation of the Cannabis Program Update could result in cannabis cultivation and supply chain uses that contain or are near historical resources. This could result in damage to or destruction of a historic building or structure, thereby resulting in a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines, Section 15064.5. This would be a **potentially significant** impact.

Historical (or architectural) resources include standing buildings (e.g., houses, barns, cabins) and intact structures (e.g., dams, bridges). Sonoma County contains several known historic resources, including federally recognized and state-recognized resources. Known historic era resources within the County generally include civic and industrial buildings, bridges, barns, homes, and historic districts. As described in Section 3.5.2, "Environmental Setting," the records search results identified 3,466 built-environment resources (2,946 buildings and 520 structures) and 752 districts or elements of districts, in Sonoma County. Table 3.5-2 identified 84 historical resources, some of which may not be included in the NWIC results, that have been listed, determined eligible or appear to be eligible for the NRHP, CRHR, California State Historical Landmarks, or California Points of Historical Interests. In addition, Sonoma County has approximately 190 County historic landmarks.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses at an existing site must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

The proposed Cannabis Program Update assumes the development of cultivation outdoors and within structures, nursery, processing, testing, manufacturing, distribution, and retail sites. These cannabis operations could result in the reuse of existing buildings or construction of new buildings and the use of smaller sheds for storage of materials. These activities could occur in areas with known historical sites or in areas where structures have not yet been evaluated for historical significance.

New permitted cannabis cultivation operations within the County would be required to comply with SWRCB General Order Attachment A (Section 1, General Requirements and Prohibitions of SWRCB Order WQ 2023-0102-DWQ). Term 21 of Section 1 (General Requirements and Prohibitions) requires that records searches be performed through the applicable CHRIS information center before land-disturbing activities. Any positive results (i.e., previously evaluated as eligible for listing in the CRHR) identified in the records search would need to be further evaluated. However, SWRCB General Order

Attachment A does not require the recordation or evaluation of buildings or structures that have not been previously evaluated and does not apply to noncultivation cannabis uses. Thus, implementation of the proposed Cannabis Program Update could result in damage to or destruction of a historic building or structure, thereby resulting in a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines, Section 15064.5.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed; therefore, no damage to or destruction of a historic building or structure would occur.

Construction of Event Facilities and Event Operations

Construction and operation of event facilities could result in damage to or destruction of a historic building or structure, thereby resulting in a substantial adverse change in the significance of a historical resource defined in State CEQA Guidelines, Section 15064.5 as discussed above within agricultural and resources zoning districts.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. Development could result in damage to or destruction of a historic building or structure, thereby resulting in a substantial adverse change in the significance of a historical resource defined in State CEQA Guidelines, Section 15064.5 as discussed above within agricultural and resources zoning districts.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on historic resources.

Conclusion

As described above, implementation of the proposed Cannabis Program Update would require compliance with County and state standards related to protection of historical resources, which include performing records searches and further evaluating any positive results. However, SWRCB General Order Attachment A does not require the recordation or evaluation of buildings or structures that have not been previously evaluated. Thus, implementation of the proposed Cannabis Program Update could result in damage to or destruction of a building or structure that is a designated historic resource, that is eligible for listing as a historic resource, or that has not yet been evaluated, which could result in a change in its historical significance. Therefore, the impact to historical resources would be **potentially significant**.

Mitigation Measure 3.5-1 (UPC and DRH): Implement Additional Measures to Protect Historical Resources

Sonoma County shall require the following mitigation measures for cannabis project applications subject to a use permit or design review hearing.

- ▶ For all historic-age (over 45-years in age) buildings and structures, projects involving interior alterations, the addition of rooftop solar, or routine maintenance work, do not need evaluation of eligibility by an architectural historian.
- ▶ Applicants shall identify and evaluate all historic-age (over 45-years in age) buildings and structures that are proposed to be removed or proposed to have modifications as part of cannabis operations. This must include search results from the NWIC, preparation of an historic structure report and evaluation of resources to determine their eligibility for recognition under state, federal, or County Local Official Register of Historic Resources criteria. The evaluation shall be prepared by an architectural historian or historical architect who meets the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation's professional qualification standards.

The evaluation shall comply with CEQA Guidelines Section 15064.5(b) and, if federal funding or permits are required, with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (16 U.S.C., Section 470 et seq.).

- If resources eligible for inclusion in the NRHP, CRHR, or local Official Register of Historic Resources are identified, an assessment of impacts on these resources shall be included in the report, as well as detailed measures to avoid impacts. If avoidance of a significant architectural/built-environment resource is not feasible, additional mitigation options include, but are not limited to, specific design plans for historic districts or plans for alteration or adaptive reuse of a historical resource that follows the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitation, Restoring, and Reconstructing Historic Buildings*.

Significance after Mitigation

Implementation of Mitigation Measure 3.5-1 would reduce potentially significant impacts to historical resources because actions would be taken to record, evaluate, avoid, or otherwise treat the resource appropriately in accordance with pertinent laws and regulations. Implementation of this mitigation measure would reduce the impact to a **less-than-significant** level.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to cultural resources and implementation of Mitigation Measure 3.5-1 would be consistent with Sonoma County General Plan Policies OSRC-19b, OSRC-19c, OSRC-19e, OSRC-19f, OSRC-19i, and OSRC-19j, which require the County to review historic building surveys, make recommendations for designation of County landmarks, require implementation of mitigation measures, protect heritage or landmark trees, update the County's inventory of historic resources, and develop an archaeological and paleontological resource protection program. Additionally, Policy OSRC-19k requires that applications for discretionary permits be reviewed to determine if the project site contains archaeological or historical resources. Similar to the consistency with General Plan policy provisions, the proposed Cannabis Program Update would be generally consistent with historic policy provisions in the area plans for Petaluma Dairy Belt, Sonoma Mountain, South Santa Rosa, and West Petaluma.

Impact 3.5-2: Cause a Substantial Adverse Change in the Significance of Unique Archaeological Resources

New cannabis cultivation, processing, or manufacturing sites associated with implementation of the Cannabis Program Update could be located on properties that contain known or unknown archaeological resources. Ground-disturbing activities associated with new or modified cannabis site operations could result in discovery or damage of yet undiscovered archaeological resources as defined in State CEQA Guidelines, Section 15064.5. However, new cannabis sites would be required to comply with Sonoma County Code Sections 11.14.050 and 36.20.040, and Attachment A (Section 1, General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ, which includes protection measures to archaeological resources. Nevertheless, ground-disturbing activities could result in the accidental discovery and damage to archaeological sites. Therefore, this impact would be **potentially significant**.

As described in Section 3.5.2, "Environmental Setting," a total of 2,744 previously recorded precontact and protohistoric-era archaeological resource types were identified, composed primarily of temporary occupation sites, hunting/processing camps, habitation sites, burial sites, petroglyphs, milling stations, lithic scatters, and rock features. There are 1,288 historic-era archaeological resource types ("sites," "object," "other") which could include homesteading, ranching and agriculture, mining, town, and railroad sites. It is unknown how many of these resources have been listed, evaluated, or determined eligible for the CRHR/NRHP. Additional sites may be encountered throughout unsurveyed portions of the County during ground-disturbing and trenching activities; the discovery of yet undiscovered archaeological materials could result in changes to or destruction of archaeological resources as defined in State CEQA Guidelines Section 15064.5.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as

manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses at existing sites must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

These activities would result in limited levels of soil disturbance. Nevertheless, the potential exists for archaeological materials to be discovered when soils are disturbed. County Code Section 11.14.050 contains procedures to protect human remains and archaeological resources that would apply to cannabis supply chain uses and County Code Section 36.20.040 contains similar procedures that would apply to agricultural grading and drainage associated with cultivation activities. In addition, Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2017-0023-DWQ, Terms 21 and 22 of the General Requirements and Prohibitions require CHRIS records searches, NAHC record searches, and archaeological surveys or evaluations (if necessary). Compliance with Terms 21 and 22 of SWRCB General Requirements and Prohibitions would reduce impacts to known archaeological resources by requiring standard record searches, requiring archaeological evaluations of identified features, and implementing necessary measures to ensure the protection of archaeological resources. However, the SWRCB Order is specific to cultivation and while the County's standards address protection in the event of accidental discovery, they do not avoid impacts to known resources in the first instance.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. Still, impacts to archeological resources during crop removal, replanting, disking, and tilling is possible. While County standards address protection in the event of accidental discovery, they do not avoid impacts to known resources in the first instance.

Construction of Event Facilities and Event Operations

Construction and operation of event facilities would be subject to County and state standards related to protection of archaeological resources, as described above, that would minimize the potential for damage to undiscovered archaeological resources. However, while these standards address protection in the event of accidental discovery, they do not avoid impacts to known resources.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses. Development of new structures would result in the same impacts as discussed above within agricultural and resources zoning districts.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on archaeological resources.

Conclusion

As described above, implementation of the proposed Cannabis Program Update would require compliance with County and state standards related to protection of archaeological resources, which include performing records searches and (if needed) archaeological surveys or evaluations and implementing mitigation measures to ensure the protection of archaeological resources for cultivation sites. For all other activities, while County standards address protection in the event of accidental discovery, they do not avoid impacts to known resources in the first instance. Therefore, this impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.5-2a – (UPC and DRH) Cultural Resource Pre-Approval Evaluation

Sonoma County shall require the following mitigation measures for cannabis project applications subject to a use permit or design review hearing.

- ▶ The applicant must retain an archaeologist who meets the Secretary of the Interior's professional standards in archaeology to conduct a site-specific survey of the area and prepare a cultural resource survey report. The survey methodology (e.g., pedestrian survey, subsurface investigation) depends on whether the area has a low, moderate, or high sensitivity for resources, which is based on whether the records search and/or Native American consultation identifies archaeological resources near or within the treatment area. The cultural resource survey report must also include a search of the Sacred Lands Inventory that is maintained by the Native American Heritage Commission. The cultural resource survey report must comply with the applicable state or local agency procedures and include recommendations that must be implemented prior to and/or during construction to avoid or reduce impacts on archaeological resources, to the extent that the resource's physical constituents are preserved or their destruction is offset by the recovery of scientifically consequential information. The report must include whether an archeological monitoring is required to ensure impacts to resources are avoided.
- ▶ The County shall send a referral to the Northwest Information Center to perform a records search of potential archeological or cultural resources contained in the California Historical Resources Information System (CHRIS).

Mitigation Measure 3.5-2b – (UPC and DRH) Archeological Site Avoidance

Cannabis project applications shall be designed to avoid impacts to archaeological sites identified by Mitigation Measure 3.5-2a. A barrier (temporary fencing) and flagging shall be placed between the work location and any resources within 60 feet of a work location to minimize the potential for inadvertent impacts. The applicant must retain a qualified archeological monitor if the cultural resources survey report indicates that one is required to avoid impacts to archeological sites.

Mitigation Measure 3.5-2c (ZPC): Implement Mitigation Measure 3.15-1a

- ▶ Mitigation Measure 3.15-1a (ZPC): Protection of Tribal Cultural Resources for Permitted Uses

Significance after Mitigation

Implementation of Mitigation Measure 3.5-2a and 3.5-2b would require preparation of a cultural resources survey report, which would be developed by an archaeologist who meets the Secretary of Interior's professional standards in archaeology. Implementation of Mitigation Measures 3.5-2c would ensure that impacts to tribal cultural resources for projects that are approved as crop swap application are addressed by requiring avoidance of known tribal cultural resources and archaeological resources and retainment of a tribal cultural monitor during crop removal and initial ground disturbance if requested by a local tribe. Through implementation of this mitigation measure, potentially significant impacts on known tribal cultural resources would be avoided and a monitor would be present, if requested by a local tribe, to identify any previously unknown tribal cultural resources that may be uncovered during earth moving activities. With these requirements, impacts would be reduced to a less-than-significant level for crop swap applications. Because any identified archaeological resources would be avoided, this impact would be **less than significant**.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to cultural resources and would be consistent with Sonoma County General Plan Policies OSRC-19b, OSRC-19c, OSRC-19e, OSRC-19f, OSRC-19i, and OSRC-19j, which require the County to review historic building surveys, make recommendations for designation of County landmarks, require implementation of mitigation measures, protect heritage or landmark trees, update the County's inventory of historic resources, and develop an archaeological and paleontological resource protection program. Additionally, Policy OSRC-19k requires that applications for discretionary permits be reviewed to determine if the project site contains archaeological or historical resources. Similar to the consistency with General Plan policy provisions, the proposed Cannabis Program Update would be generally consistent with archaeological policy

provisions in the area plans for Petaluma Dairy Belt, Sonoma Mountain, South Santa Rosa, and West Petaluma. As noted above, cannabis uses would be subject to County Code Section 11.14.050 and 36.20.040.

Impact 3.5-3: Disturb Human Remains

Previously undiscovered human remains could be discovered when soils are disturbed during construction of cannabis sites permitted under the proposed Cannabis Program Update. Compliance with Sonoma County Code Sections 11.14.050 and 36.20.040 SWRCB Order WQ 2023-0102-DWQ, Health and Safety Code Section 7050.5, PRC Section 5097 would reduce this impact because required notification would occur and any remains that are discovered would be treated appropriately. However, because these standards do not serve to avoid human remains that may be expected to be present on a site for all types of development, this impact would be **potentially significant**.

As described in Section 3.5.2, "Environmental Setting," numerous sites that include precontact and historic era archaeological resources have been identified in Sonoma County. This evidence indicates that burial sites are likely to be encountered throughout the County.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, processing, and events with a use permit. Additionally, accessory uses to cultivation would be allowed, such as propagation, cultivation, processing, manufacturing, and retail. Existing cultivation sites may be expanded to support additional areas of cultivation or construct new buildings to support proposed allowable uses.

The proposed Cannabis Program Update assumes the development of cultivation, nursery, processing, testing, manufacturing, distribution, and retail sites. The potential exists for previously undiscovered human remains to be discovered when soils are disturbed. California law recognizes the need to protect Native American human burials, skeletal remains, and items associated with Native American burials from vandalism and inadvertent destruction. The procedures for the treatment of Native American human remains are described in California Health and Safety Code Section 7050.5 and PRC Section 5097.

These statutes require that if human remains are discovered during any construction activities, potentially damaging ground-disturbing activities in the area of the remains shall be halted immediately, and the Sonoma County coroner and NAHC shall be notified immediately, in accordance with PRC Section 5097.98 and Section 7050.5 of California's Health and Safety Code. If the remains are determined by NAHC to be Native American, the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. Following the coroner's findings, the archaeologist and the NAHC-designated Most Likely Descendant shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.94.

The permitting of cultivation activities is required to comply with Sonoma County Code Chapter 11, "Construction Grading and Drainage," which outlines standards required for construction grading (Section 11.14.050); and Chapter 36 governing agricultural grading and drainage, which contains procedures to follow in the case that human remains are discovered (Section 36.20.040). In addition, cannabis cultivation uses would be required to comply with Attachment A (Section 1, General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ, Health and Safety Code Section 7050.5, and PRC Section 5097.98. Under these requirements, where human remains are discovered during construction grading and drainage, all work shall be halted in the vicinity of the find. The permittee shall notify the county coroner and comply with all state law requirements, including Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, to ensure proper disposition of the human remains or suspected human remains, including those identified to be Native American remains. However, these standards do not serve to avoid human remains that may be expected to be present on a site.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed and work related to crop

removal, replanting, disking and tilling would be very shallow; therefore, the potential for discovery and disturbance of human remains would not increase.

Construction of Event Facilities and Event Operations

Construction and operation of event facilities would be subject to County and state standards related to the discovery of human remains, as described above, that would minimize the potential for disturbance of human remains. However, these standards do not serve to avoid human remains that may be expected to be present on a site.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses. Development of new structures would result in the same impacts as discussed above within agricultural and resources zoning districts.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on human remains.

Conclusion

Compliance with Sonoma County Code Section 11.14.050, SWRCB Order WQ 2023-0102-DWQ, Health and Safety Code Section 7050.5, and PRC Section 5097 would avoid or minimize the disturbance of human remains because required notification would occur and any remains that are discovered would be treated appropriately. However, these standards do not serve to avoid human remains that may be expected to be present on a site. Therefore, this impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.5-2a (UPC and DRH): Cultural Resource Pre-Approval Evaluation

Measure 3.5-3a (UPC and DRH): Implement Mitigation Measure 3.15-1c

- ▶ Measure 3.15-1c (UPC and DRH): Tribal Cultural Resources Pre-Approval Consultation

Mitigation Measure 3.5-3b (UPC and DRH): Implement Mitigation Measure 3.15-1e

- ▶ Measure 3.15-1e. (UPC and DRH) Avoidance of Human Remains

Significance after Mitigation

If the cultural resource survey prepared under Mitigation Measure 3.5-2a or tribal consultation under Mitigation Measure 3.5-3a indicate the potential presence of human remains, and if deemed appropriate by the County and Tribe, canine forensics teams would be employed to identify the location of human remains, as required by Mitigation Measure 3.5-3b. With implementation of these mitigation measures, impacts to human remains would be avoided or managed consistent with State law, local policies, and the wishes of the affected tribe. Thus, impacts would be reduced to a **less-than-significant** level.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to cultural resources and would be consistent with Sonoma County General Plan Policy OSRC-19n, which requires the County to develop procedures for complying with Health and Safety Code Section 7050.5 and PRC Section 5097.98 in the event of the discovery of human remains and develop procedures for consultation with the MLD as identified by the NAHC, in the event that the remains are determined to be Native American.

3.6 ENERGY

This section was prepared pursuant to CEQA Guidelines Section 15126 and Appendix F of the CEQA guidelines, which require that EIRs include a discussion of the potential energy impacts of projects. The analysis considers whether the project would result in inefficient, wasteful, and unnecessary consumption of energy.

A comment was received from Pacific Gas and Electric Company (PG&E) in response to the notice of preparation (NOP). This comment provided information on project plans related to natural gas and electric facilities. Additional comments were received that encouraged the County to enforce 100 percent renewable energy for future cannabis operations. Electrical and natural gas facilities are addressed in Section 3.13, "Public Services and Recreation." All comments received in response to the NOP are presented in Appendix A of this EIR.

3.6.1 Regulatory Setting

Energy conservation is embodied in many federal, state, and local statutes and policies. At the federal level, energy standards apply to numerous products (e.g., the US Environmental Protection Agency's [EPA's] EnergyStar program) and transportation (e.g., fuel efficiency standards). At the state level, Title 24 of the California Code of Regulations (CCR) sets forth energy standards for buildings. Further, the state provides rebates/tax credits for the installation of renewable energy systems and offers the Flex Your Power program, which promotes conservation in multiple areas. At the local level, individual cities and counties establish policies in their general plans and climate action plans (CAPs) related to the energy efficiency of new development and land use planning and the use of renewable energy sources.

FEDERAL

Energy Policy and Conservation Act, and IE Standards

The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards to conserve oil. Pursuant to this act, the National Highway Traffic and Safety Administration, part of the US Department of Transportation (DOT), is responsible for revising existing fuel economy standards and establishing new vehicle economy standards.

The Corporate Average Fuel Economy (CAFE) program was established to determine vehicle manufacturers' compliance with the government's fuel economy standards. Compliance with the CAFE standards is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the country. The EPA calculates a CAFE value for each manufacturer based on the city and highway fuel economy test results and vehicle sales. According to information generated under the CAFE program, DOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 and 2005

The Energy Policy Act (EPAc) of 1992 was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAc includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas¹ EPAc requires certain federal, state, and local government and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPAc. Federal tax deductions are allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs. The EPAc of 2005 provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

¹ The term "centrally fueled" means that a vehicle is fueled at least 75 percent of the time at a location that is owned, operated, or controlled by the fleet or covered person, or is under contract with the fleet or covered person for refueling purposes (DOE n.d.).

STATE

Warren-Alquist Act

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as the California Energy Commission (CEC). The act established state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The California Public Utilities Commission regulates privately owned utilities in the energy, rail, telecommunications, and water fields.

State of California Energy Action Plan

The CEC is responsible for preparing the state energy plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The 2003 California Energy Action Plan (2008 update) is the current plan. 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 several strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs and encouragement of urban design that reduces vehicle miles traveled (VMT) and accommodates pedestrian and bicycle access.

Assembly Bill 2076: Reducing Dependence on Petroleum

Pursuant to Assembly Bill (AB) 2076 (Chapter 936, Statutes of 2000), CEC and the California Air Resources Board (CARB) prepared and adopted a joint agency report in 2003, *Reducing California's Petroleum Dependence*. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita VMT (CEC and CARB 2003). A performance-based goal of AB 2076 was to reduce petroleum demand to 15 percent below 2003 demand by 2030.

Integrated Energy Policy Report

Senate Bill (SB) 1389 (Chapter 568, Statutes of 2002) required CEC to “conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The Energy Commission shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state’s economy, and protect public health and safety” (PRC Section 25301[a]). This work culminated in the Integrated Energy Policy Report (IEPR).

CEC adopts an IEPR every 2 years and an update every other year. The 2023 IEPR is the most recent IEPR, including the 2024 Update to the 2023 IEPR. The 2023 IEPR provides a summary of priority energy issues currently facing the state, outlining strategies and recommendations to further the state’s goal of ensuring reliable, affordable, and environmentally responsible energy sources. The report contains an assessment of major energy trends and issues within California’s electricity, natural gas, and transportation fuel sectors. The report provides policy recommendations to conserve resources, protect the environment, ensure reliable, secure, and diverse energy supplies, enhance the state’s economy, and protect public health and safety. Topics covered in the 2023 IEPR include the accelerated connection of clean energy, the California Energy Demand Forecast, the potential growth of hydrogen in the state, and updates to issues such as energy efficiency, gas utility decarbonization, and the Clean Transportation Program (CEC 2024).

Renewables Portfolio Standard

The state passed legislation referred to as the Renewables Portfolio Standard (RPS) that requires increasing use of renewable energy to produce electricity for consumers. California utilities are required to generate 33 percent of their electricity from renewables by 2020 (SB X1-2 of 2011); 52 percent by 2027 (SB 100 of 2018); 60 percent by 2030 (also SB 100 of 2018); and 100 percent by 2045 (also SB 100 of 2018). On September 16, 2022, SB 1020 was signed into law. This bill supersedes the goals of SB 100 by requiring that eligible renewable energy resources and zero-carbon resources supply 90 percent of all retail sales of electricity to California end-use customers by December 31, 2035, 95

percent by December 31, 2040, 100 percent by December 31, 2045, and 100 percent of electricity procured to serve all state agencies by December 31, 2035.

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

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030. It also establishes energy efficiency targets that achieve statewide, cumulative doubling of the energy efficiency savings in electricity and natural gas end uses by the end of 2030.

Assembly Bill 1007: State Alternative Fuels Plan

AB 1007 (Chapter 371, Statutes of 2005) required CEC to prepare a state plan to increase the use of alternative fuels in California. CEC prepared the State Alternative Fuels Plan in partnership with CARB and in consultation with other state, federal, and local agencies. The plan presents strategies and actions California must take to increase the use of alternative nonpetroleum fuels in a manner that minimizes the costs to California and 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 fuel use, reduce greenhouse gas (GHG) emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

California Building Energy Efficiency Standards (Title 24, Part 6 and Part 11)

The energy consumption of new residential and nonresidential buildings in California is regulated by the state's Title 24, Part 6, Building Energy Efficiency Standards (California Energy Code). CEC updates the California Energy Code every 3 years with more stringent design requirements for reduced energy consumption, which results in the generation of fewer GHG emissions. The current California Energy Code will require builders to use more energy-efficient building technologies for compliance with increased restrictions on allowable energy use. The core focus of the building standards has been efficiency, but the 2019 Energy Code ventured into on-site generation by requiring solar photovoltaic (PV) on new homes, providing significant GHG savings. The most recent is the 2022 California Energy Code advances the on-site energy generation progress started in the 2019 California Energy Code by encouraging electric heat pump technology and use, establishing electric-ready requirements when natural gas is installed, expanding solar PV system and battery storage standards, and strengthening ventilation standards to improve indoor air quality. CEC estimates that the 2022 California Energy Code will save consumers \$1.5 billion and reduce GHGs by 10 million metric tons of carbon dioxide-equivalent over the next 30 years (CEC 2022).

CalGreen was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 California Building Standards Code). The current version is the 2022 CalGreen Code, which took effect on January 1, 2023. As compared to the 2019 CalGreen Code, the 2022 CalGreen Code strengthened sections pertaining to electric vehicle (EV) and bicycle parking, water efficiency and conservation, and material conservation and resource efficiency, among other sections. The CalGreen Code sets design requirements equivalent to or more stringent than those of the California Energy Code for energy efficiency, water efficiency, waste diversion, and indoor air quality. These codes are adopted by local agencies that enforce building codes and are used as guidelines by state agencies for meeting the requirements of Executive Order (EO) B-18-12.

AB 1279 and 2022 Scoping Plan for Achieving Carbon Neutrality

On September 16, 2022, the state legislature passed AB 1279, which codified stringent emissions targets for the state of achieving carbon neutrality and an 85-percent reduction in 1990 emissions level by 2045. CARB released the *Final 2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan) on November 16, 2022, as also directed by AB 1279 (CARB 2022). The 2022 Scoping Plan traces the pathway for the state to achieve its carbon neutrality goal and an 85-percent reduction from 1990 emissions goal by 2045. CARB adopted the 2022 Scoping Plan on December 16, 2022.

Senate Bill 375 of 2008

SB 375, signed into law in September 2008, aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. It requires metropolitan planning organizations (MPOs) to

adopt a Sustainable Communities Strategy or Alternative Planning Strategy, showing prescribed land use allocation in each MPO's Regional Transportation Plan. CARB, in consultation with the MPOs, provides each affected region with reduction targets for GHGs emitted by passenger cars and light trucks for 2020 and 2035. Implementation of SB 375 has the co-benefit of reducing California's dependency on fossil fuels and making land use development and transportation systems more energy efficient.

California Energy Efficiency Action Plan

The 2019 California Energy Efficiency Action Plan has three primary goals for the state: double energy efficiency savings by 2030 relative to a 2015 base year (per SB 350), expand energy efficiency in low-income and disadvantaged communities, and reduce GHG emissions from buildings. This plan provides guiding principles and recommendations related to how the state would achieve those goals. These recommendations include:

- ▶ identifying funding sources that support energy efficiency programs,
- ▶ identifying opportunities to improve energy efficiency through data analysis,
- ▶ using program designs as a way to encourage increased energy efficiency on the consumer end,
- ▶ improving energy efficiency through workforce education and training, and
- ▶ supporting rulemaking and programs that incorporate energy demand flexibility and building decarbonization (CEC 2019).

Department of Cannabis Control

CCR, Title 4, Division 19 includes the following requirements regarding energy use for commercial cannabis uses.

Section 16305: Renewable Energy Requirements

- (a) Beginning January 1, 2023, all holders of indoor, tier 2 mixed-light license types of any size, and all holders of nursery licenses using indoor or tier 2 mixed-light techniques shall ensure that electrical power used for commercial cannabis activity meets the average electricity greenhouse gas emissions intensity required by their local utility provider pursuant to the California Renewables Portfolio Standard Program in division 1, part 1, chapter 2.3, article 16 (commencing with section 399.11) of the Public Utilities Code.
- (b) If a licensed cultivator's average weighted greenhouse gas emission intensity, as calculated and reported upon license renewal pursuant to section 15020, is greater than the local utility provider's greenhouse gas emission intensity, the licensee shall obtain carbon offsets to cover the excess in carbon emissions from the previous annual licensed period. The carbon offsets shall be purchased from one or more of the following recognized voluntary carbon registries:
 - (1) American Carbon Registry;
 - (2) Climate Action Reserve; or
 - (3) Verified Carbon Standard.

LOCAL

Sonoma County Climate Change Action Resolution

The Regional Climate Protection Authority (RCPA) coordinates countywide protection efforts among Sonoma County's nine cities and multiple agencies. In 2016, RCPA published the Climate Action 2020 Plan that sets forth greenhouse gas (GHG) reduction targets to reduce countywide GHG emissions. Climate Action 2020 Plan included regional actions to reduce GHG emissions to 25 percent below 1990 levels by 2020 and provide local jurisdictions resources and guidance for implementing local GHG emission reducing actions. The Regional Climate Protection Authority certified an Environmental Impact Report and adopted the Climate Action Plan in 2016 and was subsequently litigated. The California Supreme Court (Court) found the Environmental Impact Report inadequate, and the Regional Climate Protection Authority declined to appeal. Unable to adopt the Climate Action 2020 Plan, the

Sonoma County Board of Supervisors adopted the Climate Change Action Resolution. This Resolution is intended to help create countywide consistency and clear guidance about coordinated implementation of the greenhouse gas reduction measures.

Key components of the Resolution include the following:

- ▶ Sonoma County agrees to work towards the RCPA's countywide target to reduce greenhouse gas emissions by 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.
- ▶ Sonoma County adopts the following energy related goals to reduce greenhouse gas emissions, and will pursue local actions that support these goals:
 1. Increase building energy efficiency
 2. Increase renewable energy use
 3. Switch equipment from fossil fuel to electricity
 4. Reduce travel demand through focused growth
 5. Encourage a shift toward low-carbon transportation options
 6. Increase vehicle and equipment fuel efficiency
 7. Encourage a shift toward low-carbon fuels in vehicles and equipment
 8. Reduce idling
 9. Increase solid waste diversion
 10. Increase capture and use of methane from landfills
 11. Reduce water consumption
 12. Increase recycled water and graywater use
 13. Increase water and waste-water infrastructure efficiency
 14. Increase use of renewable energy in water and wastewater systems
 15. Reduce emissions from livestock operations
 16. Reduce emissions from fertilizer use
 17. Protect and enhance the value of open and working lands
 18. Promote sustainable agriculture
 19. Increase carbon sequestration
 20. Reduce emissions from the consumption of goods and services
- ▶ Sonoma County will continue to work to increase the health and resilience of social, natural, and built resources to withstand the impacts of climate change; and
- ▶ Sonoma County has the goal of increasing resilience by pursuing local actions that support the following goals:
 1. Promote healthy, safe communities
 2. Protect water resources
 3. Promote as sustainable, climate-resilient economy
 4. Mainstream the use of climate projections

Sonoma County General Plan

The General Plan includes several goals and policies that pertain to energy. The majority of these are found in the Open Space and Resource Conservation Element, with additional policies in the Land Use Element:

Open Space and Resource Conservation Element

- ▶ **Policy OSRC-14a:** Continue to support education programs that promote energy conservation; energy efficiency; and solid waste reduction, reuse, and recycling opportunities for County operations, residents and businesses, and local utilities.
- ▶ **Policy OSRC-14e:** Develop energy conservation and efficiency design standards for new development.
- ▶ **Policy OSRC-15a:** Develop a Sonoma County Energy Strategic Plan that addresses the activities and operations of both County government and private residents and businesses.
- ▶ **Policy OSRC-15c:** Encourage and promote the use of renewable energy and distributed energy generation systems and facilities that are integral to and contained within existing and new development.
- ▶ **Policy OSRC-15d:** Incorporate energy facility siting policies into the Sonoma County Development Code.

Land Use Element

- ▶ **Policy LU-11a:** Encourage reduction in greenhouse gas emissions, including alternatives to use of gas-powered vehicles.
- ▶ **Policy LU-11b:** Encourage all types of development and land uses to use alternative renewable energy sources and meaningful energy conservation measures.

3.6.2 Environmental Setting

PHYSICAL SETTING

Energy Facilities and Services in the Program Area

The County of Sonoma, the Sonoma County Water Agency, and the County of Mendocino are members of Sonoma Clean Power Authority (SCPA), along with participating member municipalities including of Cloverdale, Cotati, Fort Bragg, Petaluma, Point Arena, Rohnert Park, Santa Rosa, Sebastopol, Sonoma, and Willits. The SCPA serves as the Community Choice Aggregation (CCA) for its member jurisdictions. CCAs are voluntary programs that community members may enroll in that aim to lower power costs by aggregating the buying power of individual customers within a defined jurisdiction to secure alternative energy supply contracts. The SCPA formed the Sonoma Clean Power program (SCP) CCA, which first began serving customers in May 2014. The SCP program works in partnership PG&E to deliver GHG-efficient electricity to customers within its member jurisdictions. Consistent with state law, all electricity customers in the unincorporated Sonoma County were automatically enrolled in SCP; however, customers can choose to opt out and be served by PG&E. In 2022, approximately 91 percent of all power supplied by SCP was carbon-free (SCP 2024). PG&E supplies natural gas service to the County through state-regulated public utility contracts.

Table 3.6-1 below summarizes PG&E’s power content label for 2022. Table 3.6-2 summarizes SCP’s power content label for 2022.

Table 3.6-1 Pacific Gas and Electric Power Content Label (2022)

Energy Resource	Percent
Eligible renewable (biomass and biowaste, geothermal, eligible hydroelectric, solar, and wind)	38
Coal	0
Large hydroelectric	8

Energy Resource	Percent
Natural gas	5
Nuclear	49
Other	0
Unspecified power ¹	0
Total	100

¹ Unspecified power is electricity that has been purchased through open market transactions and is not traceable to a specific generation source.

Source: PG&E 2023.

Table 3.6-2 Sonoma Clean Power Authority Power Content Label (2022)

Energy Resource	Percent
Eligible renewable (biomass and biowaste, geothermal, eligible hydroelectric, solar, and wind)	50
Coal	0
Large hydroelectric	40
Natural gas	0
Nuclear	<1
Other	<1
Unspecified power ¹	9
Total	100

¹ Unspecified power is electricity that has been purchased through open market transactions and is not traceable to a specific generation source.

Source: SCP 2024.

Energy Types and Sources

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. One-third of energy commodities consumed in California is natural gas. In 2023, renewable resources, including hydroelectric power and small-scale solar power, supplied 54 percent of California's in-state electricity generation. Natural gas fueled another 39 percent, and nuclear power provided almost all the rest (EIA 2024).

Alternative Fuels

A variety of alternative fuels are used to reduce demand for petroleum-based fuel. The use of these fuels is encouraged through various statewide regulations and plans (e.g., Low Carbon Fuel Standard, AB 32 Scoping Plan). Conventional gasoline and diesel may be replaced (depending on the capability of the vehicle) with many transportation fuels, including:

- ▶ biodiesel,
- ▶ electricity,
- ▶ ethanol (E-10 and E-85),
- ▶ hydrogen,
- ▶ natural gas (methane in the form of compressed and liquefied natural gas),
- ▶ propane,
- ▶ renewable diesel (including biomass-to-liquid),
- ▶ synthetic fuels, and
- ▶ gas-to-liquid and coal-to-liquid fuels.

California has a growing number of alternative fuel vehicles through the joint efforts of CEC, CARB, local air districts, federal government, transit agencies, utilities, and other public and private entities. As of December 2023, California contained over 56,000 alternative fueling stations (AFDC 2024).

ENERGY USE FOR TRANSPORTATION

In 2022, the transportation sector comprised the largest end-use sector of energy in the state totaling 42.6 percent, followed by the industrial sector totaling 22.5 percent, the residential sector at 17.6 percent, and the commercial sector at 17.4 percent (EIA 2024). On-road vehicle use comprises about 90 percent of the petroleum consumed in California. CEC reported retail sales of 176 million and 35 million gallons of gasoline and diesel, respectively, in Sonoma in 2022 (the most recent data available) (CEC 2024). At the end of 2020, there were almost 10,000 EVs registered in Sonoma County and an additional 1,400 EVs were sold in the County during the first half of 2021 (RCPA 2021).

ENERGY USE FOR CANNABIS CULTIVATION

Overall, outdoor cannabis cultivation requires little to no energy consumption due to availability of natural sunlight to grow cannabis crops. Unlike outdoor cannabis cultivation, indoor cannabis cultivation requires the use of artificial lighting to grow crops. Though the total energy expenditure varies depending on the cannabis crop cultivated, the energy used for lighting and environmental controls for indoor cannabis can require up to 5,000 kilowatt per hour (kWh) of electricity per kg of dried flower (Cannabis Policy Brief 2022). The energy demand for mixed-light cannabis cultivation ranges between 6 kWh per square foot and 6-25 kWh per square foot for Tier 1 and Tier 2, respectively (Cannabis Studies Lab Team 2024).

ENERGY USE AND CLIMATE CHANGE

Scientists and climatologists have produced evidence that the burning of fossil fuels by vehicles, power plants, industrial facilities, residences, and commercial facilities has led to an increase of the earth's temperature. For an analysis of greenhouse gas production and the project's impacts on climate change, refer to Section 3.8, "Greenhouse Gas Emissions and Climate Change."

3.6.3 Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, "Project Description," and Section 3.0, "Approach to the Environmental Analysis," regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

The environmental analysis in this Draft EIR does not evaluate energy impacts of specific commercial cannabis cultivation site construction and operation. Instead, the analysis focuses on the worst-case energy-related impacts that could occur from the implementation of the Cannabis Program Update. Levels of construction- and operation-related energy consumption by the Cannabis Program Update are measured in kilowatt-hours of electricity, British thermal units (Btu) of natural gas, gallons of gasoline, and gallons of diesel fuel. Energy consumption estimates were calculated using the California Emissions Estimator Model (CalEEMod) version 2022.1.1.28 computer program. CalEEMod default values based on the Program area were used. Table 3.6-3 summarizes the levels of energy consumption for each year of construction, and Table 3.6-4 summarizes the levels of energy consumption for the first year of operation in 2026. It is not possible to estimate the extent of accessory uses on cannabis sites that may occur in the future under the Cannabis Program Update. Thus, the analysis programmatically addresses the potential for accessory uses.

The following proposed changes to the Sonoma County Code that address energy include:

Section 26-18-115. – Cannabis Cultivation

(C) Standards

1. Applicable to all zone districts:
 - d. Generators. Generator use is prohibited, except in the case of an emergency.

THRESHOLDS OF SIGNIFICANCE

The following significance criteria are based on State CEQA Guidelines Appendix F and G, under which implementation of the project would have a potentially significant adverse impact if the project would:

- ▶ result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation; or
- ▶ conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Sonoma County has not established thresholds for determining the significance of energy impacts.

ISSUES NOT DISCUSSED FURTHER

Personal Cultivation

The proposed Cannabis Program Update does not include changes to personal cultivation standards that would be substantially different from existing requirements such that physical changes to the environment could occur that would create significant impacts related to energy. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: Result in a Potentially Significant Environmental Impact Due to Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources

The energy needs for construction of new cannabis cultivation and supply chain uses would be temporary and would not require additional capacity or increase peak or base period demand for electricity or other forms of energy. New cannabis sites would be built to comply with the California Energy Code in effect at the time of construction and would therefore be more energy efficient than existing cannabis sites because of increasing requirements related to energy efficiency in the building code and in on-road and off-road fuel efficiency. Future cultivation sites would also be required to comply with CCR, Title 4, Section 16305, which would reduce energy impacts. Thus, this impact would be **less than significant**.

The issue of wasteful, inefficient, or unnecessary consumption of energy resources is best evaluated as a whole because the evaluation is based on use types (i.e., cultivation or supply chain uses), and it is not possible to reasonably determine the extent to which each allowable use type would be developed within the allowable districts, particularly accessory uses. Therefore, the impacts associated with energy use for allowable uses within Agricultural, Resources, Industrial, and Commercial Districts are considered holistically below.

Energy would be required for the construction of cannabis uses. This temporary energy expenditure would be nonrecoverable. Most energy consumption would result from the use of construction equipment and vehicle trips associated with commutes by construction workers and haul trucks supplying materials.

Energy consumption associated with construction was estimated for each cannabis cultivation type using the range of assumed future cannabis cultivation and supply chain uses based on Table 3-1 in the introduction to this chapter, "Environmental impacts and Mitigation Measures," for each cannabis use type. Table 3.6-3 summarizes the gasoline and diesel fuel needs to construct one example outdoor, mixed-light, and indoor cannabis cultivation site using an averaged cannabis canopy structure for each cultivation and supply chain use derived from Table 3-1. An example project-level estimate of energy use was prepared for supply chain uses using the largest development footprint and operational features (e.g., employees, traffic, energy use) of the range of the supply chain and event uses identified in Table 3-1. Refer to Appendix C for construction assumptions and detailed modeling input parameters and results. The reader is referred to Chapter 4, "Cumulative Impacts," for estimate of energy use for projected total cannabis development in 2044 identified in Table 3-1. An example project-level estimate of energy use was prepared for supply chain uses using the largest development footprint and operational features (e.g., employees, traffic, energy use) of the range of the supply chain uses identified in Table 3-1. It is important to note that the proposed Cannabis Program Update would does not specify the number of cannabis uses that would be allowed, so it is not known how many may be actually be constructed in a given year or to what extent a site may include accessory uses.

Table 3.6-3 Construction Energy Consumption Associated with Construction of Individual Cannabis Cultivation Site Types and Supply Chain Uses

Cannabis Use Type	Diesel Fuel (gallons)	Gasoline (gallons)
Outdoor Cultivation	3,311	378
Mixed-light Cultivation	5,043	859
Indoor Cultivation	2,978	298
Supply Chain Uses	3,123	482

Notes: Gasoline gallons include on-road gallons from worker trips. Diesel fuel gallons include off-road equipment and on-road gallons from worker and vendor trips.

Source: Calculations by Ascent in 2024.

Operation of cannabis sites would consume electricity and natural gas or propane for building and cannabis growth-related lighting, space heating, and water heating. Diesel fuel may be used for temporary generators and on-site auxiliary equipment, such as a utility vehicle. Energy would be used indirectly for such activities as water pumping and solid waste removal. Gasoline and diesel fuel would also be consumed by worker commute trips and haul trucks transporting materials and products.

The majority of energy demand for cultivation would be related to lighting and other operational systems, including HVACs, pumps, and air purifiers. Based on data compiled in 2014 from Oregon and Washington, indoor cultivation demands more electricity than mixed light and outdoor cultivation (Northwest Council 2022). Generally, supply chain uses would be typical of other commercial and industrial uses (i.e., retail, distribution, or laboratories) and not substantially different from non-cannabis supply chain energy demand quantities. Natural gas may also be used for water heaters and HVAC systems associated with indoor cultivation or supply chain uses.

Table 3.6-4 Electricity Consumption Associated with Operation of Individual Cannabis Cultivation Site

Cultivation Type	Total Kilowatt-Hour per Square Foot of Canopy
Outdoor ¹	1
Mixed-Light ¹	38
Indoor ¹	128
Supply Chain Uses ²	21

Source: ¹ Northwest Council 2022; ² Calculations by Ascent in 2024

The energy needs for cannabis construction would be temporary and would not require additional capacity or increased peak or base period demands for electricity or other forms of energy. All buildings constructed would be built to the California Energy Code in effect at the time of construction, as well as CCR, Title 4, Section 16305,

regarding energy sources that reduce GHG emissions, unless solar power is used. Energy demand per square foot would differ depending on the type of cannabis cultivation type. For example, as noted in Section 3.6.2, “Environmental Setting,” outdoor cannabis cultivation canopies use significantly less energy than mixed-light and indoor cannabis cultivation practices. The energy shown in Table 3.6-4 for outdoor cannabis is derived from the electricity required to power accessory building units and demonstrates less electricity per sf as compared to mixed-light and indoor cannabis cultivation. Future cannabis uses and associated energy expenditure under the Cannabis Program Update would be similar to those currently in the County and would have the opportunity to obtain electrical service from SCPA. For this reason, energy consumption associated with the construction and operation of cannabis sites that would be permitted under the Cannabis Program Update would not be considered wasteful, inefficient, or unnecessary. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The energy needs for cannabis construction would be temporary and would not require additional capacity or increased peak or base period demands for electricity or other forms of energy. All buildings constructed would be built to the California Energy Code in effect at the time of construction, as well as CCR, Title 4, Section 16305. This would be consistent with General Plan Policies OSRC-14a, OSRC-15c, and LU-11b, and the Climate Change Action Resolution.

Impact 3.6-2: Conflict with or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency

The Sonoma County Climate Change Action Resolution contains various goals related to energy resources, including measures to improve energy efficiency and promote the generation and use of renewable energy resources. The proposed Cannabis Program Update does not include any provisions that address renewable energy or energy efficiency. Therefore, the Cannabis Program Update would conflict with the Climate Action Resolution’s energy goals. This impact would be **significant**.

Consideration of conflicts with or obstruction of a State or local plan for renewable energy or energy efficiency should be considered at the program level to best address how the proposed Cannabis Program update would affect the overall County’s goals. Therefore, the impacts associated with energy for allowable uses within Agricultural, Resources, Industrial, and Commercial Districts are considered wholistically below.

The Sonoma County Climate Action Resolution includes goals to serve to improve the energy efficiency of Sonoma County’s energy resources as well as increase the generation and use of renewable energy sources. The following goals could apply to future cultivation, supply chain, and accessory uses under the Cannabis Program Update:

1. Increase building energy efficiency
2. Increase renewable energy use
3. Switch equipment from fossil fuel to electricity
4. Reduce travel demand through focused growth
5. Encourage a shift toward low-carbon transportation options
6. Increase vehicle and equipment fuel efficiency
7. Encourage a shift toward low-carbon fuels in vehicles and equipment
8. Reduce idling
9. Increase solid waste diversion
10. Increase capture and use of methane from landfills
11. Reduce water consumption

12. Increase recycled water and graywater use
13. Increase water and waste-water infrastructure efficiency
14. Increase use of renewable energy in water and wastewater systems

Section 26-18-155(C)(1)(d) of the Proposed Cannabis Update prohibits the use of generators with the exception of during emergencies. Additionally, CCR, Title 4, Section 16305 requires that cannabis cultivation state license holders of indoor, Tier 2 mixed-light, and nurseries using Tier 2 lighting ensure that electrical power used for cannabis activity meets the average electricity GHG emissions intensity required by their local utility provider pursuant to the California Renewables Portfolio Standard Program in Division 1, Part 1, Chapter 2.3, Article 16 (commencing with Section 399.11) of the Public Utilities Code.

As discussed above, under Impact 3.6-1, Energy consumption associated with the operation for each cannabis use type is presented in Table 3.6-4. In summary, operation of cannabis sites would consume electricity and natural gas or propane for building and cannabis growth-related lighting, space heating, and water heating. Diesel fuel may be used for temporary generators and on-site auxiliary equipment, such as a utility vehicle. Energy would be used indirectly for such activities as water pumping and solid waste removal. Gasoline and diesel fuel would also be consumed by worker commute, customer, and tourist vehicle trips and haul trucks transporting materials and products. The proposed Cannabis Program Update does not include any provisions that address renewable energy or energy efficiency, beyond requirements associated with CBC. Therefore, future cannabis cultivation and supply chain uses could conflict with the direction provided in Measures E-CP-1 through E-CP-12 listed above. These measures generally align with the statewide direction provided by CEC in the most recent 2023 IEPR, which prioritizes building decarbonization and energy efficiency mechanisms as overarching goals of future building code updates. Therefore, the Cannabis Program Update would conflict with the Sonoma County Climate Action Plan's Candidate Energy Community Progress Measures. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.6-2 (DRH and UPC): Implement Energy Conservation and Renewable Energy Measures

The following mitigation measures would be implemented through the design review with hearing or use permit for cannabis process for individual projects.

- ▶ Implement Tier 2 requirements of the most current CALGreen Code's EV-charging standards.
- ▶ On-site natural gas or propane use shall be avoided, with the exception of an emergency generator during emergencies.
- ▶ If natural gas or propane use cannot be feasibly avoided by a new cannabis cultivation or supply chain use's project design due to infrastructure limitations for rural project sites, other relevant project design characteristics may be implemented. A combination of the following measures shall be applied to individual cannabis cultivation and supply chain use sites to the degree that the additional British thermal units from natural gas combustion are completely offset as demonstrated in an energy or greenhouse gas report to be submitted to the County for review:
 - a requirement to exceed the mandatory requirements of the most recent version of Part 6 of the Title 24 California Building Code (California Energy Code),
 - a requirement to use low-flow appliances,
 - a requirement to use Energy Star appliances,
 - a requirement to procure all electricity from the Sonoma Clean Power Authority Evergreen Program, and
 - a requirement to implement zero net energy buildings through the incorporation of on-site renewable energy features (i.e., solar photovoltaic or wind systems).

Significance After Mitigation

Implementation of Mitigation Measure 3.6-2 would require provisions that address renewable energy or energy efficiency to be incorporated to improve the energy efficiency and renewable energy potential of new cannabis cultivation and supply chain uses. The tenets of Mitigation Measure 3.6-2 includes project design features to promote renewable energy systems and methods to improve energy efficiency as a standard for cultivation and supply chain uses, which would align with the measures of the Sonoma County Climate Action Resolution. Through implementation of Mitigation Measure 3.6-2, this impact would be reduced to a **less-than-significant** level.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

Please see the impact discussion for Impact 3.6-1 for an analysis of the consistency with land use plans, policies, or regulations adopted to avoid or mitigate environmental effects.

This page is intentionally left blank.

3.7 GEOLOGY, SOILS, AND MINERAL RESOURCES

This section describes current conditions related to geology and soils, mineral resources, and paleontological resources within the area of the proposed Cannabis Program Update; includes an analysis of environmental impacts that could result from implementation of the Cannabis Program Update; and presents recommendations for mitigation measures for any significant or potentially significant environmental impacts.

No comments regarding geology, soils, or mineral resources were received in response to the notice of preparation (NOP). All comments received in response to the NOP are presented in Appendix A of this EIR.

3.7.1 Regulatory Setting

FEDERAL

National Earthquake Hazards Reduction Act

In October 1977, the US Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States. To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). The mission of NEHRP includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improved building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improved mitigation capacity; and accelerated application of research results. The NEHRP designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns several planning, coordinating, and reporting responsibilities.

STATE

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (PRC Sections 2621–2630) intends to reduce the risk to life and property from surface fault rupture during earthquakes by regulating construction in active fault corridors, and by prohibiting the location of most types of structures intended for human occupancy across the traces of active faults. The act defines criteria for identifying active faults, giving legal support to terms such as “active” and “inactive,” and establishes a process for reviewing building proposals in earthquake fault zones. Under the Alquist-Priolo Act, faults are zoned and construction along or across these zones is strictly regulated if they are “sufficiently active” and “well-defined.” A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for purposes of the act as within the last 11,000 years). A fault is considered well defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment (Bryant and Hart 2007). Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, cities and counties must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults. The law addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards.

Seismic Hazards Mapping Act

The intention of the Seismic Hazards Mapping Act of 1990 (PRC Sections 2690–2699.6) is to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including ground shaking, liquefaction, and seismically induced landslides. The act’s provisions are similar in concept to those of the Alquist-Priolo Act because the state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped seismic hazard zones. Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development.

California Building Code

The California Building Code (CBC) (CCR, Title 24) is based on the International Building Code. The CBC has been modified from the International Building Code for California conditions, with more detailed or more stringent regulations. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design. Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, and Chapter 18A regulates construction on unstable soils, such as expansive soils and in areas subject to liquefaction. Appendix J of the CBC regulates grading activities, including drainage and erosion control. CBC Section 1803A.6 requires a geohazards report for all proposed construction to identify geologic and seismic conditions, and methods to reduce risk, to be prepared by a California-certified engineering geologist in consultation with a California-registered geotechnical engineer.

State Water Resources Control Board Regulations for Cannabis Cultivation

Permitting of waste discharges to surface waters from commercial cannabis cultivation is regulated under the State Water Resources Control Board (SWRCB) Cannabis Policy under Order WQ 2023-0102-DWQ, General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities. A summary of erosion and sediment control requirements is provided below. Section 3.10, "Hydrology and Water Quality," includes additional details on this order.

The Cannabis General Order provides a statewide tiered approach for permitting discharges and threatened discharges of waste from commercial cannabis cultivation and associated activities. The two tiers are as follows:

- ▶ Tier 1: Outdoor commercial cultivation activities disturb an area equal to or greater than 2,000 square feet and less than 1 acre (43,560 square feet).
- ▶ Tier 2: Outdoor commercial cultivation activities disturb an area equal to or greater than 1 acre.

For the purposes of this regulation, land disturbances are areas where natural conditions have been modified in a way that may result in an increase in turbidity in water discharged from the site. Land disturbance includes all activities associated with developing or modifying land for commercial cannabis cultivation-related activities or access. Land disturbance activities include construction of roads, buildings, and water storage areas, as well as excavation, grading, and site clearing.

Tier 1 and Tier 2 enrollees must characterize the risk designation based on the slope of disturbed areas and the proximity to a water body. Enrollees must comply with the riparian setback and slope limits associated with the following classifications:

- ▶ Low risk: A commercial cannabis cultivation site is classified as low risk if no part of the disturbed area is located on a slope of 30 percent or greater. Commercial cannabis cultivators associated with low-risk sites shall register as low risk and submit a site management plan.
- ▶ Moderate risk: A commercial cannabis cultivation site is classified as moderate risk if any part of the disturbed area is located on a slope greater than 30 percent and less than 50 percent. Commercial cannabis cultivators associated with moderate-risk sites shall register as moderate risk and submit a site erosion and sediment control plan.
- ▶ High risk: A commercial cannabis cultivation site is classified as high risk if any part of the disturbed area exists within the riparian setback limits. Commercial cannabis cultivators associated with high-risk sites shall register as high risk, submit a disturbed area stabilization plan, and address the compliance issue as described below. Because such commercial cannabis cultivators pose a higher risk to water quality and will require a higher level of regional water quality control board (RWQCB) oversight, they are subject to a higher application and annual fee. When the commercial cannabis cultivation site is reconfigured to comply with the riparian setbacks, the commercial cannabis cultivator can request that the RWQCB reclassify the site to a lower risk level and allow a lower annual fee to be assessed.

To obtain coverage under the waiver or enroll under the general order, the discharger is required to submit an online application and application fee and relevant technical reports. Technical report requirements are based on tier and

risk level. Pursuant to SWRCB Order WQ 2023-0102-DWQ, moderate- and high-risk sites are required to provide the following plans to address soil erosion (SWRCB 2023).

Site Erosion and Sediment Control Plan

A site erosion and sediment control plan describes how the commercial cannabis cultivator will implement the site erosion and sediment control requirements listed in Attachment A of SWRCB Order WQ 2023-0102-DWQ. The report must include an analysis of slope stability and is subject to approval by the RWQCB. When required, the site erosion and sediment control plan is to be prepared by a qualified individual (i.e., a registered professional per the cannabis policy requirements).

Disturbed Area Stabilization Plan

A disturbed area stabilization plan describes how best management practices (BMPs) will be implemented to achieve the goal of stabilizing the disturbed area to minimize the discharge of sediment off-site and comply with the riparian setback requirements. The report must be approved by the RWQCB executive officer before implementation. When required, the disturbed area stabilization plan shall be prepared by a qualified professional.

Wastewater Disposal Associated with Industrial Waste or Indoor Commercial Cannabis Cultivation

Term 27 of Attachment A of SWRCB Order WQ 2023-0102-DWQ prohibits discharges of wastewater from commercial cannabis manufacturing activities defined in Business and Professions Code Section 26100, indoor grow operations, or other industrial wastewater to an on-site wastewater treatment system (e.g., septic tank and associated disposal facilities), to surface water, or to land.

SWRCB Water Quality Control Policy for Siting, Design, Operation, and Maintenance of On-Site Wastewater Treatment Systems

On-site wastewater treatment systems (OWTS), commonly known as septic systems, primarily treat domestic wastewater and employ subsurface disposal. On June 19, 2012, SWRCB adopted Resolution No. 2012-0032, adopting the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of OWTS (OWTS Policy). The OWTS Policy uses a risk-based, tiered approach for the regulation and management of OWTS installations and replacements and sets the level of performance and protection expected from OWTS. Most notably, the policy establishes a framework that promotes local agency management plans developed for local governments to implement.

Paleontological Resources

Paleontological resources are classified as nonrenewable scientific resources and are protected by state statute (PRC Section 5097.5; State CEQA Guidelines, Appendix G). No state or local agencies have specific jurisdiction over paleontological resources. No state or local agency requires a paleontological collecting permit to allow for the recovery of fossil remains discovered as a result of construction-related earthmoving on state or private land on a project site. However, PRC Section 5097.5 prohibits “knowing and willful” excavation, removal, destruction, injury, and defacement of any paleontological feature on public lands (lands under state, county, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted express permission.

SMARA and Reclamation Act of 1975

The Surface Mining and Reclamation Act of 1975 (SMARA, PRC, Sections 2710–2796) provides a comprehensive surface mining and reclamation policy for the regulation of surface mining operations to assure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. SMARA also encourages the production, conservation, and protection of the state’s mineral resources.

LOCAL

Sonoma County 2020 General Plan

The Sonoma County General Plan Public Safety and Open Space and Resource Conservation Elements contain policies associated with geologic hazards, soils, mineral resources, and paleontological resources. The following policies are relevant to the Cannabis Program Update (Sonoma County 2014a, 2014b):

- ▶ **Policy PS-1a:** Continue to use all available data on geologic hazards and related risks from the appropriate agencies.
- ▶ **Policy PS-1b:** Continue to use studies of geologic hazards prepared during the development review process.
- ▶ **Policy PS-1e:** Continue to implement the "Geologic Hazard Area" combining district which establishes regulations for permissible types of uses and their intensities and appropriate development standards.
- ▶ **Policy PS-1f:** Require and review geologic reports prior to decisions on any project which would subject property or persons to significant risks from the geologic hazards areas shown on Public Safety Element hazard maps and related file maps and source documents. Geologic reports shall describe the hazards and include mitigation measures to reduce risks to acceptable levels. Where appropriate, require an engineer's or geologist's certification that risks have been mitigated to an acceptable level and, if indicated, obtain indemnification or insurance from the engineer, geologist, or developer to minimize County exposure to liability.
- ▶ **Policy PS-1g:** Prohibit structures intended for human occupancy (or defined as a "project" in the Alquist-Priolo Special Studies Zones Act and related Administrative Code provisions) within 50 feet of the surface trace of any fault.
- ▶ **Policy PS-1i:** Require dynamic analysis of structural response to earthquake forces prior to County approval of building permits for structures whose irregularity or other factors prevent reasonable load determination and distribution by static analysis.
- ▶ **Policy PS-1k:** Incorporate measures to mitigate identified geologic hazards for all County roads, public facilities, and other County projects to an acceptable level.
- ▶ **Policy OSRC-13a:** Consider lands designated in the ARM Plan as priority sites for aggregate production and mineral extraction and review requests for additional designations for conformity with the General Plan and the ARM Plan.
- ▶ **Policy OSRC-13b:** Review projects for environmental impact and land use conflicts and consider the following minimum factors when approving mining permits: topsoil salvage, vegetation, fisheries and wildlife impacts, noise, erosion control, roadway conditions and capacities, reclamation and bonding, air quality, energy consumption, engineering and geological surveys, aggregate supply and replenishment, drainage, and the need for economical aggregate materials.
- ▶ **Policy OSRC-13c:** Review projects that are on or near sites designated "Mineral Resources" in the ARM Plan for compatibility with future mineral extraction.
- ▶ **Policy OSRC-19j:** Develop an archaeological and paleontological resource protection program that provides:
 1. Guidelines for land uses and development on parcels identified as containing such resources.
 2. Standard project review procedures for protection of such resources when discovered during excavation and site disturbance.
 3. Educational materials for the building industry and the general public on the identification and protection of such resources.

Bennett Valley Area Plan

The Bennett Valley Area Plan contains the following provisions that are relevant to the Cannabis Program Update:

Mitigation Measures**► For Geologic Hazards**

- (2) Site structure and design foundation in accord with recommendations of an engineering geologist.

Franz Valley Area Plan

The Franz Valley Area Plan contains the following provisions that are relevant to the Cannabis Program Update:

Constraints and Mitigation Measures**► Soils**

- (3) Adopt and enforce grading and erosion control standards as part of the revision of the County Zoning Ordinance.
- (4) Review soil suitability and slope in conjunction with all development proposals.

► Sanitary Waste Disposal Systems

- (2) Any proposed disposal systems within slide area or on a fault will require careful study by a qualified geologist in order to determine if the site is suitable for a leach field.
- (3) The primary problem associated with locating septic systems in slides is the additional moisture load added to the soils, which may accelerate sliding. Location in a fault may result in water slipping through the sheared rock into a water(1)bearing strata without adequate treatment that occurs when percolated through the soil.

Penngrove Area Plan

The Penngrove Area Plan contains the following provisions that are relevant to the Cannabis Program Update:

Constraints and Mitigation Measures**► Slopes and Geology**

- (2) The Department of Planning shall continue to make referrals to a qualified geologist in order to determine when engineering geologic reports are necessary concerning the following discretionary actions: plan amendments, rezonings, use permits, minor and major subdivisions and design review permit.
- (3) Building envelopes shall be shown on the parcel map as per geologist report. The following note shall also be shown prominently on the parcel map: "Areas outside building envelopes may be subject to detailed geological review requirements prior to issuance of building permits."
- (4) All grading is subject to a Civil Engineer's plans, the Uniform Building Code and grading permits (plans to be contingent upon the geologist's report) in order to minimize unstable earth conditions.
- (5) Prior to construction, each site and proposed grading, leachline and foundation plans shall be approved by an engineering geologist.
- (6) Slopes, both cut and fill, shall not be steeper than 2:1 unless a thorough geological and engineering analysis indicates that steeper slopes are safe and erosion control measures are specified.

► Soils

- (3) Adopt and enforce grading and erosion control standards as part of the revision of the County Zoning and Subdivision Ordinances.
- (4) Enforce mitigations listed in Section 8.40 Summary of Mitigation Measures, Soils/Water Quality as appropriate for projects next to agricultural preserves, on slopes exceeding 10%, and/or within 100 feet of a streambank.

► Soils/Water Quality

- (5) Sediment basins, sediment traps, or similar sediment control measures shall be installed before extensive clearing and grading operations begin if they are to take place during the period of September 1 through May 1.

- (8) Temporary mulching, seeding, or other suitable stabilization measures shall be used to protect exposed critical areas during construction or other land disturbance.

► **Septic Systems**

- (1) Applicant must provide evidence of suitable characteristics for subsurface sewage disposal purposes substantiated by soils percolation tests conducted in accordance with the standard procedures of the Sonoma County Public Health Service, certified by a civil engineer, registered sanitarian, or registered geologist on lot(s) _____. The test report must refer to this minor subdivision number.
- (2) On lot(s) _____, the percolation tests shall be performed within the official wet-weather testing period as defined by Sonoma County Public Health Service Rule V-2: (a) where slope is less than 5% (b) if soil exhibits excessive shrink-swell characteristics.
- (3) Applicant must demonstrate that all portions of proposed sewage disposal system(s) and reserve expansion area(s) on lot(s) _____ will maintain a 100 foot setback from the elevation of the 10 year frequency flood of _____ as determined by the Sonoma County Water Agency.
- (4) Provide evidence of elevations or slope determination in area of proposed leachfield(s) and future leachfield expansion area(s) to indicate that slopes are not more than 30% on lot(s) _____.
- (5) Lot(s) _____ shall contain a minimum area of 1 1/2 acres per dwelling unit, exclusive of area reserved for rights of way and/or easements, in order to qualify for private sewage disposal system(s) and connection to an approved public water system.
- (6) Lot(s) _____ shall contain a minimum area of 1 acre per dwelling unit, exclusive of area reserved for rights of way and/or easements, in order to qualify for private sewage disposal system(s) and connection to an approved public water system.
- (7) Applicant must provide evidence by means of a plot plan drawn to scale that lot(s) contain sufficient area to accommodate a private sewage disposal system for a typical 3 bedroom house, including leachfield and a 200% unencumbered reserve area suitable for future expansion of the leachfield. Plot Plan(s) submitted for this purpose shall include proposed location of domestic water well unless connection is to be made to an approved public water system. Location of neighboring wells and septic systems within 100 feet of this property must be shown. (a) Plot plan shall be prepared by a registered civil engineer.
- (10) Provide a civil engineer's drainage plan designed to show how private sewage disposal system(s) will be shielded from storm water infiltration on lot(s) _____. Drainage easements must be provided if discharge from drainage facilities will result in water flow being concentrated on any adjacent parcels.
- (11) The malfunctioning sewage disposal system(s) on lot(s) _____ shall be repaired under permit obtained through the Sonoma County Public Health Service in accordance with the notice of violation which has been issued.
- (13) The statement "All private sewage disposal systems shall be designed by a registered civil engineer" shall be shown on lot(s) _____ of the final parcel map.
- (14) A Declaration of Restrictions and Grant Deed shall be recorded by the County Recorder to indicate the "filled-land" private sewage disposal systems must be designed by a registered civil engineer for lot(s) _____.
- (15) An engineering geologist's report of suitable leachfield areas is required for lot(s) _____ because of geological hazards suspected on this property.
- (16) Sewage disposal and/or water supply easements shall be delineated on the final parcel map.

Petaluma Dairy Belt Area Plan

The Petaluma Dairy Belt Area Plan contains the following provisions that are relevant to the Cannabis Program Update:

Policies, Constraints and Mitigation Measures

- ▶ Slope and Geology
 - (1) Refer projects to a qualified geologist in order to determine when engineering geologic reports are necessary concerning the following discretionary actions: plan amendments, rezoning, use permits, minor subdivision, design review permits, and gravel extraction permits and reclamation plans.
- ▶ Minerals
 - (1) Any development proposals in the area of the resource shall be reviewed by the Department of Planning to assess their impacts on the aggregate resource.
- ▶ Geologic Hazards
 - (2) Require geologic reports identifying unstable slopes and seismic hazards relating to building sites be written prior to the approval of a final subdivision map or the issuance of a building permit for areas identified as containing probable geologic hazards to safety.
- ▶ Soils
 - (1) Encourage land uses and densities most suitable to the natural characteristics of the area's soils.
 - (2) Support soil management programs to ensure the continued productivity of the area's managed resources.
 - (3) Require soil conservation practices in all major developmental plans.
 - (4) Consider the limitations of soils, as they relate to public health and safety, in the review of all proposed land divisions.

Sonoma Mountain Area Plan

The Sonoma Mountain Area Plan contains the following provisions that are relevant to the Cannabis Program Update:

Constraints and Mitigation Measures

- ▶ Geologic Hazards
 - (1) Continue to implement the Alquist-Priolo Special Studies Zones Act of 1972.
 - (2) Require an engineering geologist's report whenever there is an unacceptable level of risk of geologic hazard associated with a proposed land development.

South Santa Rosa Area Plan

The South Santa Rosa Area Plan contains the following provisions that are relevant to the Cannabis Program Update:

Policies

- ▶ Natural Resources
 - (2) Refer projects to a qualified geologist in order to determine when engineering geologic reports are necessary concerning the following discretionary actions: plan amendments, rezoning use permits, minor subdivisions, design review permits, and gravel extraction permits and reclamation plans. Special attention should be paid to the "possibly active" fault zone which crosses the Roseland area.
- ▶ Geologic Hazards
 - (1) Identify and publish maps identifying Geologic Hazards.
 - (2) Ensure that population densities and development are kept to a minimum in areas of geologic hazards.
 - (3) Require geologic reports identifying unstable slopes and seismic hazards relating to building sites be written prior to the approval of a final subdivision map or the issuance of a build permit for areas identified as containing probable geologic hazards to safety.

West Petaluma Area Plan

The West Petaluma Area Plan contains the following provisions that are relevant to the Cannabis Update Program:

Constraints and Mitigation Measures

- ▶ Slope and Geology
 - (1) Refer projects to a qualified geologist in order to determine when engineering geologic reports are necessary concerning the following discretionary actions: plan amendments, rezoning, use permits, minor subdivisions, design review permits, and gravel extraction permits and reclamation plans.
- ▶ Soils
 - (3) Review soil suitability and slope in conjunction with all development proposals.

Sonoma County Multi-Jurisdictional Hazard Mitigation Plan

The Sonoma County Multi-Jurisdictional Hazard Mitigation Plan, updated October 2021, assesses the County's vulnerabilities to various hazards and presents mitigation strategy, including goals, objectives, and actions that the County will strive to implement over the next 5 years. These hazards include earthquakes and landslides. The hazard mitigation plan seeks to identify opportunities for reasonable mitigation actions and sets out a 5-year implementation plan. For example, some identified actions to reduce seismic hazards include performing seismic retrofitting or replacement of County-owned bridges and providing seismic structural retrofits to mobile homes throughout the County.

Sonoma County Code of Ordinances

Building Regulations

Chapter 7 of the Sonoma County Code contains mandatory building and inspection requirements for the County for building permits, and incorporates by reference provisions of the CBC. These regulations require a building permit when an applicant seeks to erect, construct, enlarge, alter, repair, move, improve, convert or demolish any building or structure in the unincorporated County.

Sonoma County Code provides building permit exemption provisions for buildings designed and constructed for use in housing farm machinery, animals, supplies or products that are harvested from or utilized on a parcel of land consisting of five acres or more. These structure must not be a place of human habitation or a place of employment where agricultural products are processed, treated or packaged; nor shall it be a place used by the public in order to be eligible for an exemption.

An agricultural use must presently exist on the property. Although the agricultural building does not need a building permit, the design and construction must comply with building code requirements and requires an application.

As it applies to allowable uses under the proposed Cannabis Program Update, this exemption is permitted in the LIA, LEA, DA, RRD districts.

Geologic Hazard Combining District

The Geologic Hazard Combining District (G District) was added to the County's Zoning Regulations (Chapter 26 of the Sonoma County Code) in 1993 to reduce unnecessary exposure of people and property to risks of damage or injury from earthquakes, landslides, and other geologic hazards. The G District is applied to areas located within the Alquist-Priolo Earthquake Fault Zone. All uses permitted within the zoning districts with which the G District is combined are permitted, except that no structure intended for human occupancy or otherwise defined as a project in the Alquist-Priolo Earthquake Fault Zoning Act is permitted to be placed across the trace of an active fault or within 50 feet of the surface trace of any fault. A geologic report is required for the development of property within the G District.

Construction Grading and Drainage Regulation

The Construction Grading and Drainage Regulations are contained within Chapter 11 of the Sonoma County Code. The provisions of this chapter apply to all construction grading and drainage occurring in the unincorporated area of the County, except for construction grading and drainage for timber operations conducted under an approved timber harvesting plan or nonindustrial timber management plan. Chapter 11, Article 14 provides standards for construction grading and drainage, which includes cut and fill requirements, setbacks from waterways, and requirements for BMPs to limit soil and other pollutant discharge.

Stormwater Quality Requirements

Chapter 11A, "Stormwater Quality," of the Sonoma County Code includes regulations to protect water quality, including prohibiting the discharge of non-stormwater into the County's stormwater system, compliance with NPDES permits for stormwater discharge, requiring measures to reduce and eliminate stormwater pollutants, and requiring the implementation of construction best management practices to prevent the discharge of contaminants.

OWTS and Sewage Systems

Chapter 24 of the County Code contains the County's OWTS Ordinance, which establishes the requirements for OWTS in the County. Chapter 24 of the County Code also makes it unlawful and a public offense for any person, firm, corporation, partnership, or co-partnership to construct or maintain any sewage system in a manner where inadequately treated effluent is likely to discharge on the surface of the ground; is likely to become injurious or dangerous to health; would violate any requirement of relevant basin plan (see Section 3.10, "Hydrology and Water Quality"); or would empty, flow, seep, or drain into or affect any spring, stream, river, lake, groundwater, or other waters in Sonoma County. Chapter 24 provides criteria for the construction, maintenance, and requirements for on-site sewage systems.

Agricultural Grading and Drainage

Chapter 36 of the Sonoma County Code regulates new vineyard and orchard development, vineyard and orchard replanting, and agricultural grading and drainage in the unincorporated area of the County and establishes a ministerial standard for those activities. Within Chapter 36, Section 10, 12, and 20 are applicable to outdoor cultivation under the proposed Cannabis Program and are summarized below.

Chapter 36, Article 10, of the County Code contains the permit requirements for agricultural grading, including preparatory land clearing, vegetation removal, or other ground disturbance. An agricultural grading permit shall be required prior to commencing any agricultural grading or related work, including preparatory land clearing, vegetation removal, or other ground disturbance.

Chapter 36, Article 12, of the County Code contains requirements for agricultural drainage permits, involving construction or modification of drainage facilities or related working, involving construction or modification of drainage facilities or related work, including preparatory land clearing, vegetation removal, or other ground disturbance.

Chapter 36, Article 20, of the County Code contains standards for agricultural grading, drainage, protection of human remains and archaeological resources, protection of listed species, removal of trees and other vegetation, road network requirements, setbacks from certain soil conditions, and requirements for best management practices (BMPs). These requirements provide standards for slopes and terracing and drainage developed by cuts as well as standards for fill, including slope specifications, surface preparation, compaction and terracing. Under these standards, drainage patterns and runoff must be designed and constructed to maintain natural and existing drainage patterns, and to establish setbacks from waterways and ridgetops.

Sonoma County Best Management Practices for Cannabis Cultivation

The Sonoma County Department of Agriculture/Weights and Measures has developed BMPs for cannabis cultivation. These BMPs are applicable to in-ground and container-based cannabis cultivation and are listed below. With regard to erosion control, the following BMPs are associated with outdoor cannabis cultivation:

1. Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.

2. Avoid soil disturbance between November 1 and April 15.
3. All exposed and disturbed soil must be covered with a minimum of 2 inches of mulch, such as straw, bark, wood chips, etc., by November 15. Alternatively, establish a thick cover crop over disturbed areas.
4. Erosion control materials shall be available on site at all times in the form of straw or appropriate mulch adequate to cover area of disturbed soil. In the event of a forecast storm event likely to produce runoff, apply mulch to disturbed areas prior to rain event.
5. Any grading or drainage conducted as part of site preparation shall have the appropriate permits from the Sonoma County Permit and Resource Management Department, as applicable by Chapter 36 with appropriate permits from the Department of Agriculture/Weights and Measures (i.e., Chapter 11 is implemented by Permit Sonoma).

3.7.2 Environmental Setting

REGIONAL AND LOCAL GEOLOGY

The topography in Sonoma County is varied, including several mountain ranges, distinctive valleys, and coastal terraces. The geology is quite complex and is continually evolving because of its location at an active plate margin. The County is bounded on the south by the San Pablo Bay and associated wetlands. The Cotati and Petaluma Valleys create the wide basin stretching from Santa Rosa to the Bay. Rolling hills and grasslands predominate here, as well as in Marin County to the south. The rugged Mayacamas and Sonoma Mountains geographically form the eastern boundary and physically separate Sonoma County from Lake and Napa Counties. The Sonoma Valley runs north-south between the Sonoma Mountains on the west and the taller Mayacamas Mountains to the east. The Geysers geothermal field, located in the northeastern section of the County, extends into both Sonoma and Lake Counties. The Mendocino Highlands form a common geographic unit with Mendocino County to the north. The Alexander Valley runs from northwest to southeast, bounded on the east by the Mayacamas Mountains and on the west by the Coast Range. The Pacific Ocean forms the western County boundary, including an interesting assemblage of steep hills, marine terraces, beaches, and offshore sea stacks (Sonoma County 2006).

The geology of Sonoma County is a result of the past tectonic, volcanic, erosion, and sedimentation processes of the California Coast Range geomorphic province. Ongoing tectonic forces resulting from the collision of the North American Plate with the Pacific Plate, combined with more geologically recent volcanic activity, have resulted in mountain building and down warping of parallel valleys. The margin of the two tectonic plates is defined by the San Andreas Fault system: a broad zone of active, dormant, and inactive faults dominated by the San Andreas Fault, which trends along the western margin of the County. This fault system results in the northwestern structural alignment that controls the overall orientation of the County's ridges and valleys. The land has been modified by more recent volcanic activity, evidenced by Mount St. Helena that dominates the northeastern part of the County. Erosion, sedimentation, and active faulting occurring in recent times have further modified Sonoma County's landscape to its current form (Sonoma County 2006).

SEISMICITY

Earthquakes are most common along geologic faults, which are planes of weakness or fractures along which rocks have been displaced. Faults located within Sonoma County are part of the San Andreas Fault system, which extends along most of the length of California and represents the boundary between the Pacific and North American plates of the earth's crust. The faults mapped by the California Division of Mines and Geology are those that show significant surface evidence of lateral or vertical movement in the past 2 million years (i.e., the Quaternary geologic period) and are defined as active or are considered to be potentially active in the future. Sudden movement or displacement along faults generally causes earthquakes. However, earthquakes are also caused by volcanic activity. Although there are no known active volcanic sources in Sonoma County, the Geysers' Known Geothermal Resource Area (KGRA) is a source of similar seismic events related to movement within deep-seated hot or semi-molten rock. This area is the

source of numerous small seismic events that cluster around the KGRA. These small earthquakes typically range up to magnitude 3.5 with occasionally larger events. There has been some concern expressed about the seismic activity since the steam resource has been developed for electrical production. These concerns have been increasingly expressed recently as the schedule for the injection of treated wastewater into the deep, hot rock source area for enhanced steam production approaches (Sonoma County 2006).

HISTORIC FAULT ACTIVITY

Faults are geologic hazards because of both surface fault displacement and seismic ground shaking that are distinct but related properties. Surface fault displacement results when the fault plane ruptures and that rupture surface extends to, or intersects, the ground surface. Surface fault rupture can be very destructive to structures constructed across active faults. However, the zone of damage is limited to a relatively narrow area along either side of the fault as opposed to seismic ground-shaking damage that can be quite widespread (Sonoma County 2006).

The only fault in Sonoma County with known surface displacement in historic times is the San Andreas Fault. During the magnitude 8.3 earthquake of 1906, horizontal displacements along this fault averaged 15 feet, and surface rupture was mapped along the fault's extent through Sonoma County from the Gualala area to the Bodega Bay area. Lateral displacement was reported to be as much as 12 feet near Fort Ross, and in the Bodega Bay area, lateral displacements of up to 8 feet with 18 inches of vertical displacement were reported. In addition to the San Andreas Fault, the Healdsburg, Rodgers Creek, and Mayacamas faults all show evidence of surface displacement during the past 11,000 years (i.e., Holocene epoch) but not during the last 200 years. These faults are considered active faults for planning purposes. The Healdsburg fault, which is a northern extension of the Rogers Creek fault, has recently been removed by the State of California from the Alquist-Priolo earthquake fault zoning maps (Sonoma County 2006).

GROUND SHAKING AND LIQUEFACTION

Seismic ground shaking can result in damaging impacts to both close to and at great distances from the source of the earthquake. As evidenced by the numerous structural failures in the Marina District of San Francisco due to the 1989 Loma Prieta earthquake, liquefaction can cause widespread damage. Seismic ground shaking causes liquefaction by increasing pore water pressure between the sand or silt grains, which temporarily transforms certain water saturated soils to a semi-liquid state. This results in loss of shear strength, thereby removing support from foundations and causing differential settlement, subsidence, or total collapse of buildings, bridges, roadways, or other structures. The most susceptible areas are the silty "Bay muds" south of Petaluma and Sonoma and near Bodega Bay (Sonoma County 2006).

Deposits that are also susceptible to liquefaction are areas underlain by saturated unconsolidated alluvium that has fairly uniform grain size. Thus, in alluvial basins within Sonoma County, the potential for liquefaction failures will tend to increase in the winter and spring when the groundwater table is higher. These areas include the largest population centers and most intensely developed areas of Sonoma County, as shown on maps prepared by the California Division of Mines and Geology (Sonoma County 2006)

TSUNAMIS AND SEICHES

Ocean waves generated by certain undersea earthquakes, volcanic eruptions, or landslides are called tsunamis or seismic sea waves. The height and shoreline run-up distance of a tsunami are determined by water depth, underwater topography, and shape and orientation of the coastline relative to the tsunami source. The tsunami level expected once in 200 years could affect areas along Sonoma County's Pacific coast up to 20 feet above sea level, with lesser expected run-up along the County's San Pablo Bay shoreline. The areas of Sonoma County where tsunami impacts have been predicted in a general and simplified way are shown on the tsunami and seiche maps prepared by the California Division of Mines and Geology. Seismic waves on inland water bodies, such as lakes, reservoirs, as well as coastal bays, are called seiches. Shoreline areas along Bodega Harbor, Lake Sonoma, and similar enclosed bodies of water in Sonoma County are subject to impacts from seiches.

EARTHQUAKE-INDUCED LANDSLIDES

Beyond the immediate area of surface fault rupture, ground deformation can distort the surface, secondary ground cracks can open, and both can damage structures. These kinds of ground failures are caused by the torsion effects on the ground adjacent to the fault trace as blocks of the earth move past each other. Seismic lurching is the movement of a soil or rock mass toward an unsupported free face, such as a sea cliff, road cut, or steep natural hillside. These kinds of ground failures are caused by seismic accelerations and are transitional to seismically triggered landslides.

SLOPE STABILITY AND LANDSLIDING

The most frequent and widespread type of ground failure in Sonoma County is landsliding. In the broadest sense, a landslide is a downward and outward movement of slope-forming materials composed of rock, soils, artificial fills, or a combination of these. Because of the highly fractured rock formations, steep topography, long coastline, and the area's seismicity, extensive land areas of the County are subject to this destructive hazard. Virtually all parts of the County except the flat-lying alluvial valleys are subject to damaging landslides of various kinds. Landslides vary in size, speed of movement, and mechanism. Many landslides occur as smaller slumps or flows within larger older slide masses; however, there have been landslides in the County that were as long as 2 miles, including the Mill Stream landslide 2 miles northwest of Mount St. Helena (Sonoma County 2006).

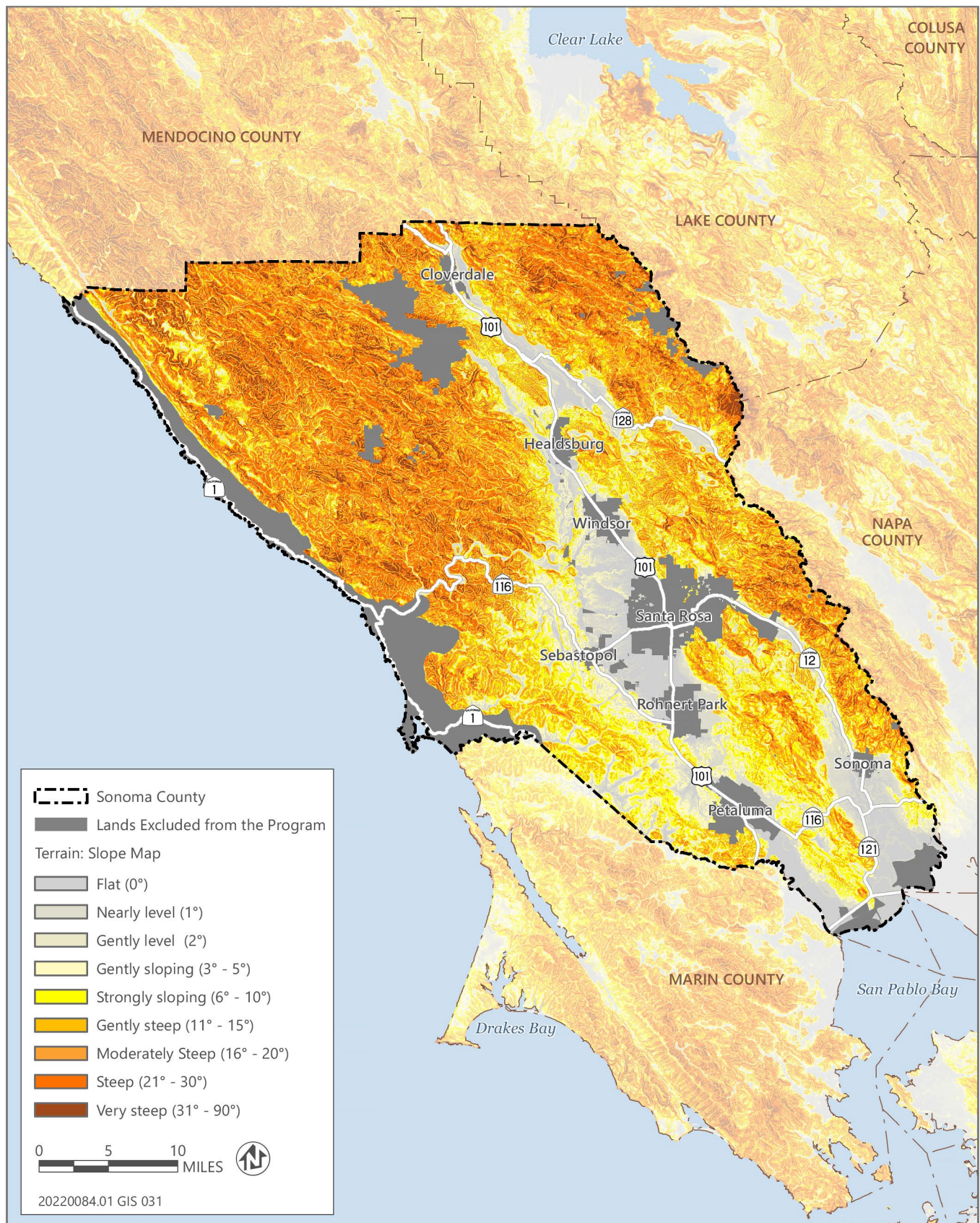
As depicted in Figure 3.7-1, relatively flat lands generally surround the major transportation corridors of United State (US) 101, State Route (SR) 12, SR 121, and SR 128. Moderately steep to very steep areas of the county are generally located along the eastern edge of the County, north of the City of Sonoma, and along the western half of the County north of Sebastopol. Areas with greater slope are located north of SR 128 and SR 116.

SOIL HAZARDS

Soil characteristics can greatly influence land-use activities. Important soil characteristics include the properties related to agricultural and natural habitat resources, as well as properties related to land development projects. Site-specific soil properties vary widely throughout Sonoma County and require site-specific investigation to develop a project or implement a land use that will perform properly. Within Sonoma County, there are soils with characteristics that include seasonal shrink and swell (i.e., expansive soils), weak or collapsing soils that compress under a load or when wet, soils that are corrosive to certain materials, soils that may liquefy during seismic shaking, and soils that are susceptible to erosion.

EXPANSIVE AND CREEPING SOIL

Expansive soils, which are found in various parts of Sonoma County, greatly increase in volume when they absorb water and shrink when they dry out. Expansion is most often caused by clay minerals, primarily montmorillonite and illite although some rocks are also expansive including claystones or altered volcanic tuffs that contain large proportions of montmorillonite. Expansive soils are classified as CL or CH soils using the Unified Soil Classification System, with CH soils being the most highly expansive. Expansion of the soil or rock is due to the attraction and absorption of water into the expandable crystal lattices of the clay minerals. The water may be derived from moisture in the air or ground water beneath the foundations of buildings. When buildings are placed on expansive soils, foundations may rise each wet season and fall each dry season. Roadways, pavements, and other flat construction areas are highly susceptible to damage from expansive soils. Movements may vary under different parts of a building with the result that foundations crack, various structural portions of the building are distorted, and doors and windows are warped so that they do not function properly. Where expansive soils are located on hill slopes, which are common in parts of Sonoma County, they undergo a process of seasonal downslope movement called "soil creep." Soil creep forces can be substantial and need to be evaluated to determine their effects on foundation elements, retaining walls, and other structures (Sonoma County 2006).



Source: Data downloaded from Sonoma County in 2024; adapted by Ascent in 2024.

Figure 3.7-1 Slope Conditions within the Program Area

EROSION

Erosion is the removal of soil by wind or water under the force of gravity. This process results in sheet and gully erosion of land surfaces; the wind-blown denudation of lands; the erosion of stream courses and banks; and the erosion of coastal cliffs, sand dunes, and beach areas. All of these erosion processes occur or can occur in Sonoma County. Erosion is a naturally occurring process but can be exacerbated by human activities, such as vegetation removal, improper farming practices, and grading for roadways and construction. Extreme cases of erosion can lead to landsliding. Erosion results in the loss of topsoil that may reduce yield of crops or forage and cause sedimentation problems downstream. Sediment can fill reservoirs and stream channels, reducing water quality and storage capacity, as well as damaging wildlife habitats, including fisheries. Erosion is a major contributor to water quality impairment (Sonoma County 2006).

Areas of particular concern are the Petaluma Valley where soil losses can be as high as 20 tons per acre per year; steep hillsides that are cultivated for wine grapes; and rangelands where overgrazing may occur. Within Sonoma County, the Dry Creek, Gualala River, Russian River, Sulphur Creek, Salmon Creek, and Blucher Creek have accelerated stream bank erosion that directly impacts fish spawning areas through sedimentation (see Section 3.10, "Hydrology and Water Quality") (Sonoma County 2006).

MINERAL RESOURCES

The California Division of Mines and Geology has developed guidelines for the classification and designation of mineral lands, known as Mineral Resource Zones (MRZs), and retains publications of the Surface Mining and Reclamation Act Mineral Land Classification Project dealing with mineral resources in California. The establishment of MRZs is based on a geologic appraisal of the mineral resource potential of the land. The following MRZ categories are used by the state geologist in classifying the state's lands:

- ▶ **MRZ-1:** Areas where adequate geologic information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence. This zone is applied where well-developed lines of reasoning, based on economic-geologic principles and adequate data, indicate that the likelihood for occurrence of significant mineral deposits is small to none.
- ▶ **MRZ-2a:** Areas underlain by mineral deposits where geologic data show that significant measured or indicated resources are present. MRZ-2 is divided on the basis of both degree of knowledge and economic factors. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information. Land included in the MRZ-2a category is of prime importance because it contains known economic mineral deposits. A typical MRZ-2a area would include an operating mine or an area where extensive sampling indicates the presence of a significant mineral deposit.
- ▶ **MRZ-2b:** Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain discovered deposits that are either inferred reserves or deposits that are presently subeconomic as determined by limited sample analysis, exposure, and past mining history. Further exploration work or changes in technology or economics could result in upgrading areas classified MRZ-2b to MRZ-2a. A typical MRZ-2b area would include sites where there are good geologic reasons to believe that an extension of an operating mine exists or where there is an exposure of mineralization of economic importance.
- ▶ **MRZ-3a:** Areas containing known mineral deposits that may qualify as mineral resources. Further exploration work within these areas could result in the reclassification of specific localities into the MRZ-2a or MRZ-2b categories. MRZ-3a areas are considered to have a moderate potential for the discovery of economic mineral deposits. MRZ-3 is divided on the basis of knowledge of economic characteristics of the resources. An example of an MRZ-3a area would be where there is direct evidence of a surface exposure of a geologic unit, such as a limestone body, known to be or to contain a mineral resource elsewhere but has not been sampled or tested at the current location.

- ▶ **MRZ-3b:** Areas containing inferred mineral deposits that may qualify as mineral resources. Land classified MRZ-3b represents areas in geologic settings that appear to be favorable environments for the occurrence of specific mineral deposits. Further exploration work could result in the reclassification of all or part of these areas into the MRZ-3a category or specific localities into the MRZ-2a or MRZ-2b categories. MRZ-3b is applied to land where geologic evidence leads to the conclusion that it is plausible that economic mineral deposits are present. An example of an MRZ-3b area would be where there is indirect evidence such as a geophysical or geochemical anomaly along a permissible structure, which indicates the possible presence of a mineral deposit or that an ore-forming process was operative.
- ▶ **MRZ-4:** Areas where geologic information does not rule out either the presence or absence of mineral resources. The distinction between the MRZ-1 and MRZ-4 categories is important for land-use considerations. It must be emphasized that MRZ-4 classification does not imply that there is little likelihood for the presence of mineral resources, but rather there is a lack of knowledge regarding mineral occurrence. Further exploration work could well result in the reclassification of land in MRZ-4 areas to MRZ-3 or MRZ-2 categories.

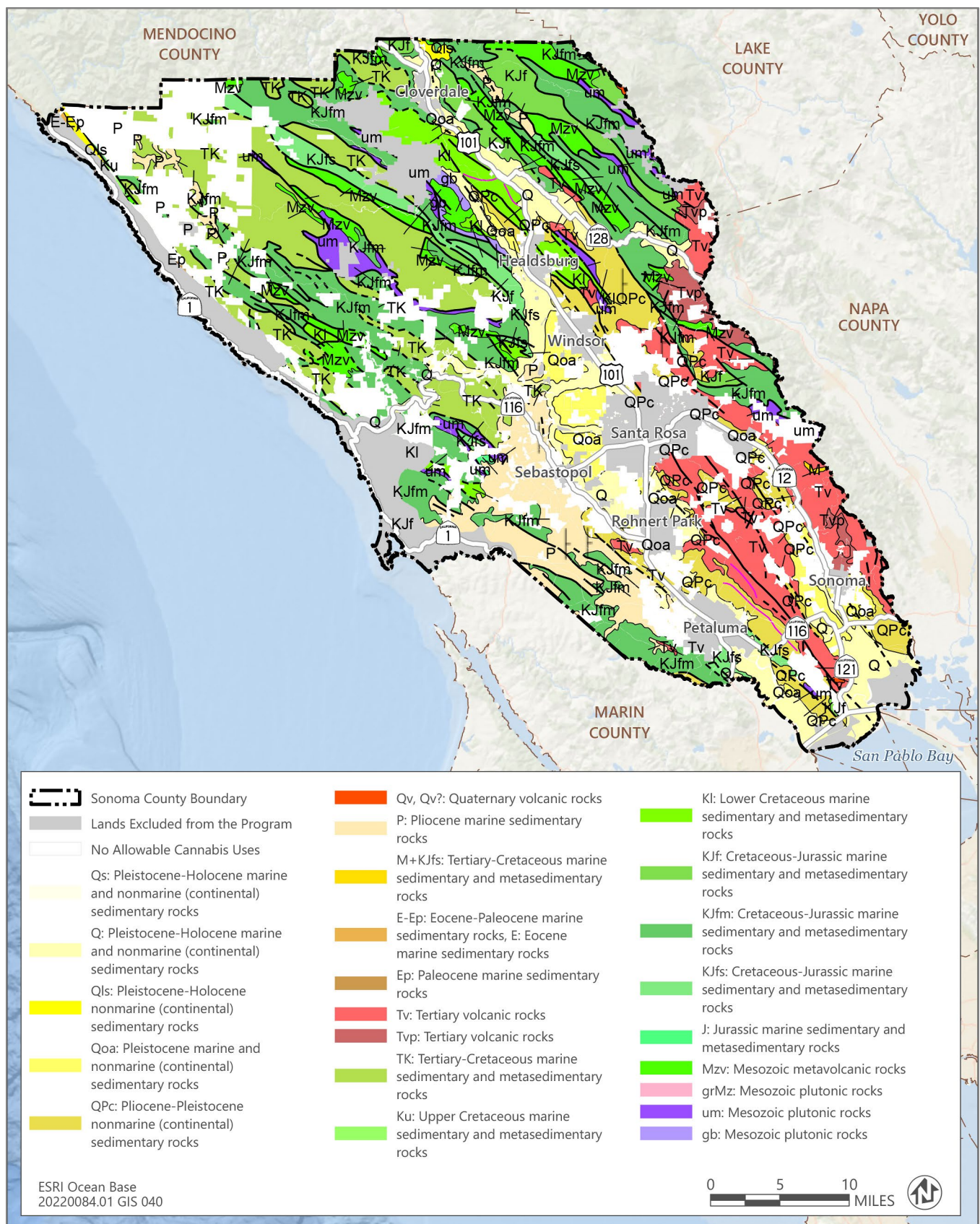
High-quality alluvial sands and gravels are mined from rivers and streams in Sonoma County including the Russian River, Santa Rosa Creek, Dry Creek, Sonoma Creek, Big Sulfur Creek, and Gualala River. The deposits vary considerably in thickness, ranging from a few inches immediately above bedrock in places along the Gualala River to more than 80 feet along the bed of the active Russian River south of Healdsburg. Mineral resources associated with these deposits include asphalt concrete aggregate, Class II Base Aggregate, and Portland Cement Concrete. Lands classified MRZ2a are found in the Alexander Valley Reach of the Russian River, on the Middle Reach of the Russian River, and on Austin Creek. Lands classified MRZ-2b are found in the Alexander Valley Reach and Middle Reach of the Russian River, Dry Creek, Sonoma Creek, and on the Gualala River (DOC 2005).

PALEONTOLOGICAL RESOURCES

Paleontological resources are the remains and/or traces of prehistoric life, exclusive of human remains, and include the localities where fossils were collected and the sedimentary rock formations from which they were obtained/derived. The defining character of fossils is their geologic age. The geologic formations that underly the program area is depicted in Figure 3.7-2.

Fossils or fossil deposits are generally regarded as older than 10,000 years, the generally accepted temporal boundary marking the end of the last Late Pleistocene glacial event and the beginning of the current period of climatic amelioration of the Holocene. These resources are usually found in sedimentary and metasedimentary deposits. Over 600 individual paleontology specimens have been identified in Sonoma County, including plants, invertebrates, and vertebrates (UCMP 2024). Within the County, paleontological remains have been primarily recovered from the following geologic formations:

- ▶ Franciscan complex (Jurassic): This formation largely covers the northern part of the County, with the exception of the Alexander Valley and northern Santa Rosa plain.
- ▶ Wilson Grove Formation (Miocene-Pliocene): This is a common location for Paleontological remains and is largely located in the western part of the County, along with the Ohlson Ranch Formation (Miocene-Pliocene) and the Petaluma Formation. The boundaries of this area are Occidental, Sebastopol, Petaluma, and the coast. These formations are also present around the base of the Sonoma Mountains.
- ▶ Sonoma Volcanics (Miocene-Pliocene): This is the formation of the Sonoma Mountains and the Sonoma/Napa Mountains, which form the western border of the County.



Source: Data downloaded from Sonoma County in 2024; adapted by Ascent in 2024.

Figure 3.7-2 Geologic Formations within the Program Area

In addition, resources have been identified in the following formations (UCMP 2024):

- ▶ Briones (Miocene);
- ▶ Chico (Late Cretaceous);
- ▶ Glen Ellen (Pleistocene);
- ▶ Gualala (Paleocene);
- ▶ Healdsburg Conglomerate (Early Cretaceous);
- ▶ Knoxville (Late Jurassic, Early Cretaceous);
- ▶ Merced (Miocene, Pleistocene, Pliocene);
- ▶ Monterey (Miocene);
- ▶ Neroly (Miocene, Pliocene);
- ▶ Paskenta (Early Cretaceous);
- ▶ Petaluma (Pliocene);
- ▶ Purisima-Merced (Pliocene); and
- ▶ Sonoma Tuffs (Pliocene).

3.7.3 Environmental Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, "Project Description," and Section 3.0, "Approach to the Environmental Analysis," regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

The following program-level analysis is based on generalized geology, soils, and mineral resources mapping and available data. The footprint and design details of any site-specific cannabis projects are not known at this time. It is not possible to estimate the extent of accessory uses on cannabis sites that may occur in the future under the Cannabis Program Update. Thus, the analysis programmatically addresses the potential for accessory uses.

Specific requirements of existing laws and regulations described in the regulatory setting are assessed for their ability to avoid or reduce the exposure of people or structures to substantial adverse effects. The examination of geology, soils, and mineral resources is based on information obtained from reviews of:

- ▶ available literature, including documents published by the County, state, and federal agencies, and published information dealing with geotechnical conditions in Sonoma County; and
- ▶ applicable elements from the Sonoma 2020 County General Plan.

The following proposed changes to the Sonoma County Code are applicable to geology, soils, and mineral resources:

- ▶ 26-18-115(C)(4)(d): Best Management Practices. Outdoor cultivation must comply with best management practices for cannabis cultivation issued by the agricultural commissioner for erosion and sediment control and management of wastes, water, fertilizers, and pesticides

- ▶ 26-18-115(C)(4)(h)(4): Soil Protection. Deep ripping during crop removal is prohibited. Deep ripping is the mechanical manipulation of the soil at depths greater than sixteen inches to break up or pierce of highly compacted, impermeable, or slowly permeable subsurface soil layer or other similar kinds of restrictive soil layers.
- ▶ 26-18-115(C)(5)(a): Personal cultivation must comply with best management practices for cannabis cultivation issued by the agricultural commissioner for erosion and sediment control and management of wastes, water, fertilizers, and pesticides.
- ▶ 26-18-020(B)(1): Crop production must comply with applicable provisions of Article 65 (RC riparian corridor combining zone) and Chapter 36 (vineyard and orchard development ordinance); which may require a use permit.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the State CEQA Guidelines, a geology and soils, mineral resources, or paleontological resources impact would be significant if future projects carried out under the Cannabis Program Update would:

- ▶ directly or indirectly expose people or structures to potential substantial adverse impacts, including the risk of loss, injury, or death through the rupture of a known earthquake fault, strong seismic shaking, seismic-related ground failure, soil liquefaction, or landslides;
- ▶ result in substantial soil erosion or the loss of topsoil, or locate project facilities on expansive soil, creating substantial direct or indirect risks to property;
- ▶ locate project facilities on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslides, lateral spreading, subsidence, liquefaction, or collapse;
- ▶ have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater; or
- ▶ directly or indirectly destroy a unique geologic feature.

A mineral resources impact is considered significant if future projects carried out under the proposed Cannabis Program Update would do any of the following:

- ▶ result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
- ▶ result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

ISSUES NOT DISCUSSED FURTHER

Personal Cultivation

The proposed Cannabis Program Update does not include changes to personal cultivation standards that would be substantially different from existing requirements such that physical changes to the environment could occur that would create significant impacts related to geology, soils, and mineral resources. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

Septic Systems

Future cannabis sites would be required to comply with all applicable federal, state, and local regulations related to septic tanks and wastewater disposal. Term 27 of Attachment A of SWRCB Order WQ 2023-0102-DWQ prohibits discharges of wastewater from commercial cannabis manufacturing activities defined in Business and Professions Code Section 26100, indoor grow operations, or other industrial wastewater to an on-site wastewater treatment system (e.g., septic tank and associated disposal facilities), to surface water, or to land. The Sonoma County OWTS Ordinance is described in Chapter 24 of the Sonoma County Code. Compliance with such regulations would reduce

the potential for septic systems to be located on soils incapable of supporting such systems. Therefore, no impacts associated with septic systems would occur, and this issue is not evaluated further.

Mineral Resources

Sonoma County contains a variety of mineral resources, with minerals playing an important role in the County's economy. However, cannabis operations are similar to agricultural activities that would not render the locations on which it occurs unavailable for future mineral extraction. While individual cannabis sites may involve some minor conversion of undeveloped land to paved roadways and other structures, there would not be large areas (e.g., larger land area commitments over a long period of time, such as housing or other land use development) that would alter the condition of the land and eliminate the possibility of future mining practices. That is, mining extraction and new cannabis site could occur on the same or contiguous parcels and removal of structures to support mining would not involve displacement of individual or other requirements that would preclude mining uses by the land owner. Additionally, consistency with proposed General Plan Policy AR-4g would limit the area that permanent structures may occupy, consequently maximizing undeveloped land area. Implementation of the Cannabis Program Update would not result in the loss of availability of a known mineral resource that would be a value to the region and the residents of that region and would not result in the loss of availability of a local important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, no impacts associated with mineral resources would occur, and this issue is not evaluated further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: Directly or Indirectly Cause Potential Substantial Adverse Effects, Including the Risk of Loss, Injury, or Death from Seismic Hazards

Commercial cannabis sites approved under the proposed Cannabis Program Update may be constructed in areas prone to strong seismic shaking. However, such uses would not exacerbate existing seismic hazards and would be required to comply with existing state and local regulatory requirements related to seismic hazards (e.g., building codes and other laws and regulations), such that the exposure of people or structures to risk of loss, injury, or death resulting from rupture of a known earthquake fault or strong seismic shaking would be avoided or reduced. This impact would be **less than significant**.

The proposed Cannabis Program Update would include amendments to the Sonoma County 2020 General Plan and changes to the County Zoning Ordinance in Chapter 26 of the County Code to further address proposed cannabis cultivation and supply chain uses allowed by the state licensing program beyond the current County regulations. Facilities associated with new or expanded cannabis cultivation and supply chain uses may be located in areas subject to strong seismic shaking.

Natural geologic processes that represent a hazard to life, health, or property are considered geologic hazards. Natural geologic hazards that affect people and property in Sonoma County include earthquakes, which can cause surface fault rupture, ground shaking, landslides, liquefaction, and lateral spreading. As discussed below, these seismic hazards have a high potential to cause widespread damage. Seismic hazard regulations are in place at the state and County levels that reduce risks associated with seismic-related hazards through avoidance or building standards. These adopted guidelines include the Alquist-Priolo Earthquake Fault Zoning Act, as described above in Section 3.7.1, "Regulatory Setting." The CBC contains specific provisions for structures located in seismic zones.

It is important to note that environmental impact analyses under CEQA generally are not required to analyze the impacts of existing environmental conditions on a project's future users or residents unless the proposed project might cause or risk exacerbating environmental hazards or conditions that already exist (State CEQA Guidelines, Section 15126.2[a]). In those specific instances, it is the project's impact on the environment and not the environment's impact on the project that compels an evaluation of how future residents or users may be affected by exacerbated conditions (*California Building Industry Association v. Bay Area Air Quality Management District* [2015] 62 Cal.4th 369). Individual cannabis projects subject to the proposed Cannabis Program would not exacerbate seismic

hazards (i.e., affect the number of faults or alter the condition of fault feature that would induce a seismic event). Furthermore, regulations would limit these potential risks associated with the County's geologic conditions. As noted above, the effects of the environment on a project falls outside of the scope of CEQA; however, a discussion is presented below that addresses building safety.¹

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program Update, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program Update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

New buildings and expanded uses involving commercial related uses within the County are subject to Chapter 7 of the County Code, which contains regulations that address construction, maintenance, use, and occupancy of buildings. These regulations are designed to provide the minimum standards to safeguard the life, limb, and property and protect the public health, safety and general welfare. The Board of Supervisors determined that the adoption of Chapter 7 of the County Code assures local control of the mandatory building and inspection requirements of the state of California. While Chapter 7 provides building permit exemptions provisions for buildings designed and constructed for use in housing farm machinery, animals, supplies or products that are harvested from or utilized on a parcel of land consisting of five acres or more within agricultural districts (i.e., LIA, LEA, DA, RRD, among other districts), design and construction of new structures must comply with building code requirements.

Additionally, areas designated as the Geologic Hazard Combining District have been established within the County, in areas within close proximity to active faults (Chapter 26, Article 70 of the County Code). For properties located in the Geologic Hazard Combining District, State law and the Sonoma County Code limit the type of development that may occur within 50 feet of the surface trace of an active fault. The County Code requires that to develop property in the Geologic Hazard Combining District, a geologic report must be prepared that describes the hazards and identifies mitigation measures to reduce risks to acceptable levels.

In addition to local regulations, the CBC standards require the design of structures to incorporate seismic hazards present at the site and the intended use, or nature of occupancy, of the structure. For example, Chapter 16, Structural Design, of the CBC identifies both general building structural design requirements and specific seismic safety design requirements. Additionally, CBC Section 1803A.6 requires a geohazards report for all proposed construction to identify seismic conditions, and methods to reduce risk, to be prepared by a California-certified engineering geologist in consultation with a California-registered geotechnical engineer.

The Alquist-Priolo Act requires that no buildings intended for human occupancy would be allowed on or within 50 feet of an active fault trace. Requirements associated with the CBC, Alquist-Priolo Fault Act, and Sonoma County Code ordinances contain building specification and siting requirements that avoid the risks of loss, injury, or death resulting from seismic hazard, such as fault rupture and seismic ground shaking. This impact would be less than significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. Because there would be no changes to the existing conditions, with regard to developed uses on a cannabis site, there would not be an increase

¹ Construction of cannabis facilities would not involve substantial excavations (typical excavations are no greater than 20 feet below the ground surface) that could alter geologic and fault conditions to such an extent to induce seismic events.

in risk of seismic hazards associated with implementation of a cannabis cultivation site under crop swap conditions. This impact would be less than significant.

Construction of Event Facilities and Event Operations

Development of structures to support events would be subject to applicable County Code and State requirements described above (e.g., Chapter 7 of the County Code, Chapter 26, Article 70 of the County Code, the CBC, and Alquist-Priolo Fault Act), which would place minimum standards to safeguard property and protect the public health, safety and general welfare against the risk of loss, injury, or death from seismic hazards. This impact would be less than significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. While new cannabis uses could be located within existing buildings, new structures may be developed within the County. Additionally, accessory uses to primary cannabis uses would be allowed, such as manufacturing, processing, and packaging, which may involve development of new structures associated with indoor and mixed-light cultivation. New structures would be subject to County and State standards, described in more detail above with regard to proposed allowable uses in agricultural districts. As discussed above, these requirements would provide design requirements and specific seismic safety design requirements that avoid the risks of loss, injury, or death resulting from seismic hazards. This impact would be less than significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. There would be no impacts on seismic hazards.

Conclusion

As discussed above, development and operation of new buildings would be subject to the building code requirements established by the County and State. These requirements provide the minimum standards to safeguard property and protect the public health, safety and general welfare against the risk of loss, injury, or death from seismic hazards. For these reasons, construction and operation of new or expanded facilities associated with cannabis activities would not create new seismic events or exacerbate existing seismic hazards because limited ground disturbance associated with cannabis sites would not alter seismic and fault conditions in the region. Because existing County and State regulations limit the risk of geologic hazard and the program would not exacerbate existing geologic hazards, impacts associated with seismic hazards would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County and State building standards and would be consistent with Sonoma County General Plan Policies PS-1e, PS-1f, PS-1g, PS-1i, and PS-1k, which require all new buildings and structures to comply with applicable codes and to be located, designed, constructed, and managed to minimize geologic-related hazards, such as seismic-related hazards. It would also be consistent with the seismic provisions of the Sonoma Mountain Area Plan and the South Santa Rosa Area Plan.

Impact 3.7-2: Result in Substantial Soil Erosion of the Loss of Topsoil or Be Located on Expansive Soils, Creating Substantial Direct or Indirect Risks to Life or Property

Cannabis sites permitted under the proposed Cannabis Program Update could result in the development of new facilities, which could include clearing, grading, excavation, and other earthmoving activities. The potential for new or expanded cannabis sites being located on expansive soils, substantial soil erosion, or loss of topsoil from implementation of the project would be addressed through compliance with County Code, Sonoma County's Grading and Drainage Regulation, Best Management Practices for Cannabis Cultivation, and the SWRCB Order WQ 2023-0102-DWQ. Impacts related to soil erosion, loss of topsoil, or expansive soils would be **less than significant**.

Topsoil is the uppermost layer of soil, usually comprised of the top 6–8 inches below the ground surface. Topsoil erosion can be a concern because its loss disrupts the food chain and local ecosystem, and erosion can increase the rate of pollutants delivered to watersheds.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Construction of new or expanded cannabis facilities in agricultural and resources districts could involve earthwork activities that have the potential to remove topsoil and increase the potential for soil erosion. These sites may include grading, placement of fill, and excavation. Cannabis sites could also include construction of new facilities, which would likely include clearing, grading, and excavation associated with the building of foundations, roads and driveways, and utility trenches. Although new cannabis projects would be restricted to zoning districts that allow for cannabis uses, these types of land disturbance activities could create accelerated erosion and sedimentation.

However, agricultural grading and construction or modification of drainage facilities or related working, involving construction or modification of drainage facilities or related work, including preparatory land clearing, vegetation removal, or other ground disturbance would be required to meet the permitting requirements and standards outlined in Articles 10, 12, and 20, of Chapter 36 of the County Code (as required by proposed Code Section 26-18-020[B][1]). These requirements provide standards for slopes and terracing and drainage developed by cuts as well as standards for fill, including slope specifications, surface preparation, compaction and terracing. Under these standards, drainage patterns and runoff must be designed and constructed to maintain natural and existing drainage patterns, and to establish setbacks from waterways and ridgetops. Additionally, as required by proposed Code section 26-18-115(C)(4)(d), cultivation activities would be subject to the County's BMPs for cannabis cultivation, which prohibit soil disturbance between November 1 and April 15, and erosion control materials (i.e., straw or other appropriate mulch) to be available on the site at all times to cover areas of disturbed soil.

Additionally, any new or modified structure in the County must meet the mandatory building and inspection requirements set forth in Chapter 7 of the Sonoma County Code. These regulations require a building permit when an applicant seeks to erect, construct, enlarge, alter, repair, move, improve, convert or demolish any building or structure in the unincorporated County. While agricultural buildings constructed on site with existing agricultural use do not need to obtain a building permit, the design and construction of these structures must comply with building code requirements and are subject to submittal of an application to the County. Any construction grading must be consistent with grading and drainage requirements in Chapter 11 and stormwater requirements in Chapter 11A. These grading and drainage requirements provide standards for construction grading and drainage, which includes cut and fill requirements, setbacks from waterways, and requirements for BMPs to limit soil and other pollutant discharge, and includes regulations to protect water quality, including prohibiting the discharge of non-stormwater into the County's

stormwater system, compliance with NPDES permits for stormwater discharge, requiring measures to reduce and eliminate stormwater pollutants. Furthermore, all cultivation sites would be subject to SWRCB Order WQ 2023-0102-DWQ, which contains requirements for soil erosion and sedimentation controls (BMPs) for soil stability and the implementation of a Site Erosion and Sediment Control Plan and Disturbed Area Stabilization Plan for higher risk sites. Examples of BMPs for soil erosion control that may be used include the use of ground cover vegetation (grasses), detention/water quality control basins, drainage control features that are rock lined and that reduce stormwater flow velocities, and other similar features. New cannabis activities would also be subject to Appendix J, "Grading," of the CBC, which regulates grading activities, including drainage and erosion control. Additionally, CBC Section 1803A.6 requires geohazards report for all proposed construction to identify geologic conditions, and methods to reduce risk, to be prepared by a California-certified engineering geologist in consultation with a California-registered geotechnical engineer. This impact would be less than significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. However, cultivation could require additional grading and other earth-moving activities (e.g., improved drainage systems) such as agricultural grading and drainage. As described above, grading activities, including drainage and erosion control would be subject to County and State standards, described in more detail above with regard to proposed allowable uses in agricultural and resource districts. As discussed above, these requirements would provide design requirements and specific design considerations that address potential issues related to soil erosion, loss of topsoil, or expansive soil. This impact would be less than significant.

Construction of Event Facilities and Event Operations

Development of structures to support events would be subject to County Code and State regulations described above (e.g., Chapter 7 of the County Code and the CBC), which include design requirements and specific design considerations that address potential issues related to soil erosion, loss of topsoil, or expansive soils. This impact would be less than significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. While new cannabis uses could be located within existing buildings, new structures may be developed within the County. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Generally, new structures developed within industrial and commercial districts would be located on previously disturbed land where grading has already occurred, thus limiting the potential effects associated with soil erosion, loss of topsoil, or expansive soils. Regardless, any new development would be subject to County and State standards, described in more detail above with regard to proposed allowable uses in agricultural districts. As discussed above, these requirements would provide design requirements and specific design considerations that address potential issues related soil erosion, loss of topsoil, or expansive soils. This impact would be less than significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects related to soil erosion, loss of topsoil, or expansive soils. This impact would be less than significant.

Conclusion

As discussed above, implementation of the proposed Cannabis Program Update may include development of structures to support new cannabis uses. Development of structures and agricultural and construction grading would be subject to County Code and State regulations described above (e.g., Chapter 7 of the County Code and the CBC, Chapter 11, Chapter 36), which include design requirements and specific design considerations that address potential issues related to soil erosion, loss of topsoil, or expansive soils. For these reasons, impacts associated with soil erosion, loss of topsoil, or expansive soils would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County and State building standards and would be consistent with Sonoma County General Plan Policies PS-1f and PS-1k, which require all new buildings and structures to comply with uniform construction codes and to be located, designed, constructed, and managed to minimize geologic-related hazards. It would also be consistent with the soil provisions of the Bennett Valley Area Plan, Frantz Valley Area Plan, Penngrove Area Plan, Petaluma Dairy Area Plan, and the West Petaluma Area Plan.

Impact 3.7-3: Be Located on a Geologic Unit or Soil That Is Unstable, or That Would Become Unstable as a Result of the Project, and Potentially Result in On- or Off-Site Landslide, Lateral Spreading, Subsidence, Liquefaction, or Collapse

Cannabis sites permitted under the proposed Cannabis Program Update could result in the exposure of people and property to risks associated with unstable soils. However, sites would be required to comply with state and local regulatory requirements (e.g., building codes and other laws and regulations) related to geologic hazards, such that the risk to life or property through exposure to unstable soils because of the project would be reduced. This impact would be **less than significant**.

As discussed above in Section 3.7.2, "Environmental Setting," the most frequent and widespread type of ground failure in Sonoma County is landsliding. Because of the highly fractured rock formations, steep topography, long coastline, and the area's seismicity, extensive land areas of the County are subject to this destructive hazard. Virtually all parts of the County, except the flat-lying alluvial valleys, are subject to damaging landslides of various kinds. Construction of cannabis facilities permitted under the proposed Cannabis Program Update could involve earthwork activities that have the potential to result in soil instability. These activities may include grading, placement of fill, and excavation, as well as, clearing, grading, and excavation associated with the building of foundations, roads and driveways, and utility trenches.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Construction of new or expanded cannabis facilities in agricultural and resources districts could involve earthwork activities that have the potential to remove topsoil and increase the potential for soil erosion. These sites may include grading, placement of fill, and excavation. Cannabis sites could also include construction of new facilities, which would likely include clearing, grading, and excavation associated with the building of foundations, roads and driveways, and utility trenches.

However, agricultural grading and construction or modification of drainage facilities or related work, involving construction or modification of drainage facilities or related work, including preparatory land clearing, vegetation removal, or other ground disturbance would be required to meet the standards outlined in Articles 10, 12, and 20, of Chapter 36 of the County Code. These requirements provide standards for slopes and terracing and drainage developed by cuts and well as standards for fill, including slope specifications, surface preparation, compaction and terracing. Under these standards, drainage patterns and runoff must be designed and constructed to maintain natural and existing drainage patterns, and to establish setbacks from waterways and ridgetops. Additionally, cultivation activities would be subject to the County's BMPs for cannabis cultivation, which prohibit soil disturbance between November 1 and April 15, and erosion control materials (i.e., straw or other appropriate mulch) to be available on the site all times to cover areas of disturbed soil.

Additionally, any new structure in the County must meet the mandatory building and inspection requirements set forth in Chapter 7 of the Sonoma County Code. These regulations require a building permit when an applicant seeks to erect, construct, enlarge, alter, repair, move, improve, convert or demolish any building or structure in the unincorporated County. While agricultural buildings constructed on site with existing agricultural use do not need to obtain a building permit, the design and construction of these structures must comply with building code requirements. As part of the building permit requirements, projects must be consistent with grading and drainage requirements in Chapter 11 and stormwater requirements in Chapter 11A. These grading and drainage requirements provide standards that are designed to address potential issues related to unstable soils.

Furthermore, cannabis sites would be subject the CBC, Chapter 18A, "Soils and Foundations," which regulates the excavation of foundations and construction on unstable soils. New cultivation sites would be required to comply with SWRCB Order WQ 2023-0102-DWQ, which contains requirements for soil erosion and sedimentation controls (BMPs) for soil stability and the implementation of a Site Erosion and Sediment Control Plan and Disturbed Area Stabilization Plan for higher risk sites. Examples of BMPs for soil erosion control that may be used include the use of ground cover vegetation (grasses), detention/water quality control basins, drainage control features that are rock lined and that reduce stormwater flow velocities, and other similar features. As appropriate, geologic and soil engineering information would be required to evaluate, locate, and design development to minimize geologic hazards. This impact would be less than significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. Additionally, cannabis BMPs would continue to apply to cultivation activities. Because there would be no changes to the existing conditions, with regard to developed uses on a cannabis site, there would not be an increase in risk associated with unstable soil due to implementation of a cannabis cultivation site under crop swap conditions. This impact would be less than significant.

Construction of Event Facilities and Event Operations

Development of structures to support events would be subject to County Code and State regulations described above (e.g., Chapter 7 of the County Code and the CBC), which include design requirements and specific design considerations that address potential issues related to unstable soil. This impact would be less than significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses supply chain uses, as well as accessory uses. While new cannabis uses could be located within existing buildings, new structures may be developed within the County. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. New structures would be subject to County and State standards, described in more detail above with regard to proposed allowable uses in agricultural districts. As discussed above, these requirements would provide design requirements and specific design considerations that address potential issues related unstable soil. This impact would be less than significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects related to unstable soil. This impact would be less than significant.

Conclusion

As discussed above, implementation of the proposed Cannabis Program Update may include development of structures to support new cannabis uses. Development of structures and agricultural and construction grading would be subject to County Code and State regulations described above (e.g., Chapter 7 of the County Code, the CBC, Chapter 11, Chapter 36), which include design requirements and specific design considerations that address potential issues related to unstable soil. For these reasons, impacts associated with unstable soils would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County and State building standards and would be consistent with Sonoma County General Plan Policies PS-1f and PS-1k, which require all new buildings and structures to comply with uniform construction codes and to be located, designed, constructed, and managed to minimize geologic-related hazards. It would also be consistent with the geologic and soil stability provisions of the Bennett Valley Area Plan, Frantz Valley Area Plan, Penngrove Area Plan, Petaluma Dairy Area Plan, Sonoma Mountain Area Plan, South Santa Rosa Area Plan, and the West Petaluma Area Plan.

Impact 3.7-4: Directly or Indirectly Destroy a Unique Paleontological Resource or Site

Earthmoving activities associated with development and operation of cannabis facilities, approved under the proposed Cannabis Program Update, could result in the discovery of previously unknown paleontological resources. This impact would be **potentially significant**.

As discussed above in section 3.7.2, "Environmental Setting," substantial paleontological resources have been recorded in Sonoma County. Unique paleontological resources may be encountered during any ground-disturbing activities (e.g., grading, excavation, or other construction activities) in areas assigned a high paleontological resource potential. Within the County, paleontological remains have been recovered from geologic formations associated with the Miocene, Late Cretaceous, Pleistocene, Paleocene, Late Jurassic, and Pliocene epochs.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval. Cultivation and development could require grading and other earth-moving activities that could disturb unique paleontological resources. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. Proposed Section 26-18-115(c)(4)(h)(4) prohibits deep ripping during crop removal, and prohibits grading and other earth-moving activities which would require a permit under Chapter 11 or Chapter 36. Therefore, no disturbance of unique paleontological resources would occur, and this impact would be less than significant.

Construction of Event Facilities and Event Operations

Development of structures to support events would require grading and other earth-moving activities that could disturb unique paleontological resources.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. While new cannabis uses could be located within existing buildings, new structures may be developed within the County. Additionally, accessory uses to cultivation would be allowed, such as manufacturing and retail. New development would require grading and other earth-moving activities that could disturb unique paleontological resources.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on unique paleontological resources.

Conclusion

As discussed above, implementation of the proposed Cannabis Program Update would include earth moving activities to support cultivation and supply chain uses. Because there are no procedures in place to address the potential discovery of a unique paleontological resource. If work is not stopped upon discovery of a paleontological resource, it may become damaged resulting in a **potentially significant** impact related to new cannabis uses in agricultural, resources, industrial, and commercial zoning districts, as well as for applications meeting crop swap requirements.

Mitigation Measures

The following mitigation measures would be implemented through the design review with hearing (DRH) or use permit for cannabis (UPC) process for individual projects.

Mitigation Measure 3.7-1 (DRH and UPC): Protection of paleontological resources.

The following mitigation measures would be implemented through the design review with hearing (DRH) or use permit for cannabis (UPC) process for individual projects.

Where paleontological resources are discovered during grading and drainage, all work shall be halted in the vicinity of the find, the director shall be notified, and the following shall occur and be approved by the County before work may resume. The permittee shall retain a Qualified Professional Paleontologist to prepare a project-specific Paleontological Resource Mitigation and Monitoring Program (PRMMP). A qualified professional paleontologist is an individual with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least two years. Monitoring shall be conducted by a qualified paleontological monitor with experience in collection and salvage of paleontological resources. The PRMMP procedures and protocols shall include:

1. Location and type of ground disturbance requiring paleontological monitoring based on the location and depth of ground disturbing activity in the context of the paleontological potential and potential impacts outlined in this section.
2. Timing and duration of paleontological monitoring.
3. Procedures for work stoppage and collection of scientifically significant fossils; including identifiable specimens of vertebrate fossils, uncommon invertebrate, plant, and trace fossils. This must include the authority to temporarily direct, divert or halt construction activity to ensure that larger fossils can be removed in a safe and timely manner.
4. The type and extent of data that should be collected with recovered fossils, such as field notes, photos, data, and maps.
5. Procedures for preparation and curation of fossils. Significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological.
6. Minimum qualifications for qualified paleontologists and paleontological monitors.
7. Conditions under which modifications to the monitoring schedule could be implemented, such as when sediments are likely too young, or conditions are such that fossil preservation would have been unlikely, or that fossils present have little potential scientific value.

Upon completion of grading and drainage work (and curation of fossils if necessary) the Qualified Professional Paleontologist shall prepare a final report outlining the results of the PRMMP. The report shall include discussion of the location, duration, and methods of the monitoring, stratigraphic sections, any recovered fossils, and the scientific significance of those fossils, and where fossils were curated. The report shall be submitted to the County prior to occupancy permits. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the designated museum repository.

Significance After Mitigation

Implementation of Mitigation Measure 3.7-1 would protect accidentally discovered paleontological resources by requiring retention of a Qualified Professional Paleontologist to prepare a project-specific PRMMP. A PRMMP will include a pre-construction paleontological site assessment and develop procedures and protocol for paleontological monitoring and recordation, construction worker awareness training, and procedures for discovery of paleontological resources. Upon implementation of this mitigation measure, impacts would be **less than significant**.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

With implementation of Mitigation Measures 3.7-4a through 3.7-4f, the Cannabis Program Update would be consistent with Sonoma County General Plan Policies OSRC-13a, OSRC-13b, OSRC-13c, and OSRC-19j, which would require that projects carried out under the Cannabis Program Update follow guidelines and procedures designed to protect and mitigate discovered paleontological resources.

3.8 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

This section identifies the regulatory context and policies related to greenhouse gas (GHG) and climate change, describes the existing conditions in the Program area, and evaluates impacts of the proposed Cannabis Update Program that pertain to greenhouse gas emissions and climate change.

Comments regarding greenhouse gas emissions and climate change submitted in response to the notice of preparation (NOP) were received from the organizations and individuals. Comments pertained to potential GHG emissions associated with cannabis facility operations stating that future cannabis operations should be built to meet Sonoma County sustainability goals by incorporating renewable energy and sustainable water requirements. These issues are addressed in the impact analysis below. All comments received in response to the NOP are presented in Appendix A of this EIR.

3.8.1 Regulatory Setting

FEDERAL

Supreme Court Ruling: *Massachusetts et al. v. Environmental Protection Agency et al.* (2007) 549 US 497

In *Massachusetts et al. v. Environmental Protection Agency et al.* (2007) 549 US 497, the Supreme Court of the United States ruled that carbon dioxide (CO₂) is an air pollutant as defined under the federal Clean Air Act (CAA) and that the US Environmental Protection Agency (EPA) has the authority to regulate GHG emissions. In 2010, EPA started to address GHG emissions from stationary sources through its New Source Review permitting program, including operating permits for “major sources” issued under Title V of the CAA.

Corporate Average Fuel Economy Standards

The National Highway Traffic Safety Administration regulates vehicle emissions through the Corporate Average Fuel Economy (CAFE) Standards. On April 1, 2022, the Secretary of Transportation unveiled new CAFE standards for 2024–2026 model year passenger cars and light-duty trucks. These new standards require new vehicles sold in the United States to average at least 40 miles per gallon and apply to all states except those that enforce stricter standards (DOT 2022).

STATE

Plans, policies, regulations, and laws established by the state agencies are generally presented in the order in which they were established.

Statewide GHG Emission Targets and Climate Change Scoping Plan

Reducing GHG emissions in California has been the focus of the state government for approximately 2 decades. GHG emission targets established by the state legislature include reducing statewide GHG emissions to 1990 levels by 2020 (Assembly Bill [AB] 32, Chapter 488, Statutes of 2006) and reducing emissions to 40 percent below 1990 levels by 2030 (Senate Bill [SB] 32, Chapter 249, Statutes of 2016). Executive Order S-3-05 calls for statewide GHG emissions to be reduced to 80 percent below 1990 levels by 2050. This target was superseded by AB 1279 (Chapter 337, Statutes of 2022), which codifies a goal for carbon neutrality and to reduce emissions by 85 percent below 1990 levels by 2045. These targets are in line with the scientifically established levels needed in the United States to limit the rise in global temperature to no more than 2 degrees Celsius (°C), the warming threshold at which major climate disruptions, such as super droughts and rising sea levels, are projected; these targets also pursue efforts to limit the temperature increase even further to 1.5°C (United Nations 2015).

On December 16, 2022, the California Air Resources Board (CARB) adopted the Final 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan), which traces the state’s pathway to achieve carbon neutrality and the goal to

achieve an 85-percent reduction in 1990 emissions by 2045. It identifies the reductions needed by each GHG emission sector (e.g., transportation [including off-road mobile source emissions], industry, electricity generation, agriculture, commercial and residential, pollutants with high global warming potential, and recycling and waste) to achieve these goals (CARB 2022).

The state has also passed more detailed legislation addressing GHG emissions associated with transportation, electricity generation, and energy consumption, as summarized below.

Transportation-Related Standards and Regulations

As part of its Advanced Clean Cars program, CARB established GHG emission standards and fuel efficiency standards for fossil fuel-powered on-road vehicles, which are more stringent than those of EPA. The program's initial goal of requiring zero-emission vehicles (ZEVs) (i.e., battery, fuel cell, and plug-in hybrid electric vehicles [EVs]) to account for up to 15 percent of California's new vehicle sales by 2025 was superseded by Executive Order N-79-20, which directed the state to scale down the sale of internal combustion engines and achieve 100-percent ZEV sales by 2035. The Advanced Clean Cars II program, which was adopted by CARB in August 2022, provides the regulatory framework for ensuring the sales requirement of Executive Order N-79-20 to ultimately reach 100-percent ZEV sales in the state by 2035.

In addition, Executive Order B-48-18, which was signed into law in January 2018, requires all state entities to work with the private sector to have at least five million ZEVs on the road by 2030, as well as 200 hydrogen-fueling stations and 250,000 EV-charging stations installed by 2025. It specifies that 10,000 of these charging stations must be direct-current fast chargers.

CARB adopted the Low Carbon Fuel Standard (LCFS) in 2007 to reduce the carbon intensity (CI) of California's transportation fuels. Low-CI fuels emit less CO₂ than other fossil fuel-based fuels, such as gasoline and fossil diesel. The LCFS applies to fuels used by on-road motor vehicles and off-road vehicles, including construction equipment (Wade, pers. comm., 2017).

Legislation Associated with Electricity Generation

SB 100 (Chapter 312, Statutes of 2018) sets a three-stage compliance period requiring all California utilities, including independently owned utilities, energy service providers, and community choice aggregators, to generate 52 percent of their electricity from renewables by December 31, 2027, and 60 percent by December 31, 2030, and 100 percent carbon-free electricity by December 31, 2045. SB 1020 (Chapter 361, Statutes of 2022) supersedes the goals of SB 100 by requiring that eligible renewable energy resources and zero-carbon resources supply 90 percent of all retail sales of electricity to California end-use customers by December 31, 2035; 95 percent of all retail sales of electricity to California end-use customers by December 31, 2040; and 100 percent of all retail sales of electricity to California end-use customers by December 31, 2045; and supply 100 percent of electricity procured to serve all state agencies by December 31, 2035.

Building Energy Efficiency Standards

CCR, Title 24, Part 6

The energy consumption of new residential and nonresidential buildings in California is regulated by the state's Building Efficiency Standards (California Energy Code, CCR, Title 24, Part 6). The California Energy Commission (CEC) updates the California Energy Code every 3 years with more stringent design requirements for reduced energy consumption, which results in the generation of fewer GHG emissions. The current California Energy Code will require builders to use more energy-efficient building technologies for compliance with increased restrictions on allowable energy use. The core focus of the Building Efficiency Standards has been efficiency, but the 2019 California Energy Code ventured into on-site electricity generation by requiring solar photovoltaic (PV) systems on new homes, resulting in significant GHG savings. The 2022 California Energy Code, the most recent version of the Building Efficiency Standards, advances the on-site energy generation progress started in the 2019 California Energy Code by encouraging electric heat pump technology and use, establishing electric-ready requirements when natural gas is installed, expanding solar PV system and battery storage standards, and strengthening ventilation standards to

improve indoor air quality. CEC estimates that the 2022 California Energy Code will save consumers \$1.5 billion and reduce GHG emissions by 10 (MMTCO₂e) over the next 30 years (CEC 2021).

CCR, Title 24, Part 11

The California Green Building Standards Code, referred to as CALGreen, was added to CCR, Title 24 as Part 11, initially in 2009 as a voluntary code. It became mandatory on January 1, 2011 (as part of the 2010 California Building Standards Code). The current version is the 2022 CALGreen Code, which took effect on January 1, 2023. As compared to the 2019 CALGreen Code, the 2022 CALGreen Code strengthened sections pertaining to EV and bicycle parking, water efficiency and conservation, and material conservation and resource efficiency, among other sections of the CALGreen Code. The CALGreen Code sets design requirements equivalent to or more stringent than those of the California Energy Code for energy efficiency, water efficiency, waste diversion, and indoor air quality. These codes are adopted by local agencies that enforce building codes and used as guidelines by state agencies for meeting the requirements of Executive Order B-18-12.

CALGreen establishes two tiers of standards to provide designers and jurisdictions the opportunity to go beyond the minimum mandatory requirements to promote the use of design and construction concepts that minimize the building's impact on the environment and promote a more sustainable design. Tier 1 requirements are more stringent than the base mandatory CALGreen provisions, and Tier 2 achieves an even higher standard. Local governments may adopt ordinances that make tier options mandatory to meet their community's sustainability goals.

Department of Cannabis Control

CCR, Title 4, Division 19 includes the following requirements regarding energy use and GHGs for cannabis uses.

Section 16305: Renewable Energy Requirements

- (a) Beginning January 1, 2023, all holders of indoor, tier 2 mixed-light license types of any size, and all holders of nursery licenses using indoor or tier 2 mixed-light techniques shall ensure that electrical power used for commercial cannabis activity meets the average electricity greenhouse gas emissions intensity required by their local utility provider pursuant to the California Renewables Portfolio Standard Program in division 1, part 1, chapter 2.3, article 16 (commencing with section 399.11) of the Public Utilities Code.
- (b) If a licensed cultivator's average weighted greenhouse gas emission intensity, as calculated and reported upon license renewal pursuant to section 15020, is greater than the local utility provider's greenhouse gas emission intensity, the licensee shall obtain carbon offsets to cover the excess in carbon emissions from the previous annual licensed period. The carbon offsets shall be purchased from one or more of the following recognized voluntary carbon registries:
 - (1) American Carbon Registry,
 - (2) Climate Action Reserve, or
 - (3) Verified Carbon Standard.

LOCAL

Sonoma County Climate Change Action Resolution

The Regional Climate Protection Authority (RCPA) coordinates countywide protection efforts among Sonoma County's nine cities and multiple agencies. In 2016, RCPA published the Climate Action 2020 Plan that sets forth greenhouse gas (GHG) reduction targets to reduce countywide GHG emissions. Climate Action 2020 Plan included regional actions to reduce GHG emissions to 25 percent below 1990 levels by 2020 and provide local jurisdictions resources and guidance for implementing local GHG emission reducing actions. The Regional Climate Protection Authority certified an Environmental Impact Report and adopted the Climate Action Plan in 2016 and was subsequently litigated. The Superior Court (Court) found the Environmental Impact Report inadequate, and the Regional Climate Protection Authority declined to appeal. Unable to adopt the Climate Action 2020 Plan, the Sonoma County Board of Supervisors adopted

the Climate Change Action Resolution. This Resolution is intended to help create countywide consistency and clear guidance about coordinated implementation of the greenhouse gas reduction measures.

Key components of the Resolution include the following:

- ▶ Sonoma County agrees to work towards the RCPA's countywide target to reduce greenhouse gas emissions by 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.
- ▶ Sonoma County adopts the following energy related goals to reduce greenhouse gas emissions, and will pursue local actions that support these goals:
 1. Increase building energy efficiency
 2. Increase renewable energy use
 3. Switch equipment from fossil fuel to electricity
 4. Reduce travel demand through focused growth
 5. Encourage a shift toward low-carbon transportation options
 6. Increase vehicle and equipment fuel efficiency
 7. Encourage a shift toward low-carbon fuels in vehicles and equipment
 8. Reduce idling
 9. Increase solid waste diversion
 10. Increase capture and use of methane from landfills
 11. Reduce water consumption
 12. Increase recycled water and graywater use
 13. Increase water and waste-water infrastructure efficiency
 14. Increase use of renewable energy in water and wastewater systems
 15. Reduce emissions from livestock operations
 16. Reduce emissions from fertilizer use
 17. Protect and enhance the value of open and working lands
 18. Promote sustainable agriculture
 19. Increase carbon sequestration
 20. Reduce emissions from the consumption of goods and services
- ▶ Sonoma County will continue to work to increase the health and resilience of social, natural, and built resources to withstand the impacts of climate change; and
- ▶ Sonoma County has the goal of increasing resilience by pursuing local actions that support the following goals:
 1. Promote healthy, safe communities
 2. Protect water resources
 3. Promote as sustainable, climate-resilient economy
 4. Mainstream the use of climate projections.

Sonoma County General Plan

The General Plan includes several goals and policies that pertain to energy. The majority of these are found in the Open Space and Resource Conservation Element, with additional policies in the Land Use Element:

Open Space and Resource Conservation Element

- ▶ **Policy OSRC-14a:** Continue to support education programs that promote energy conservation; energy efficiency; and solid waste reduction, reuse, and recycling opportunities for County operations, residents and businesses, and local utilities.
- ▶ **Policy OSRC-14e:** Develop energy conservation and efficiency design standards for new development.
- ▶ **Policy OSRC-14g:** Develop a Greenhouse Gas Emissions Reduction Program, as a high priority.
- ▶ **Policy OSRC-15a:** Develop a Sonoma County Energy Strategic Plan that addresses the activities and operations of both County government and private residents and businesses.
- ▶ **Policy OSRC-15c:** Encourage and promote the use of renewable energy and distributed energy generation systems and facilities that are integral to and contained within existing and new development.
- ▶ **Policy OSRC-15d:** Incorporate energy facility siting policies into the Sonoma County Development Code.

Land Use Element

- ▶ **Policy LU-11a:** Encourage reduction in greenhouse gas emissions, including alternatives to use of gas-powered vehicles.
- ▶ **Policy LU-11b:** Encourage all types of development and land uses to use alternative renewable energy sources and meaningful energy conservation measures.

3.8.2 Environmental Setting

THE PHYSICAL SCIENTIFIC BASIS OF GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected toward space. The absorbed radiation is then emitted from the earth as low-frequency infrared radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

Prominent GHGs contributing to the greenhouse effect are CO₂, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are found to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic forcing (IPCC 2014).

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas most pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any GHG molecule depends on multiple variables and cannot be determined with any certainty, it is understood that more CO₂ is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO₂ emissions, approximately 55 percent are estimated to be sequestered through ocean and land uptake every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO₂ emissions remain stored in the atmosphere (IPCC 2013).

The quantity of GHGs in the atmosphere responsible for climate change is not precisely known, but it is considered to be enormous. No single project alone would measurably contribute to an incremental change in the global average temperature or to global or local climates or microclimates. From the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative.

GREENHOUSE GAS EMISSIONS SOURCES AND SINKS

Emissions of CO₂ are byproducts of fossil fuel combustion. Methane, a highly potent GHG, results primarily from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices, landfills, and forest fires. Nitrous oxide is also largely attributable to agricultural practices and soil management. CO₂ sinks, or reservoirs, include vegetation and the ocean, which absorb CO₂ through sequestration and dissolution (CO₂ dissolving into the water) and are two of the most common processes for removing CO₂ from the atmosphere.

EFFECTS OF CLIMATE CHANGE ON THE ENVIRONMENT

According to the Intergovernmental Panel on Climate Change (IPCC), which was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme, global average temperature will increase by 3.7 to 4.8 degrees Celsius (°C) (6.7 to 8.6 degrees Fahrenheit [°F]) by the end of the century unless additional efforts to reduce GHG emissions are made (IPCC 2014: 10). According to *California's Fourth Climate Change Assessment*, with global GHGs reduced at a moderate rate, California will experience average daily high temperatures that are warmer than the historic average by 2.5°F from 2006 to 2039, by 4.4°F from 2040 to 2069, and by 5.6°F from 2070 to 2100; and if GHG emissions continue at current rates, then California will experience average daily high temperatures that are warmer than the historic average by 2.7°F from 2006 to 2039, by 5.8°F from 2040 to 2069, and by 8.8°F from 2070 to 2100 (OPR et al. 2018).

Since its previous climate change assessment in 2012, California has experienced several of the most extreme natural events in its recorded history: a severe drought from 2012 to 2016, an almost nonexistent Sierra Nevada winter snowpack in 2014-2015, increasingly large and severe wildfires, and back-to-back years of the warmest average temperatures (OPR et al. 2018). According to California Natural Resource Agency's *Safeguarding California Plan: 2018 Update*, California experienced the driest 4-year statewide precipitation on record from 2012 through 2015; the warmest years on average in 2014, 2015, and 2016; and the smallest and second-smallest Sierra snowpack on record in 2015 and 2014 (CNRA 2018). The year 2023 was the warmest year since global records began in 1850 at 1.18°C (2.12°F) above the 20th-century average of 13.9°C (57.0°F). This value is 0.15°C (0.27°F) more than the previous record set in 2016. The 10 warmest years in the 174-year record have all occurred during the last decade (2014–2023) (NOAA 2024).

In contrast, the northern Sierra Nevada experienced one of its wettest years on record during the 2016-2017 water year (CNRA 2018). The changes in precipitation exacerbate wildfires throughout California through a cycle of high vegetative growth coupled with dry, hot periods, which lowers the moisture content of fuel loads. As a result, the frequency, size, and devastation of forest fires have increased. In November 2018, the Camp Fire destroyed the town of Paradise in Butte County and caused 85 fatalities, becoming the state's deadliest fire in recorded history, and the largest fires in the state's history have occurred in the 2018–2020 period. Moreover, changes in the intensity of precipitation events following wildfires can also result in devastating landslides. In January 2018, following the Thomas Fire, 0.5 inches of rain fell in 5 minutes in Santa Barbara causing destructive mudslides formed from the debris and loose soil left behind by the fire. These mudslides resulted in 21 deaths.

As temperatures increase, the amount of precipitation falling as rain rather than snow also increases, which could lead to increased flooding because water that would normally be held in the snowpack of the Sierra Nevada and the Cascade Range until spring would flow into the Central Valley during winter rainstorm events. This scenario would place more pressure on California's levee/flood control system (CNRA 2018). Furthermore, in the extreme scenario involving the rapid loss of the Antarctic ice sheet and the glaciers atop Greenland, the sea level along California's coastline is expected to rise 54 inches by 2100 if GHG emissions continue at current rates (OPR et al. 2018).

Temperature increases and changes to historical precipitation patterns will likely affect ecological productivity and stability. Existing habitats may migrate from climatic changes where possible, and those habitats and species that cannot retreat will be severely threatened. Altered climate conditions will also facilitate the movement of invasive species to new habitats, thus potentially outcompeting native species. Altered climatic conditions dramatically endanger the survival of arthropods (e.g., insects, spiders), which could have cascading effects throughout ecosystems (Lister and Garcia 2018). Conversely, a warming climate may support the populations of other insects, such as ticks and mosquitos, which transmit diseases harmful to human health, such as the Zika virus, West Nile virus, and Lyme disease (European Commission Joint Research Centre 2018).

Changes in temperature, precipitation patterns, extreme weather events, wildfires, and sea-level rise have the potential to threaten transportation and energy infrastructure, crop production, forests and rangelands, and public health (CNRA 2018; OPR et al. 2018). The effects of climate change will also have an indirect adverse impact on the economy as more severe natural disasters cause expensive physical damage to communities and the state.

In addition, adjusting to the physical changes associated with climate change can produce mental health impacts, such as depression and anxiety.

GREENHOUSE GAS EMISSION SOURCES

In 2022, emissions from statewide emitting activities were 371.1 MMTCO₂e, which is 10.2 MMTCO₂e lower than 2021 levels and 58.9 MMTCO₂e below the 2020 GHG limit of 431 MMTCO₂e. In 2014, statewide GHG emissions dropped below the 2020 GHG limit and have remained below the limit since that time. Per capita GHG emissions in California have dropped from a 2001 peak of 13.8 metric tons per person to 9.7 metric tons per person in 2021, a 30.0 percent decrease. Overall trends in the AB 32 GHG inventory also continue to demonstrate that the carbon intensity of California’s economy (the amount of carbon pollution per million dollars of gross domestic product [GDP]) is declining. Table 3.7-1 summarizes the statewide GHG inventory for California.

Table 3.8-1 Statewide GHG Emissions by Economic Sector (2022)

Sector	MMTCO ₂ e	Percent
Transportation	145	39%
Industrial	85	23%
Electricity generation (in state)	41	11%
Electricity generation (imports)	19	5%
Agriculture	30	8%
Residential	30	8%
Commercial	22	6%
Total	371	100%

Notes: MMCO₂e = million metric tons of carbon dioxide equivalent.

Source: CARB 2024.

As shown in Table 3.7-1, transportation, the industrial sector, and electricity generation are the largest GHG emission sectors.

Sonoma County GHG Emissions Inventory

As part of the preparation of the Climate Resilience Comprehensive Action Plan, Sonoma County conducted a GHG emissions inventory for the year 2022. Table 3.8-2 below provides a summary of Sonoma County’s GHG emissions by sector in 2022.

Table 3.8-2 Sonoma County GHG Emissions by Sector (2022)

Sector	MTCO ₂ e	Percent
Transportation	1,794,818	58%
Buildings	732,091	24%
Agriculture ¹	392,185	13%
Solid waste ²	176,877	6%
Water ³	16,402	1%
Total	3,112,373	100%

Note: MTCO₂e = metric tons of carbon dioxide equivalent.

¹ The agricultural sector emissions are associated with the use of fertilizer, methane from enteric fermentation by livestock digestion, and manure management.

² The solid waste sector emissions are associated with fugitive methane from the anaerobic decomposition of organic wastes at landfills.

³ The water section emissions are associated with the electricity required to convey water and wastewater throughout the county.

Source: Sonoma County RCPA 2024.

The largest source of GHG emissions in Sonoma County was from the transportation sector (58 percent), followed by the buildings sector (24 percent). Sonoma County GHG emissions have decreased over 20 percent from 1990 (Sonoma County RCPA 2024). The emissions associated with existing cannabis cultivation and supply chain operations are included in this inventory.

3.8.3 Environmental Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, "Project Description," and Section 3.0, "Approach to the Environmental Analysis," regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

The analysis of potential impacts on air quality resources resulting from implementation of the Cannabis Program is based on the information provided previously in Section 3.8.2, "Environmental Setting." GHG emissions and associated impacts were assessed in accordance with BAAQMD-recommended methodologies. The Cannabis Program Update's emissions are compared to BAAQMD-adopted thresholds. Actions that would result in emissions of GHG emissions include ground disturbance from construction of storage ponds; installation of irrigation systems and water storage; road and building construction; extension of electrical facilities and infrastructure; fencing, planting, and harvest activities; new vehicle trips; and operation of artificial lights and generators.

As further discussed below, potential expansion of existing and new cannabis cultivation and associated supply chain operations could result in an increase in GHG emissions from short-term construction-related activities and their long-term operation. As recommended by BAAQMD, the California Emissions Estimator Model (CalEEMod) Version 2022.1.1.28 computer program was used to estimate emissions of criteria air pollutants and precursors associated with the construction and operation of the types and sizes of indoor, outdoor, and mixed-light cultivation. An example project-level estimate of GHG emissions was prepared for supply chain and event uses using the largest development footprint and operational features (e.g., employees, traffic, energy use) of the range of the supply chain uses identified in Table 3-1. The modeling analysis provided below summarizes the potential emissions generated from the construction and operation of typical outdoor, mixed-light, and indoor and cannabis cultivation uses as well as supply chain uses.

Operations emissions were also estimated for each cannabis land use type. CalEEMod was used to estimate on-site operations emissions, including emissions generated by off-road equipment, maintenance activity, and fertilizer application. CalEEMod energy consumption rates were adjusted to account for energy efficiency improvements from the 2019 California Energy Code as a conservative assumption. Default energy consumption for electricity was used. Off-road equipment includes utility vehicles (e.g., John Deere Gator) used for cannabis cultivation sites. Mobile-source, water, and solid waste emissions were estimated using default assumptions in CalEEMod.

Construction and operations emissions were estimated for each cannabis use type using the acreage provided in Table 3-1, "Cannabis Program Update Development Assumptions."

Detailed model assumptions and inputs for these calculations are presented in Appendix C.

The environmental analysis in this Draft EIR is general in nature and does not evaluate GHG emission impacts of specific cannabis site construction, potential expansion of existing cultivation sites, and operation or the future extent of accessory uses on cannabis sites as it is not possible to estimate the locations configuration of future cannabis uses. Thus, the analysis programmatically addresses GHG impacts from the range of uses that may occur under implementation of the Cannabis Program Update.

The following proposed changes to the Sonoma County Code are applicable to GHG emissions and climate change:

Section. 26-18-115. - Cannabis Cultivation

(C) Standards

1. Applicable to all zone districts:
 - d. Generators. Generator use is prohibited, except in the case of an emergency.
4. LIA, LEA, DA, RRD Zones
 - h. A crop swap is the replacement of active cultivation of perennial or row crops with outdoor cannabis cultivation or the reuse of an existing nonresidential structure for an accessory cannabis use or indoor or mixed light cannabis cultivation, involving no or negligible expansion of use. The application must conform to all standards in Secs. 26-18-115(C)(1), (3) and (4) and the following:
6. Trip Generation.
 - a. Additional employees are limited to two.
 - b. Total additional trip generation is limited to 10 average daily trips.

THRESHOLDS OF SIGNIFICANCE

The issue of global climate change is inherently a cumulative issue because the GHG emissions of individual projects cannot be shown to have any material effect on global climate. Thus, the Cannabis Program Update's impact on climate change is addressed only as a cumulative impact.

State CEQA Guidelines Section 15064 and relevant portions of Appendix G recommend that a lead agency consider a project's consistency with relevant, adopted plans and discuss any inconsistencies with applicable regional plans, including plans to reduce GHG emissions. Under Appendix G of the State CEQA Guidelines, implementing a project would result in a cumulatively considerable contribution to climate change if it would:

- ▶ generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or
- ▶ conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

With respect to GHG emissions, State CEQA Guidelines, Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The State CEQA Guidelines note that an agency has the discretion to either quantify

a project's GHG emissions or rely on a "qualitative analysis or performance-based standards" (State CEQA Guidelines, Section 15064.4[a]). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change" (State CEQA Guidelines, Section 15064.4[c]). The State CEQA Guidelines provide that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment (State CEQA Guidelines, Section 15064.4[b]):

1. The extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

State CEQA Guidelines, Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of climate change, as it does for a series of environmental topics. Notably, lead agencies are under no obligation to use these inquiries in fashioning thresholds of significance on these subjects or indeed on any subject addressed in the checklist (*Save Cuyama Valley v. County of Santa Barbara* [2013] 213 Cal.App.4th 1059, 1068). Rather, with few exceptions, "CEQA grants agencies discretion to develop their own thresholds of significance" (*Save Cuyama Valley v. County of Santa Barbara*). Even so, it is a common practice for lead agencies to take the language from the inquiries set forth in Appendix G and to use that language in fashioning thresholds. Sonoma County has done so here.

The Northern Sonoma County Air Pollution Control District (NSCAPCD) provides a recommendation for evaluating a project's cumulative contribution to climate change; however, BAAQMD has a substantiated GHG threshold for determining significance in alignment with the state's goal of achieving carbon neutrality by 2045 in its *2022 CEQA Air Quality Guidelines* (2022 BAAQMD CEQA Guidelines). Because BAAQMD's thresholds are substantiated by evidence and the southern portion of the County is located in the SFBAAB, they have been applied in this analysis for all future cannabis operations throughout the County.

BAAQMD's qualitative guidelines for GHG analyses are intended to ensure that projects constructed and operated within its jurisdiction contribute to the state's long-term GHG reduction target of carbon neutrality by 2045, as mandated by Executive Order B-55-18. When BAAQMD's thresholds were developed, Executive Order B-55-18 was the most ambitious regulatory requirement (i.e., carbon neutrality). As discussed in Section 3.8.1, "Regulatory Setting," the state adopted AB 1279 in 2022, codifying the goal of achieving carbon neutrality by 2045. Therefore, compliance with BAAQMD's guidance would be indicative of compliance with state requirements (Executive Order B-55-18 and AB 1279) to achieve carbon neutrality by 2045 (BAAQMD 2022).

BAAQMD's qualitative thresholds are structured to provide projects with two options to demonstrate consistency with the goal of carbon neutrality by 2045: (a) incorporation of certain project design elements and (b) incorporation of relevant GHG reduction measures from a qualified climate action plan. Sonoma County does not have a qualified climate action plan for CEQA streamlining. Accordingly, option (a) of BAAQMD's guidance will be applied, which includes the elimination of on-site natural gas, a reduction in VMT aligning with the Governor's Office of Planning and Research's (OPR's) SB 743 VMT targets, and compliance with off-street EV charging requirements in the most recently adopted CALGreen Code (BAAQMD 2022). These project design elements are similar to typical measures that would be found in a GHG reduction plan.

Although these project design elements were developed by BAAQMD for projects within its jurisdiction, they are considered appropriate thresholds that may be applied to other projects in the state. As described above, GHGs are global pollutants that can affect the climate regardless of the location where they are emitted. The aforementioned project design features included in BAAQMD's guidance are intended to be used by local governments to provide the infrastructure to assist CARB and other agencies in implementing statewide policies and programs to support the state's long-term GHG emission reduction goals of carbon neutrality and an 85-percent reduction in 1990 levels of emissions by 2045 as mandated by AB 1279.

These project design features also align with 2022 Scoping Plan, Appendix D (“Local Actions”), which directs municipalities to promote fully decarbonized development, reduce VMT, and provide EV-charging infrastructure that, at a minimum, meets the most ambitious voluntary standard of the CALGreen Code at the time of project approval. Projects that implement these measures would not conflict with the 2022 Scoping Plan.

BAAQMD’s thresholds are intended to be used to satisfy both questions of Appendix G: (a) generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment and (b) conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Implementation of BAAQMD’s project design features would demonstrate that a project would not either directly or indirectly emit a significant amount of GHG emissions and would show compliance with the most recent version of CARB’s 2022 Scoping Plan, which provides the framework to meet the state’s long-term goal of achieving carbon neutrality by 2045. Therefore, by using BAAQMD’s thresholds of significance, this analysis satisfies the two questions of Appendix G and distills the project’s contribution into one impact. Notably, BAAQMD does not recommend a significance determination for construction-generated GHG emissions in recognition that construction-related GHG emissions make up a small fraction of a project’s overall emissions. Therefore, construction-related GHG emissions are disclosed for informational purposes but are not compared to a threshold of significance.

Therefore, BAAQMD’s guidance is applied to the project. The project would not result in a significant climate change impact if it would meet the following criteria:

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

ISSUES NOT DISCUSSED FURTHER

Personal Cultivation

The proposed Cannabis Program Update does not include changes to personal cultivation standards that would be substantially different from existing requirements such that physical changes to the environment could occur that would create significant impacts related to greenhouse gas emissions and climate change. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases

Operation of cannabis cultivation sites and supply chain operations under the Cannabis Program Update would result in GHG emissions that could conflict with state GHG reduction targets and decarbonization efforts. Therefore, operation of cannabis sites would have a **significant** climate change impact.

As noted above, the issue of global climate change is inherently a cumulative issue because the GHG emissions of individual projects cannot be shown to have any material effect on global climate. Therefore, this GHG impact for allowable uses within Agricultural, Resources, Industrial, and Commercial Districts are considered holistically below.

Construction and operation of cannabis operations would generate GHG emissions. During construction of cannabis cultivation sites and structures, and supply chain operations, GHGs would be emitted by construction equipment, haul trips transporting equipment and materials, and commute trips by construction workers. The total amount of emissions generated by the construction of one outdoor, one mixed-light, and one indoor cannabis cultivation and one supply chain use would total 493 MTCO₂e (see Appendix C for additional details). As noted in the discussion under “Thresholds of Significance,” BAAMQD does not recommend a numerical threshold for evaluating the significance of construction-generated GHG emissions; however, BAAQMD recommends that construction-period GHG emissions be quantified and disclosed. Therefore, these emissions are disclosed for informational purposes.

Operation of cannabis cultivation and supply chain sites permitted under the Cannabis Program Update would generate GHG emissions associated with worker commute and customer trips, haul truck trips transporting cannabis and cannabis products and materials, landscaping and fertilizer use, water consumption, waste and wastewater generation and treatment, and electricity use. Electricity would be consumed to power well pumps that supply irrigation water to outdoor, indoor, and mixed-light cannabis cultivation operations, as well as grow lights and other equipment at indoor and mixed-light cannabis cultivation sites. Use of on-site off-road equipment, such as a utility vehicle (e.g., John Deere Gator) would also generate GHG emissions. Table 3.8-3 summarizes the emissions associated with operation of individual outdoor, indoor, and mixed-light cannabis cultivation and supply chain sites (see Appendix C for additional details). An example project-level estimate of emissions was prepared for supply chain uses, which considered the greatest development square footage and operational features (e.g., employees, traffic, energy use) of the range of the noncultivation uses identified in Table 3-1. As shown in Table 3.8-3, the highest GHG emissions are attributed to mixed-light cultivation, followed by outdoor, supply chain, and indoor cultivation. Emissions under each cannabis use type are primarily attributed to mobile sources (e.g., employee and vendor trips to support each use type). Mixed-light cultivation would result in the greatest mobile source emissions, which is reflected in the annual emissions rates presented in Table 3.8-3. Table 3.8-3 does not factor potential GHG emissions and efficiencies associated with accessory uses on cannabis cultivation sites. The reader is referred to Chapter 4, “Cumulative Impacts,” for estimate of GHG emissions for projected total cannabis development in 2044 identified in Table 3-1.

Table 3.8-3 Greenhouse Gas Emissions Associated with Operation of Individual Cannabis Use Types

Cannabis Use Type	MTCO ₂ e/year
Outdoor Cultivation	393
Mixed-light Cultivation	885
Indoor Cultivation	269
Supply Chain Uses	330

Note: MTCO₂e/year = metric tons of carbon dioxide equivalent per year.

Source: Modeling conducted by Ascent in 2025.

BAAQMD recommends that land use development projects implement certain project design features to reduce their contribution to global climate change. These features consist of excluding natural gas infrastructure, including EV charging stations that meet the Tier 2 requirements of the most recent CALGreen Code, and meeting the reduction

targets under SB 743 as mandated by OPR. At this programmatic stage, the County cannot ensure that future cannabis cultivation sites would be constructed to be fully electric or meet the Tier 2 EV-charging requirements given that the rural land use characteristics of the unincorporated area may not be able feasibly to support the infrastructure that would be required in all areas of the County. As discussed in Section 3.14, "Transportation," given the lack of certainty regarding the size of future cannabis uses, individual projects could result in an exceedance of a local VMT threshold. Therefore, as concluded in Section 3.14, "Transportation," VMT impacts would be potentially significant.

Section 26-18-155(C)(1)(d) prohibits the use of generators with the exception of during emergencies. Additionally, CCR, Title 4, Section 16305 requires that cannabis cultivation state license holders of indoor, Tier 2 mixed-light, and nurseries using Tier 2 lighting ensure that electrical power used for cannabis activity meets the average electricity GHG emissions intensity required by their local utility provider pursuant to the California Renewables Portfolio Standard Program in Division 1, Part 1, Chapter 2.3, Article 16 (commencing with Section 399.11) of the Public Utilities Code. Additionally, CCR, Title 4, Section 16305 also requires that if a licensed cultivator's average weighted GHG emission intensity, as calculated and reported upon license renewal pursuant to CCR, Title 4, Section 15020, is greater than the local utility provider's GHG emission intensity, the licensee shall obtain carbon offsets to cover the excess in carbon emissions from the previous annual licensed period. While these requirements provide mitigation for on-site energy use, the CCR does not include provisions that align with the design recommendations of BAAQMD. It is foreseeable that these design requirements could be sufficient to reduce emissions to the degree the additional emissions from not adhering to BAAQMD's design features could be offset; however, at this programmatic stage, this cannot be assured at the individual project level. In addition, if updates are made to the CCR that align with BAAQMD's project design features (i.e., all electric development, mandatory EV-charging requirements similar to the current CalGreen Code's voluntary Tier 2 requirements), future impacts would be minimized. Nevertheless, because it cannot be assured that future sites would be fully electric or meet the Tier 2 requirements of the CALGreen Code as it pertains to EV charging, implementation of the Cannabis Program Update would result in a significant climate change impact. Moreover, BAAQMD requests that projects achieve VMT reductions meeting OPR's reduction targets codified in SB 743, which cannot be assured through regulatory requirements or at this programmatic stage. Therefore, the project would result in a cumulatively considerable climate change impact.

As identified above, cannabis uses would result in GHG emission increases in the County. This impact would be **significant**.

Mitigation Measures

Mitigation Measures 3.8-1 (DRH and UPC): Implement Mitigation Measures 3.6-2 and 3.14-2.

- ▶ Mitigation Measure 3.6-2 (DRH and UPC): Implement Energy Conservation and Renewable Energy Measures
- ▶ Mitigation Measure 3.14-2 (UPC and DRH): Conduct VMT Analysis and Identify Mitigation for VMT

Significance after Mitigation

Implementation of Mitigation Measure 3.6-2 would require provisions that address renewable energy or energy efficiency to be incorporated to improve the energy efficiency and renewable energy potential of new cannabis cultivation and supply chain uses, while Mitigation Measure 3.14-2 would identify measures to reduce vehicle miles traveled (VMT) and associated GHG emissions. Although it is foreseeable that application of Mitigation Measure 3.6-2 would be sufficient to reduce the impact to a less-than-significant level, the specific project design features recommended above may be deemed infeasible in the future due to economic constraints or the rural nature of future individual cannabis cultivation sites, which would conflict with BAAQMD's threshold of all electric development. Moreover, given the rural nature of portions of the County, it may be infeasible for future cannabis cultivation sites to fully decarbonize due to inadequate access to the electrical grid. Solar power may also not be a reliable measure for certain sites depending on existing tree canopies. As described in Section 3.14, "Transportation," implementation of Mitigation Measure 3.14-2 may not result in VMT reductions in all circumstances. Because of these uncertainties, the impact of the project would be cumulatively considerable and **significant and unavoidable**.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

All buildings constructed would be built to the California Energy Code in effect at the time of construction, as well as CCR, Title 4, Section 16305, regarding energy sources that reduce GHG emissions, unless solar power is used.

Implementation of Mitigation Measure 3.6-2 and 3.14-2 would assist in reducing GHG emissions through renewable energy and conservation measures and reductions in VMT consistent with General Plan Policies OSRC-14a, OSRC-15c, and LU-11b, and the Climate Change Action Resolution.

This page is intentionally left blank.

3.9 HAZARDS AND HAZARDOUS MATERIALS

This section describes the potential impacts of the Cannabis Program Update related to hazards and hazardous materials. The analysis includes a description of the existing environmental conditions, the methods used for assessment, and the potential direct and indirect impacts of implementing the Cannabis Program Update. Hazards associated with air pollutants are addressed in Section 3.3, "Air Quality"; traffic hazards are addressed in Section 3.14, "Transportation"; and wildfire hazards and emergency access are addressed in Section 3.17, "Wildfire."

Comments regarding hazards and hazardous materials submitted in response to the notice of preparation (NOP) were received from individuals. Comments pertaining to hazards and hazardous materials impacts included concerns about health risks and worker safety. These issues are addressed in the impact analysis below. All comments received in response to the NOP are presented in Appendix A of this EIR. While complaints of restricted or unlawful pesticides and related environmental damage from unpermitted and unlicensed cannabis operations have been reviewed by the County, those materials are not allowed for licensed operations. Consequently, practices that may be involved with unpermitted/unlicensed activity is not within the scope of the EIR and not addressed further.

3.9.1 Regulatory Setting

FEDERAL

Management of Hazardous Materials

Various federal laws address the proper handling, use, storage, and disposal of hazardous materials, as well as require measures to prevent or mitigate injury to health or the environment if such materials are accidentally released. The US Environmental Protection Agency (EPA) is the agency primarily responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. Applicable federal regulations pertaining to hazardous materials are primarily contained in Code of Federal Regulations (CFR) Titles 29, 40, and 49. Hazardous materials, as defined in the CFR, are listed in 49 CFR 172.101. Management of hazardous materials is governed by the following laws.

- ▶ The Toxic Substances Control Act of 1976 (15 US Code [USC] Section 2601 et seq.) regulates the manufacturing, inventory, and disposition of industrial chemicals, including hazardous materials. Section 403 of the Toxic Substances Control Act establishes standards for lead-based paint hazards in paint, dust, and soil.
- ▶ The Resource Conservation and Recovery Act of 1976 (42 USC 6901 et seq.) is the law under which EPA regulates hazardous waste from the time the waste is generated until its final disposal ("cradle to grave").
- ▶ The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (also called the Superfund Act or CERCLA) (42 USC 9601 et seq.) gives EPA authority to seek out parties responsible for releases of hazardous substances and ensure their cooperation in site remediation.
- ▶ The Superfund Amendments and Reauthorization Act of 1986 (Public Law 99-499; USC Title 42, Chapter 116), also known as SARA Title III or the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), imposes hazardous materials planning requirements to help protect local communities in the event of accidental release.
- ▶ The Spill Prevention, Control, and Countermeasure (SPCC) rule includes requirements for oil spill prevention, preparedness, and response to prevent oil discharges to navigable waters and adjoining shorelines. The rule requires specific facilities to prepare, amend, and implement SPCC Plans. The SPCC rule is part of the Oil Pollution Prevention regulation, which also includes the Facility Response Plan rule.

Transport of Hazardous Materials

The US Department of Transportation (USDOT) regulates transport of hazardous materials between states and is responsible for protecting the public from dangers associated with such transport. The federal hazardous materials transportation law, 49 USC 5101 et seq. (formerly the Hazardous Materials Transportation Act 49 USC 1801 et seq.) is

the basic statute regulating transport of hazardous materials in the United States. Hazardous materials transport regulations are enforced by the Federal Highway Administration, the US Coast Guard, the Federal Railroad Administration, and the Federal Aviation Administration.

Comprehensive Environmental Response, Compensation, and Liability Act

CERCLA was established to protect the public and the environment from the effects of past hazardous waste disposal activities and new hazardous material spills. It created a tax on the chemical petroleum industries to generate funds to clean up abandoned or uncontrolled hazardous waste sites for which no responsible party could be identified. CERCLA also granted authority to EPA to respond directly to hazardous waste spills and required those responsible for a spill or accidental release of hazardous materials to report the release to EPA.

SARA (Public Law 99-499) amended some provisions of CERCLA. It increased the focus on human health problems posed by hazardous waste releases, stressed the importance of permanent remedies and innovative treatment technologies in cleaning up hazardous waste sites, and encouraged greater citizen participation in making decisions on how sites should be cleaned up.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) sets national goals for protecting human health and the environment from the potential hazards of waste disposal, conserving energy and natural resources, reducing the amount of waste generated, and ensuring that wastes are managed in an environmentally sound manner. To achieve these goals, RCRA established three interrelated programs: the solid waste program, the hazardous waste program, and the underground storage tank (UST) program.

The hazardous waste program established a system for controlling hazardous wastes from the time they are generated to the time they are disposed of ("cradle-to-grave" management). Under RCRA, owners and operators of hazardous waste treatment, storage, and disposal facilities must follow a set of standards (e.g., facility design and operations, contingency planning and emergency preparedness, and recordkeeping) to minimize risk and impacts on human health and the environment, codified in 40 CFR Part 264. Cannabis cultivators would be subject to RCRA to the extent that they generate hazardous waste or store hazardous materials in USTs (California Department of Food and Agriculture 2017).

Emergency Planning and Community Right-to-Know Act: Toxic Release Inventory

Section 313 of EPCRA established the Toxic Release Inventory (TRI). TRI is a publicly available database containing information on disposal and other releases of toxic chemicals from industrial facilities. As stipulated in 40 CFR Part 372, owners or operators of facilities that release toxic chemicals above a certain threshold (25,000 pounds or more per year) are required to submit information about (1) on-site releases and other disposals of toxic chemicals; (2) on-site recycling, treatment, and energy recovery associated with TRI chemicals; (3) off-site transfers of toxic chemicals from TRI facilities to other locations; and (4) pollution prevention activities at facilities. It is unlikely that cannabis cultivators could release toxic chemicals above the threshold requiring reporting under TRI (California Department of Food and Agriculture 2017).

Federal Insecticide, Fungicide, and Rodenticide Act

Pesticides are regulated under the Federal Insecticide, Fungicide, and Rodenticide Act by EPA. This includes labeling and registration of pesticides as to how they may be used. EPA delegates pesticide enforcement activities in California to the California Department of Pesticide Regulation (CDPR), under Title 3 of the California Code of Regulations (CCR) and the California Food and Agricultural Code. CDPR registers pesticides for use in California and licenses pesticide applicators and pilots, advisors, dealers, brokers, and businesses.

Currently, no pesticides are registered for use on cannabis. Therefore, commercial cultivators are limited to using only those pesticides that are exempt from residue-tolerance requirements and that are either (1) registered and labeled for a use that is broad enough to include use on cannabis (e.g., unspecified green plants) or (2) exempt from registration requirements as a minimum-risk pesticide under Section 25(b) of the Federal Insecticide, Fungicide, and Rodenticide Act.

Hazardous Materials Transportation Act

DOT has developed regulations in CFR, Titles 10 and 49 pertaining to the transport of hazardous substances and hazardous wastes. The Hazardous Materials Transportation Act is administered by the Research and Special Programs

Administration of DOT. The act provides DOT with a broad mandate to regulate the transport of hazardous materials, with the purpose of adequately protecting the nation against risk to life and property that is inherent in the commercial transportation of hazardous materials. DOT regulations that govern the transportation of hazardous materials are applicable to any person who transports, ships, or causes to be transported or shipped or who is involved in any way with the manufacture or testing of hazardous materials packaging or containers.

Occupational Safety and Health Administration Worker Safety Requirements

The federal Occupational Safety and Health Administration (OSHA) is the agency responsible for ensuring worker safety in the handling and use of chemicals identified in the Occupational Safety and Health Act of 1970 (Public Law 91-596; 9 USC 651 et seq.). OSHA sets federal standards for implementation of workplace training, exposure limits, and safety procedures for handling hazardous substances and addressing other potential industrial hazards. OSHA also establishes criteria by which each state can implement its own health and safety program. The Hazard Communication Standard (CFR, Title 29, Part 1910) requires that workers be informed of the hazards associated with the materials they handle. These standards include exposure limits for a wide range of specific hazardous materials, including pesticides, as well as requirements that employers provide personal protective equipment (i.e., protective equipment for eyes, face, or extremities; protective clothing; respiratory devices) to their employees wherever it is necessary (i.e., when required by the label instructions) (found in 29 CFR 1910.132). Workers must be trained in safe handling of hazardous materials, use of emergency response equipment, and building emergency response plans and procedures. Containers must be labeled appropriately, and material safety data sheets must be available in the workplace. Cannabis operations would be required to comply with OSHA regulations and standards, including worker personal protective equipment requirements (California Department of Food and Agriculture 2017).

Federal Aviation Administration

Through Title 14 of the CFR Part 77, the Federal Aviation Administration (FAA) establishes standards and notification requirements for objects affecting navigable airspace. This notification serves the basis for evaluating the effect of construction or alteration from projects on FAA operating procedures; determining the potential hazardous effect of proposed construction on air navigation; identifying mitigation measures to enhance safe air navigation; and charting new objects (FAA 2024). Notification allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing the adverse impacts to the safe and efficient use of navigable airspace.

STATE

Management of Hazardous Materials

In California, both federal and state community right-to-know laws are coordinated through the Governor's Office of Emergency Services. The federal law, SARA Title III or EPCRA, described above, encourages and supports emergency planning efforts at the state and local levels and to provide local governments and the public with information about potential chemical hazards in their communities. Because of the community right-to-know laws, information is collected from facilities that handle (e.g., produce, use, store) hazardous materials above certain quantities. The provisions of EPCRA apply to four major categories:

- ▶ emergency planning,
- ▶ emergency release notification,
- ▶ reporting of hazardous chemical storage, and
- ▶ inventory of toxic chemical releases.

The corresponding state law is Chapter 6.95 of the California Health and Safety Code (Hazardous Materials Release Response Plans and Inventory). Under this law, qualifying businesses are required to prepare a Hazardous Materials Business Plan, which would include hazardous materials and hazardous waste management procedures and emergency response procedures, including emergency spill cleanup supplies and equipment. When the applicant begins to use hazardous materials at levels that reach applicable state or federal thresholds, the plan is submitted to the administering agency.

The California Department of Toxic Substances Control (DTSC), a division of the California Environmental Protection Agency (CalEPA), has primary regulatory responsibility over hazardous materials in California, working in conjunction with EPA to enforce and implement hazardous materials laws and regulations. As required by Section 65962.5 of the California Government Code, DTSC maintains a hazardous waste and substances site list for the state, known as the Cortese List. Individual regional water quality control boards (RWQCBs) are the lead agencies responsible for identifying, monitoring, and cleaning up USTs. The North Coast and San Francisco Bay RWQCBs have jurisdiction over the Program area.

California Environmental Protection Agency

CalEPA implements and enforces environmental laws that regulate air, water, and soil quality; pesticide use; and waste recycling and reduction. CalEPA consists of the California Air Resources Board (CARB), CDPH, the California Department of Resources Recycling and Recovery (CalRecycle), DTSC, the Office of Environmental Health Hazard Assessment (OEHHA), and the State Water Resources Control Board (SWRCB).

Transport of Hazardous Materials and Hazardous Materials Emergency Response Plan

The State of California has adopted US Department of Transportation regulations for the movement of hazardous materials originating within the state and passing through the state; state regulations are contained in Title 26 of the CCR. State agencies with primary responsibility for enforcing state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans). Together, these agencies determine container types used and license hazardous waste haulers to transport hazardous waste on public roads. However, transportation of hazardous materials is also restricted to certain routes in California as identified by the Federal Motor Carrier Safety Administration (FMCSA) (FMCSA 2024).

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local governments and private agencies. Response to hazardous materials incidents is one part of the plan. The plan is managed by the Governor's Office of Emergency Services, which coordinates the responses of other agencies in the Program area.

Management of Construction Activities

Through the Porter-Cologne Water Quality Act and the National Pollution Discharge Elimination System (NPDES) program, RWQCBs have the authority to require proper management of hazardous materials during project construction. Section 3.10, "Hydrology and Water Quality," contains a detailed description of the Porter-Cologne Water Quality Act, the NPDES program, and the role of the North Coast and the San Francisco Bay RWQCBs.

SWRCB adopted the statewide NPDES General Permit in August 1999. The state requires that projects disturbing more than 1 acre of land during construction file a Notice of Intent with the RWQCB to be covered under this permit. Construction activities subject to the General Permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non-stormwater discharges to storm sewer systems and other waters. A stormwater pollution prevention plan (SWPPP) must be developed and implemented for each site covered by the permit. The SWPPP must include best management plans (BMPs) designed to prevent construction pollutants from contacting stormwater and keep products of erosion from moving off-site into receiving waters throughout the construction and life of the project; the BMPs must address source control and, if necessary, pollutant control.

Worker Safety

The California Occupational Safety and Health Administration (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations within the state. Cal/OSHA standards are typically more stringent than federal OSHA regulations and are presented in Title 8 of the CCR. Cal/OSHA conducts on-site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.

California Accidental Release Prevention Program

The goal of the California Accidental Release Prevention Program (CCR, Title 19, Chapter 4.5) is to reduce the likelihood and severity of consequences of any releases of extremely hazardous materials. Any business that handles regulated substances (chemicals that pose a major threat to public health and safety or the environment because

they are highly toxic, flammable, or explosive, including ammonia, chlorine gas, hydrogen, nitric acid, and propane) must prepare a risk management plan. The risk management plan is a detailed engineering analysis of the potential accident factors present at a business and the measures that can be implemented to reduce this accident potential. The plan must provide safety information, hazard data, operating procedures, and training and maintenance requirements. The list of regulated substances is found in Section 2770.5 of the program regulations.

Hazardous Waste Control Law and Universal Waste Rule

Under CCR Title 22 and the California Hazardous Waste Control Law, DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. California's Universal Waste Rule allows individuals and business to transport, handle, and recycle certain common hazardous wastes, termed "universal wastes," in a manner that differs from the requirements regarding most hazardous wastes. Universal wastes include televisions, computers, and other electronic devices, as well as batteries, fluorescent lamps, mercury thermostats, and other mercury-containing equipment. The hazardous waste regulations (CCR Title 22, Division 4.5, Chapter 11) identify seven categories of hazardous wastes that can be managed as universal wastes. Any unwanted item that falls within one of these waste streams can be handled, transported, and recycled following the simple requirements set forth in the universal waste regulations.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) (CCR Title 27) was mandated by the state of California in 1993. The Unified Program was created to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities for six hazardous materials programs. The program has six elements, including:

- ▶ Hazardous Waste Generators and Hazardous Waste On-site Treatment
- ▶ Underground Storage Tanks
- ▶ Aboveground Petroleum Storage Act
- ▶ Hazardous Materials Release Response Plans and Inventories
- ▶ California Accidental Release Prevention
- ▶ Uniform Fire Code Hazardous Materials Management Plans and Hazardous Materials Inventory Statements

At the local level, implementation of a Unified Program is accomplished by identifying a Certified Unified Program Agency (CUPA) that coordinates all of these activities to streamline the process for local businesses. The Hazardous Materials (HazMat) Unit has the responsibility for the County's CUPA Programs (Sonoma County 2024). There are three other CUPA agencies in Sonoma County that regulate facilities in their communities: Santa Rosa Fire Department, Petaluma Fire Department, and Healdsburg Fire Department, which regulates facilities within Sebastopol and Healdsburg through a Joint Powers Agreement (Sonoma County 2024).

Government Code Section 65962.5: Cortese List

Government Code Section 65962.5 requires that DTSC compile and update a list of hazardous waste facilities; land designated as hazardous waste property; hazardous waste disposals on public land; sites that contain potential hazards to public health and safety or the environment, the risk of fire or explosion, and toxic hazards; and all sites included in the Abandoned Site Assessment Program. This law is commonly referred to as the "Cortese List" (after the legislator who authored the legislation that enacted it). The list, or a site's presence on the list, has bearing on the local permitting process, as well as on compliance with CEQA. Because this statute was enacted more than 20 years ago, some of the provisions refer to agency activities that are no longer being implemented, and in some cases, the information to be included in the Cortese List does not exist.

California Department of Transportation

Caltrans is the state agency responsible for design, construction, maintenance, and operation of the California State Highway System, as well as the segments of the Interstate Highway System that lie within California. Caltrans District 1 is responsible for the operation and maintenance of State Route (SR) 1, SR 20, SR 253, SR 148, SR 175, and United

States Highway (US) 101 in the project area. Caltrans requires a transportation permit for any transport of heavy construction equipment or materials that necessitates the use of oversized vehicles on state highways.

California Highway Patrol

CHP is the state agency responsible for providing uniform traffic law enforcement throughout the state, by assuring the safe, convenient, and efficient transportation of people and goods on the state highways system. CHP 516 requires that drivers hauling hazardous agricultural materials obtain a Hazardous Agricultural Materials certificate. However, Section 12804.2 of the California Vehicle Code exempts a person from the requirement to obtain a hazardous materials or tank endorsement on their driver license, provided the person:

- ▶ is employed in agricultural operation;
- ▶ is driving a vehicle that does not require a commercial driver license and is controlled by a farmer;
- ▶ is transporting agricultural products or machinery to or from a farm;
- ▶ has completed training meeting the requirements outlined in CFR;
- ▶ possesses a verification of training document, commonly known as a Hazardous Agricultural Materials Certificate, when operating a vehicle requiring the display of placards pursuant to California Vehicle Code Section 27903;
- ▶ is operating the vehicle at a distance of not more than 50 miles from farm to farm or from point of distribution to point of application; or
- ▶ is in possession of a CHP 344, Hazardous Materials Transportation Basic Incident Safety Procedures.

California Department of Pesticide Regulation Guidance

Detailed implementing regulations for the CDPR pesticide regulatory program are codified in CCR, Title 3, Division 6. CDPR oversees state pesticide laws, including pesticide labeling, and is vested by EPA to enforce federal pesticide laws in California. CDPR also oversees the activities of the County agricultural commissioners related to enforcement of pesticide regulations and related environmental laws and regulations locally.

As identified in CCR, Title 3, Division 6, CDPR evaluates proposed pesticide products and registers those pesticides that it determines can be used safely. In addition, CDPR oversight includes:

- ▶ licensing of pesticide professionals,
- ▶ site-specific permits required before restricted-use pesticides may be used in agriculture,
- ▶ strict rules to protect workers and consumers,
- ▶ mandatory reporting of pesticide use by agricultural and pest control businesses,
- ▶ environmental monitoring of water and air, and
- ▶ testing of fresh produce for pesticide residues.

The regulations require that employers of pesticide workers provide protective clothing, eyewear, gloves, respirators, and any other required protection and require that employers ensure the protective wear is worn according to product labels during application. The regulations also require that employers provide field workers with adequate training in pesticide application and safety, communicate pesticide-related hazards to field workers, ensure that emergency medical services are available to field workers, and ensure adherence to restricted-entry intervals between pesticide treatments (CCR, Title 3, Section 6764). CDPR requires that the application of pesticides or other pest control in connection with the indoor or outdoor cultivation of cannabis complies with Division 6 of the Food and Agricultural Code (commencing with Section 11401) and its implementing regulations (3 CCR, 6000 et seq.).

Pesticide Use in Cannabis Cultivation

Cannabis pests vary according to strain, whether the plants are grown indoors or outdoors, and where the plants are grown geographically. Pesticides legal for use on cannabis must have active ingredients that are exempt from residue tolerance requirements and are either exempt from registration requirements or registered for a use that is broad

enough to include use on cannabis. Residue tolerance requirements are set by EPA for each pesticide on each food crop and is the amount of pesticide residue allowed to remain in or on each treated crop with “reasonable certainty of no harm.” Some pesticides found to be safe are exempted from the tolerance requirements. Some of these pesticides are bacterial-based insect pathogens (e.g., *Bacillus thuringiensis*) or biofungicides (e.g., *Bacillus subtilis*, *Glilotadium virens*). Active ingredients exempt from registration requirements are mostly food-grade essential oils, such as peppermint oil and rosemary oil (CDPR 2015). CDPR designates certain pesticide active ingredients as California “Restricted Materials” when it determines that those pesticides are especially hazardous to human health or the environment and require permitting. Such permits will not be issued for commercial cannabis cultivation sites.

California Code of Regulations: Testing Standards for Cannabis Goods

As required under CCR, Title 4, Division 19, Section 15719, licensed commercial cannabis laboratories shall analyze representative samples of cannabis and cannabis products to determine whether residual pesticides are present. A list of pesticides is divided into two categories and provided along with their action levels. The sample shall be deemed to have passed the residual pesticides testing if both of the following conditions are met: (1) the presence of any residual pesticide listed in Category I identified in Section 15719 is not detected, and (2) the presence of any residual pesticide listed in in Category II in Section 15719 does not exceed the identified action levels. In addition to residual pesticides testing, cannabis and cannabis products must also be sampled for the following constituents:

- ▶ cannabinoids;
- ▶ foreign material;
- ▶ heavy metals;
- ▶ microbial impurities;
- ▶ mycotoxins;
- ▶ moisture content and water activity;
- ▶ residual solvents and processing chemicals;
- ▶ terpenoids, if applicable; and
- ▶ homogeneity, if applicable.

Pesticide Contamination Prevention Act

The Pesticide Contamination Prevention Act (Sections 13145–13152 of the Food and Agricultural Code) requires CDPR to:

- ▶ obtain environmental fate and chemistry data for agricultural pesticides before they can be registered for use in California;
- ▶ identify agricultural pesticides with the potential to pollute groundwater;
- ▶ sample wells to determine the presence of agricultural pesticides in groundwater;
- ▶ obtain, report, and analyze the results of well sampling for pesticides by public agencies;
- ▶ formally review any detected pesticide to determine whether its use can be allowed; and
- ▶ adopt use modifications to protect groundwater from pollution if formal review indicates that continued use can be allowed.

The act requires CDPR to develop numerical values for water solubility, soil adsorption coefficient, hydrolysis, aerobic and anaerobic soil metabolism, and field dissipation of pesticides to protect groundwater based in part on data submitted by pesticide registrants.

The act also states that CDPR shall establish a list of pesticides that have the potential to pollute groundwater, called the Groundwater Protection List. Any person who uses a pesticide listed on the Groundwater Protection List is required to file a report with the County agricultural commissioner, and pesticide dealers are required to make quarterly reports to CDPR of all sales of pesticides on the list to people not otherwise required to file a report. The Pesticide Contamination Prevention Act ensures that pesticides allowed for use in California, including those that may be used in commercial cannabis cultivation, will have been studied by CDPR for their potential to contaminate groundwater and the environment.

California Code of Regulations: Cannabis Cultivation Regulations

The State Department of Cannabis Control (DCC) Regulations (4 CCR Division 19) include the following requirements regarding public services for commercial cannabis uses.

- ▶ **Section 15011(a):** A commercial cannabis business applying for a license to cultivate cannabis shall provide the following information:
 - 4) Evidence that the commercial cannabis business has conducted a hazardous materials record search of the EnviroStor database for the proposed premises. If hazardous sites were encountered, the applicant shall provide documentation of protocols implemented to protect employee health and safety.
- ▶ **Section 16307(a):** Licensees shall comply with all pesticide laws and regulations enforced by the Department of Pesticide Regulation.
- ▶ **Section 16307(b):** For all pesticides that are exempt from registration requirements, licensees shall comply with all pesticide laws and regulations enforced by the Department of Pesticide regulation and with the following pesticide application and storage protocols:
 - 1) Comply with all pesticide label directions;
 - 2) Store chemicals in a secure building or shed to prevent access by wildlife;
 - 3) Contain any chemical leaks and immediately clean up any spills;
 - 4) Apply the minimum amount of product necessary to control the target pest;
 - 5) Prevent offsite drift;
 - 6) Do not apply pesticides when pollinators are present;
 - 7) Do not allow drift to flowering plants attractive to pollinators;
 - 8) Do not spray directly to surface water or allow pesticide product to drift to surface water. Spray only when wind is blowing away from surface water bodies;
 - 9) Do not apply pesticides when they may reach surface water or groundwater; and
 - 10) Only use properly labeled pesticides. If no label is available consult the Department of Pesticide Regulation.
- ▶ **Section 16309(a):** Licensed cultivators shall establish and maintain a cultivation plan that includes all of the following:
 - 3) A pest management plan developed in accordance with section 16310.
- ▶ **Section 16310(a):** The licensed cultivator shall develop a pest management plan that includes:
 - 1) The product name and active ingredient(s) of all pesticides to be applied to cannabis; and
 - 2) Any integrated pest management protocols, including chemical, biological, and cultural methods, will be used to prevent and control pests on the cultivation site.
- ▶ **Section 170202.1(a):** A licensed manufacturer that uses a volatile solvent, a flammable liquid, or a solvent that creates an asphyxiant gas shall ensure that the solvent is used in accordance with the requirements of:
 - 1) Chapter 39 of the California Fire Code;
 - 2) Title 8, California Code of Regulations, sections 5416–5420, which includes ensuring adequate ventilation and controlling sources of ignition;
 - 3) All Division of Occupational Safety and Health (Cal/OSHA) regulations related to the processing, handling, and storage of the applicable solvent; and
 - 4) All fire, safety, and building code requirements related to the processing, handling, and storage of the applicable solvent or gas.
- ▶ **Section 170202.1(b):** No volatile solvent extraction or post-extraction processing operations or other closed-loop system operations shall occur in an area zoned as residential.
- ▶ **Section 17205:** Additional Requirements for Ethanol Operations - A licensed manufacturer that uses ethanol in manufacturing operations for extractions or post-extraction processing shall receive approval for the facility and equipment from the local fire code official prior to commencing operations, if required by local ordinance.

- ▶ **Section 17209(a):** Exterior facility and grounds. A licensed manufacturer shall ensure the facility exterior and grounds under the licensed manufacturer's control meet the following minimum standards:
 - 1) Grounds shall be equipped with draining areas in order to prevent pooled or standing water;
 - 2) Weeds, grass, and vegetation shall be cut within the immediate vicinity of the cannabis manufacturing premises, litter and waste shall be removed, and equipment shall be stored in order to minimize the potential for the grounds to constitute an attractant, breeding place, or harborage for pests;
 - 3) Roads, yards, and parking lots shall be maintained so that these areas do not constitute a source of contamination in areas where cannabis products are handled or transported;
 - 4) Openings into the building (such as windows, exhaust fans, ventilation ducts, or plumbing vent pipes) shall be screened, sealed, or otherwise protected to minimize potential for pests to enter the building;
 - 5) Waste treatment and disposal systems shall be provided and maintained so as to prevent contamination in areas where cannabis products may be exposed to such a system's waste or waste by-products;
 - 6) A licensed manufacturer shall implement precautions within the premises, such as inspection or extermination, if the premises is bordered by grounds outside the licensed manufacturer's control that are not maintained in the manner described in subsections (1) through (5), in order to eliminate any pests, dirt, and filth that pose a source of cannabis product contamination. Any use of insecticide, rodenticide, or other pesticide within the premises shall meet the requirements of Health and Safety Code section 114254.
- ▶ **Section 17209(5)(C):** Poisonous or toxic materials such as cleaning compounds, sanitizing agents, and pesticide chemicals that are necessary for premises and equipment maintenance and operation shall be handled and stored in a manner that meets the requirements of Health and Safety Code sections 114254.1, 114254.2 and 114254.3.
- ▶ **Section 17211.1(a):** A manufacturing licensee shall establish and implement a training program to ensure that all personnel present at the premises are provided information and training that, at minimum, covers the following topics:
 - 1) Within 30 days of the start of employment:
 - a. Health and safety hazards;
 - b. Hazards presented by all solvents or chemicals used at the licensed premises as described in the safety data sheet for each solvent or chemical;
 - c. Emergency response procedures.
- ▶ **Section 17214(a):** A licensed manufacturer shall establish and implement a written product quality plan for each type of product manufactured at the premises. The product quality plan shall address the hazards associated with the premises or the manufacturing process that, if not properly mitigated, may cause the product to be adulterated or misbranded, or may cause the product to fail laboratory testing or quality assurance review.
- ▶ **Section 17214(c):** The licensed manufacturer shall evaluate the following potential risks to cannabis product quality that could be introduced during manufacturing operations:
 - 1) Biological hazards, including microbiological hazards;
 - 2) Chemical hazards, including radiological hazards, pesticide contamination, solvent or other residue, natural toxins, decomposition, or allergens;
 - 3) Physical hazards, such as stone, glass, metal fragments, hair, or insects.

LOCAL

Sonoma County General Plan

The Public Safety Element and the Air Transportation Element of the Sonoma County General Plan set forth goals, objectives, and policies for hazards and hazardous materials and airport safety, respectively (Sonoma County 2016a, 2016b). Applicable policies are provided below.

Public Safety Element

- ▶ **Policy PS-4a:** While maintaining the autonomy granted to it pursuant to State zoning laws, implement Federal, State, and County requirements for the storage, handling, disposal, and use of hazardous materials, including requirements for management plans, security precautions, and contingency plans.
- ▶ **Policy PS-4b:** Prepare and maintain an inventory of sites with storage or use of hazardous materials in threshold planning quantities as determined by Federal and State laws.
- ▶ **Policy PS-4d:** Work with applicable regulatory agencies to regulate the transportation of hazardous materials consistent with adopted County policies.
- ▶ **Policy PS-4k:** Continue to educate the public about and promote the Sonoma County Waste Management Authority's Household Hazardous Waste Program. Encourage free drop-off and reuse of computers and similar equipment containing hazardous materials.

Air Transportation Element

- ▶ **Policy AT-1c:** An object, tree or structure which would penetrate a horizontal or conical surface as defined by the ALUC [Airport Land Use Commission], and would be 35 feet or less in height above the ground (i.e. is within the height limits prescribed for most Sonoma County zoning districts) shall be considered conditionally acceptable even if it exceeds the prescribed height limit. Appropriate marking and lighting may be conditions for acceptability.
- ▶ **Policy AT-1e:** Refer proposed projects which include requests for General or Specific Plan amendment, changes to the Development Code, and changes to local building regulations to the ALUC for determination of consistency with the CALUP prior to review by the appropriate County decision making body.
- ▶ **Policy AT-1f:** Use the Airport Property Map contained in the Sonoma County Airport Master Plan and Airport Layout Plan and any future amendments thereof, for identification of parcels planned for acquisition to protect approach zones at the Charles M. Schulz - Sonoma County Airport. Figure AT-10 shows parcels to be acquired for Airport approach protection. The appropriate method of protection shall be consistent with the level of protection needed based upon the impact of future operations and regulations associated with the Airport's annual service volume of 230,000 operations as reported in the Airport Master Plan.
- ▶ **Policy AT-2a:** Comply with ALUC policies regarding height, location, marking and lighting of structures, unless it is determined that an override by appropriate government body is appropriate.

Penngrove Area Plan

The Penngrove Area Plan contains the following provisions that are relevant to the Cannabis Program Update:

Mitigation Measures

- ▶ Air Quality/Hazardous Materials

(3) Individual projects involving hazardous materials shall be sent to Project Review Advisory Committee to consider requiring an expanded initial study to evaluate the risk of an explosion or the release of hazardous substances in the event of an accident and propose feasible mitigations.

South Santa Rosa Area Plan

The South Santa Rosa Area Plan contains the following provisions that are relevant to the Cannabis Program Update:

Policies

- ▶ Hazardous Materials

(1) Require preparation of a soils analysis prior to any development proposed within the boundaries of the Urban Vision Plan unless clearance is received from the North Coast Regional Water Quality Control Board.

Sonoma County Multi-Jurisdictional Hazard Mitigation Plan

The Sonoma County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) comprises the hazard profiles, risk assessments, and mitigation strategies for multiple jurisdictions. These multiple jurisdictions include cities, counties, conservation districts, and fire protection districts (Sonoma County 2021). The MJHMP assesses hazard vulnerabilities and identifies potential mitigation actions each jurisdiction will pursue in order to reduce the level of injury, property damage, and community disruption that might otherwise result from such events and addresses the following hazards: dam failure, drought, earthquake, flooding, landslide/mass movement, sea level rise, severe weather, tsunamis, and wildfire (Sonoma County 2021).

Sonoma County Operational Area Emergency Operations Plan (EOP)

The Sonoma County Operational Area Emergency Operations Plan (EOP) is a guidebook for phases of an all-hazards emergency management process within the operational area: the County (Sonoma County 2022). The phases of emergency management include preparedness, response, recovery, and mitigation. The EOP is intended to facilitate coordination between agencies and jurisdictions within Sonoma County while ensuring the protection of life, property, and the environment during disasters (Sonoma County 2022). The EOP provides the framework for a coordinated effort among local community, county, city, special district, private sectors, regional, state, tribal, and federal partners and also reflects the County's efforts to ensure equity and reach members of traditionally underserved communities (Sonoma County 2022).

Sonoma County CUPA

The Hazardous Materials (HazMat) Unit has the responsibility for the County's CUPA Programs (Sonoma County 2024). There are three other CUPA agencies in Sonoma County that regulate facilities in their communities: Santa Rosa Fire Department, Petaluma Fire Department, and Healdsburg Fire Department, which regulates facilities within Sebastopol and Healdsburg through a joint powers agreement (Sonoma County 2024). The CUPA implements and enforces hazardous waste and hazardous materials through a regulatory management program and provides inspections, oversight, emergency response, and annual training for regulators to minimize hazardous waste potential spills.

SONOMA COUNTY BEST MANAGEMENT PRACTICES CANNABIS CULTIVATION

The Sonoma County Department of Agriculture/Weights & Measures has prepared Best Management Practices (BMPs) for outdoor cannabis cultivation. The BMPs for water quality apply to all cultivators not required to enroll in the North Coast Regional Water Quality Control Board Waste Discharge program for cannabis, and address pesticide and storage, pesticide use, fertilizer use, and riparian protection. These requirements limit the potential for accidental contamination of water from use of pesticides and herbicides.

3.9.2 Environmental Setting

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

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

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

...because of their quantity, concentration, or physical, chemical, or infectious characteristics, [may either] cause, or significantly contribute to an increase in mortality or an increase in serious illness [or] pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

HAZARDOUS MATERIALS SITES

Hazardous materials are routinely used, stored, and transported by businesses (including industrial and commercial/retail businesses), public and private institutions (such as educational facilities and hospitals), and households. Because of lack of awareness with regard to handling and disposal, accidents, intentional actions, and historical business practices that predate current regulatory standards, sites are located in the County where hazardous wastes were released to soil or groundwater during storage, use, transfer, and disposal. These include sites that were historically contaminated but have been remediated and sites that are known, or believed, to be contaminated that are currently being characterized or undergoing remediation. Hazardous waste releases may be localized to the originating parcel or may migrate and contaminate nearby areas.

Sites with Known Hazardous Material and Contaminations

Several government databases identify sites that may have been subject to a release of hazardous substances or that may have supported a use that could have resulted in a hazardous condition on-site. Described in further detail below are databases that identify potential environmental conditions and historical uses that may represent a hazardous condition on specific properties located in the unincorporated County.

Department of Toxic Substances Control EnviroStor Database

The DTSC EnviroStor database contains the following site types: Federal Superfund Sites (National Priorities List); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; School Cleanup; and Corrective Action sites. Information includes site name, site type, status, address, any restricted use (recorded deed restrictions), past use(s) that caused contamination, potential contaminants of concern, potential environmental media affected, site history, and planned and completed activities.

In Sonoma County, there is one site listed in the EnviroStor database, which is associated with previous manufacturing of lumber and wood products at the address 930 Shiloh Road, in Windsor (DTSC 2024).

State Water Resources Control Board GeoTracker Database

The GeoTracker database is a geographic information system that provides online access to environmental data including underground storage tanks, fuel pipelines, and public drinking water supplies. GeoTracker contains information about leaking underground storage tanks (LUSTs) and can identify and display LUST sites within various distances of wells. This provides users with the ability to assess potential threats to their drinking water sources. GeoTracker also has information and data on cleanup program sites, which includes all non-federally owned sites, and military cleanup sites.

In Sonoma County, there are 56 open LUSTs, 96 open cleanup programs, and one military cleanup site listed in the GeoTracker Database (SWRCB 2024).

HAZARDOUS MATERIALS ASSOCIATED WITH AGRICULTURE

Agricultural enterprises have historically stored, handled, and applied pesticides and herbicides throughout Sonoma County. Agricultural chemicals used before the 1970s often included highly persistent compounds, such as dichlorodiphenyltrichloroethane (DDT). Inorganic compounds containing heavy metals, such as arsenic, lead, and mercury, were commonly used before the 1950s. Chemicals commonly used in the past have the potential to leave residual inorganic or organic components in shallow soils that could persist for many decades. If present in elevated concentrations, these residues could pose a potential health risk to people who come in direct contact with surface soils.

Modern agricultural chemicals are generally less persistent organic compounds. Routine application of these materials does not typically result in accumulation to levels sufficient to cause concern because of product testing by EPA before commercial use and regulation related to product application. Typical concerns are (1) pesticide-handling areas that lack concrete pads, berms, or cribs to contain spills or leaks during handling and storage and (2) rinse water from washout facilities for pesticide-application equipment that has not been properly collected and treated before discharge. Equipment-repair and petroleum-storage areas might also be of concern.

NATURALLY OCCURRING ASBESTOS

Naturally occurring asbestos may be encountered in, and immediately adjacent to, areas of ultramafic rocks. Ultramafic rocks are dunite, peridotite, pyroxenite, and hornblendite. These igneous rocks contain 90 percent or more of the dark-colored iron-magnesium-silicate minerals olivine, augite, hypersthene, and hornblende. Ultramafic rocks form in high temperature environments well below the surface of the earth. By the time they are exposed at the surface by uplift and erosion, ultramafic rocks may be partially to completely altered to serpentinite, a type of metamorphic rock. Sometimes the metamorphic conditions allow formation of chrysotile asbestos or tremolite-actinolite asbestos in bodies of ultramafic rock or along their boundaries. Within Sonoma County, ultramafic rocks have been identified within the central area of Sonoma County (Churchill and Hill 2000). Natural weathering or human disturbance can break naturally occurring asbestos down into microscopic fibers that are suspended easily in air. When airborne asbestos is inhaled, these thin fibers irritate tissues and resist the body's natural defenses.

TRANSPORT OF HAZARDOUS MATERIALS

Hazardous materials, hazardous wastes, and petroleum products are a subset of the goods routinely shipped along the transportation corridors in the Program vicinity. In California, unless specifically exempt, it is unlawful for any person to transport hazardous wastes, unless the person holds a valid registration issued by DTSC. DTSC maintains a list of active registered hazardous waste transporters throughout California, and the California Department of Public Health regulates the haulers of hazardous waste. Three agencies maintain searchable databases that track hazardous material releases in reportable quantities: EPA maintains the Hazardous Materials Incident Report System, which contains data on hazardous material spill incidents reported to USDOT; the California Office of Emergency Services maintains the California Hazardous Materials Incident Report System, which contains information on reported hazardous material accidental releases or spills; and SWRCB's Site Cleanup Program maintains information on reported hazardous material accidental releases or spills.

SCHOOLS

Children are particularly susceptible to long-term effects from emissions of hazardous materials. Therefore, locations where children spend extended periods, such as schools, are particularly sensitive to hazardous air emissions and accidental release associated with the handling of extremely hazardous materials, substances, or wastes. Sonoma County is divided into 40 school districts for K-12 educational services, and there are currently 31 elementary schools, three high schools, and six unified districts, which operate both elementary schools and secondary schools for students (Sonoma County Office of Education 2024).

AIRPORTS

The Sonoma County Airport Land Use Commission (ALUC) is the designated ALUC for the County, which is served by six airports: Cloverdale Airport, Healdsburg Airport, Charles M. Schulz Sonoma County Airport, Petaluma Airport, Sonoma Valley Airport, and Sonoma Skypark. Land use compatibility and associated safety considerations are addressed in the County's Comprehensive Airport Land Use Plan (CALUP), which was adopted in 2001 and applies to all six airports in the County. The CALUP establishes referral boundaries, airport influence areas, air space protection standards, noise standards, and six airport safety zones around each of the six airports, which set forth restrictions on allowed land uses and establish standards for open space retention, allowed density, and lot. Sections 8.73 and 8.74 of the CALUP state that

all general plans, specific plans, area plans, and zoning and building ordinances, or development codes that govern land uses in the area must be referred to ALUC prior to their approval by the local agency to determine their consistency with the CALUP's land use compatibility criteria and restrictions (Sonoma County Airport Land Use Commission 2001a).

Development in the County is subject to land use compatibility criteria and policies set forth in Chapter 8 of the CALUP, including issues related to referrals from cities and the County for planning and development proposals; acceptability of various land uses in airport-area noise levels; types and intensity of land uses; maximum height of structures allowed around airports; policies for existing uses; and procedures for updating the CALUP and reviewing proposed plan amendments, development projects, and airport master plans (Sonoma County Airport Land Use Commission 2001b). Land use compliance and safety are thus addressed through implementation of the CALUP and would be required to be consistent with General Plan Air Transportation Element Policies AT-1c, AT-1e, AT-1f, and AT-2a, identified above.

3.9.3 Environmental Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, "Project Description," and Section 3.0, "Approach to the Environmental Analysis," regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

The following reports and data sources document potential hazardous conditions of the Program area, which encompasses the whole of Sonoma County and were reviewed for this analysis:

- ▶ review of applicable elements from the Sonoma County General Plan; and
- ▶ available literature, including documents published by federal, state, County, and city agencies.

Implementation of the Cannabis Program Update, including existing and construction and operation of new cannabis uses proposed under the Program, were evaluated against the hazardous materials information gathered from these sources to determine whether any risks to public health and safety or other conflicts would occur.

The following proposed Code requirements apply to hazards and hazardous materials:

- ▶ **Section 26-18-115. Cannabis Cultivation.**

(C) Standards

(4) LIA, LEA, DA, RRD zones:

(d) Best Management Practices. Outdoor cultivation must comply with best management practices for cannabis cultivation issued by the agricultural commissioner for erosion and sediment control and management of wastes, water, fertilizers, and pesticides.

(g) Accessory Uses.

- (1) Accessory manufacturing is limited to chemical extraction using carbon dioxide, extraction by physical or mechanical means, and infusion of non-ingestible products from cannabis grown on-site.

THRESHOLDS OF SIGNIFICANCE

Based on State CEQA Appendix G, an impact related to hazards and hazardous materials would be considered significant if implementation of the Cannabis Program Update would do any of the following:

- ▶ 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/or 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; or
- ▶ 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.

ISSUES NOT DISCUSSED FURTHER

Personal Cultivation

The proposed Cannabis Program Update does not include changes to personal cultivation standards that would be substantially different from existing requirements such that physical changes to the environment could occur that would create significant impacts related to hazards and hazardous materials. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.9-1: Create a Significant Hazard through Routine Transport, Use, or Disposal of Hazardous Materials

Implementation of the Cannabis Program Update may result in the transportation, use, or disposal of hazardous materials. However, regulatory compliance with established safety regulations designed to protect against significant hazards to public health and well-being would be sufficient to minimize this impact to a **less-than-significant** level.

The Cannabis Program Update does not propose new physical development. However, new cannabis uses would be allowed under the proposed Cannabis Program Update and would consist of cannabis cultivation and supply chain uses, as well as associated structures, the construction and operation of which may include the transportation, use, or disposal of hazardous materials, such as pesticides, herbicides, fungicides, rodenticides, and other chemicals for growing, processing, and manufacturing cannabis and cannabis products.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Development of new or expanded cannabis uses would be subject to regulatory requirements that would address the potential for accident conditions involving the routine transport, use, and disposal of hazardous materials.

The Sonoma County Department of Agriculture/Weights and Measures has prepared Best Management Practices (BMPs) for outdoor cannabis cultivation (see Section 3.9.1, "Regulatory Setting."). The BMPs for water quality apply to all cultivators and address pesticide and storage, pesticide use, fertilizer use, and riparian protection. These requirements limit the potential for accidental contamination of water from use of pesticides and herbicides.

Hazardous materials associated with cultivation are primarily pesticides. As discussed in Section 3.9.1, "Regulatory Setting," pesticides used on cannabis cultivation sites are required to have active ingredients that are exempt from residue tolerance requirements and that are either (1) registered and labeled for a use that is broad enough to include use on cannabis or (2) exempt from registration requirements as a minimum-risk pesticide under Section 25(b) of the Federal Insecticide, Fungicide, and Rodenticide Act. Some of these pesticides are bacterial-based insect pathogens (e.g., *Bacillus thuringiensis*) or biofungicides (e.g., *Bacillus subtilis*, *Gliricladium virens*). Active ingredients exempt from registration requirements are mostly food-grade essential oils, such as peppermint oil and rosemary oil. The use of restricted pesticides on cannabis cultivation is prohibited.

Harvested cannabis is required to pass laboratory tests for the following constituents as required under CCR Title 16, Division 42, Sections 5304 and 5702. Cannabis must be sampled for constituents and pass the testing levels set forth in CCR Sections 5718–5725, which are based on protection of public health and the environment. If the tested cannabis batch fails these tests, the cannabis batch will not be released for retail sale. As a result of these testing requirements, licensed cannabis cultivation sites limit the use of pesticides. CCR Section 8307(b) includes pesticide storage requirements (leak containment) and restrictions on application methods to prevent off-site drift to avoid public health impacts and off-site contamination, as well as protect water quality.

These uses may involve typical hazardous materials associated more generally with commercial uses, such as cleaning compounds, sanitizing agents, and pesticide chemicals. Section 3.9.1, "Regulatory Setting," also identifies state programs that address the protection of public health from the transportation of hazardous materials, such as Title 26 of the CCR, as well as USDOT, CHP, and Caltrans regulations. The FMCSA further restricts the transportation of hazardous materials on certain roadways. As described in Section 3.9.1, "Regulatory Setting," hazardous materials programs in the County are administered under the CUPA. These programs protect public health and the environment from hazardous material usage through storage requirements and measures to contain accidental releases, proper handling and disposal requirements, and disclosure of operations involving hazardous materials to the County and fire protection agencies to ensure proper response if accidents occur (e.g., spills and fires). The new or expanded cannabis operations would be required to comply with state and local cannabis-related requirements regarding the storage and use of hazardous materials, which would minimize the potential for accident conditions involving the transport, use, and disposal of hazardous materials.

As noted above, manufacturing uses within agricultural and resources districts could be developed as accessory uses to cultivation and would only be allowed to use carbon dioxide as an extractant. Because carbon dioxide is an asphyxiant, it is considered hazardous. However, State requirements for manufacturing licensees include training that addresses health and safety and emergency response procedures (CCR, Title 4, Division 9, Section 17211.1[a]), a written product quality plan for each type of product manufactures at the premises (CCR, Title 4, Division 19, Section 17214[a]), and evaluation of biological, chemical, and physical hazards related to manufacturing operations (CCR, Title 4, Division 9, Section 17214[c]).

Volatile solvents are allowed for manufacturing in industrial zones only; however, carbon dioxide may be used within agricultural and resources zones. A licensed manufacturer that uses a volatile solvent, flammable liquid, or solvent that create an asphyxiant gas must comply with state regulations (e.g., Fire Code, Cal/OSAH requirements). Furthermore, State licensing requirements for manufacturers contain standards for maintenance on facility exterior grounds that include: vegetation management; road, yard, and parking lot maintenance, and adequate waste treatment and disposal systems that prevent contamination to water or waste streams.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis

use or indoor cannabis cultivation. The uses on the site would be substantially similar to the existing uses, which would be subject to regulations and requirements described above. Thus, there would be no increased risk related to hazards or hazardous.

Construction of Event Facilities and Event Operations

Construction of event facilities may include oils, paints, and other typical hazardous materials associated with development. Operations would generally be limited to cleaning agents and other maintenance-related compounds that are typical of other residential or commercial uses. Construction and operation of event facilities would be subject to federal, state, and County standards related to hazards and hazardous materials, as described above, that would minimize the potential for accident conditions involving the routine transport, use, and disposal of hazardous materials.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses. The types of hazardous materials that may be used for cannabis facilities in industrial and commercial districts would be the same as for agricultural and resources zones, as discussed above. However, specific to industrial and commercial districts, chemical extraction may be accomplished by using carbon dioxide or volatiles to remove the key constituents from the cannabis. As discussed above, under "Proposed Allowable Uses in Agricultural and Resources District," specific requirements for training, use, and grounds maintenance of manufacturing facilities are incorporated into State licensing requirements.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects related to handling, transport, use or disposal of hazardous materials.

Conclusion

As discussed above, implementation of the proposed Cannabis Program Update would allow for the permitting and development of cannabis uses that would involve the handling, storage, use, and disposal of hazardous materials. All cannabis uses allowed under the Cannabis Program Update would be required to comply with all the applicable regulations and policies described above regarding the safe handling, transport, use, and disposal of hazardous materials. Compliance with these regulations would reduce the exposure of hazards to the public and environment. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to hazards and hazardous materials and would be consistent with Sonoma County General Plan Policies PS-4a, PS-4b, PS-4d, and PS-4k, which establish requirements for the handling, storage, use, and disposal of hazardous materials to reduce the risk of damage and injury from hazardous materials. It would also be consistent with the hazardous material provisions of the Penngrove Area Plan and the South Santa Rosa Area Plan.

Impact 3.9-2: Emit Hazardous Emissions or Handle Hazardous Materials within 0.25 Miles of an Existing or Proposed School

Implementation of the Cannabis Program Update would allow for the permitting and development of cannabis uses that would emit or handle hazardous materials, such as pesticides, herbicides, fungicides, rodenticides, and other chemicals for growing, processing, and manufacturing of cannabis and cannabis products within 0.25 miles of an existing or proposed school. However, these hazardous materials would be utilized in accordance with existing regulatory compliance established by state and federal requirements designed to protect against significant hazards to public health and well-being. Additionally, the Cannabis Program Update includes required setbacks from school sites. Adherence to regulatory compliance would be sufficient to minimize this impact to a **less-than-significant** level.

As discussed in Section 3.9.2, "Environmental Setting," Sonoma County is divided into 40 school districts for K-12 educational services, and there are currently 31 elementary schools, three high schools, and six unified districts, which operate both elementary schools and secondary schools for students (Sonoma County Office of Education 2024). Similar to many agricultural operations, cannabis operations also involve the use of pesticides, herbicides, rodenticides, and other chemicals for growing, processing, and manufacturing of cannabis and cannabis products. As noted for Impact 3.9-1, the use and handling of hazardous materials by cannabis operations are covered by regulations to protect public health under federal, state, and County standards.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

As identified above under Impact 3.9-1, the Cannabis Program Update would require implementation of hazard and safety requirements for state licensing under CCR, Title 4, Division 9 for cannabis uses operations that ensure protection of public health (including schools) and safety associated with the use of hazardous materials. Additionally, the Cannabis Program Update includes required setbacks from school sites. Within agricultural and resources districts, a setback of at least 1,000 feet would be required for parcels located adjacent to sensitive uses, which include K-12 schools and day care centers, per proposed County Code Section 26-18-115.C.4.c. Implementation of these regulations and required setbacks, along with compliance with manufacturers' instructions, would minimize significant impacts related to the use and handling of hazardous materials near existing or proposed schools.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. Activities on these sites would be substantially similar to existing conditions (e.g., cultivation and agricultural-supporting uses), no impacts related to the use and handling of hazardous materials near existing or proposed schools would occur.

Construction of Event Facilities and Event Operations

Construction and operation of event facilities would be subject to federal, state, and County standards related to hazards and hazardous materials, as described above, that would minimize impacts related to the use and handling of hazardous materials near existing or proposed schools.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses. Development of new structures would result in the same impacts as discussed

above within agricultural and resources zoning districts. Regarding setbacks, the Cannabis Program Update does not require setbacks from sensitive uses, including school sites, within industrial and commercial districts; however, cannabis uses would be contained within structures and would not occur outside.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects related to handling, transport, use or disposal of hazardous materials near to a school.

Conclusion

As discussed above, implementation of the proposed Cannabis Program Update would allow for the permitting and development of cannabis uses that could emit or handle hazardous materials within 0.25 miles of an existing or proposed school. Adherence to existing regulatory compliance with the safety procedures mandated by applicable federal and state laws and County regulations would minimize the risks resulting from the emissions or handling of hazardous materials within 0.25 miles of an existing or proposed school. This impact is **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to hazards and hazardous materials and would be consistent with Sonoma County General Plan Policies PS-4a, PS-4b, PS-4d, and PS-4k, which establish requirements for the handling, storage, use, and disposal of hazardous materials to reduce the risk of damage and injury from hazardous materials. It would also be consistent with the hazardous material provisions of the Penngrove Area Plan and the South Santa Rosa Area Plan.

Impact 3.9-3: Be Located on a Site Included on a List of Hazardous Material Sites Compiled Pursuant to Government Code Section 65962.5, Which Would Create a Significant Hazard to the Public or Environment or Create a Significant Hazard to the Public or Environment through Reasonably Foreseeable Upset and/or Accident Conditions Involving Release of Hazardous Materials

New cannabis cultivation sites, crop swap, and new development of supply chain uses could involve earth-moving activities where known or unknown hazardous conditions may be present. Although sites that have been listed pursuant to Government Code Section 65962.5 would be subject to remediation requirements per local, state, and federal requirements, there may be contamination from previous or historical practices from certain land uses (e.g., agricultural use of pesticides and herbicides), placement of undocumented fill, presence of naturally occurring asbestos, or even authorized disposal of hazardous wastes from prior land uses. These materials could expose construction workers, the public, or the environment to adverse effects, depending on the volume of hazardous materials involved and their concentrations. Thus, this impact would be **potentially significant**.

The construction and operation of new cannabis sites under the proposed Cannabis Program could encounter contamination due to previous or historical past practices from certain land uses. As discussed in Section 3.9.2, "Environmental Setting," in 2024, there are 56 open LUSTs, 96 open cleanup programs, one military cleanup site, and one site associated with the previous manufacturing of lumber and wood in the County, all of which have been identified on a list of hazardous materials sites under Government Code Section 65962.5 (DTSC 2024; SWRCB 2024). In addition, as discussed in Section 3.9.2, "Environmental Setting," agricultural enterprises have historically stored,

handled, and applied pesticides and herbicides throughout Sonoma County. If present in elevated concentrations, these residues could pose a potential health risk to people who come in direct contact with surface soils.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Construction of new structures, on-site grading activities, or other ground-disturbing activities could encounter contamination from past practices, placement of undocumented fill, or even authorized disposal of hazardous wastes from prior uses. Encountering these materials could expose workers, the public, or the environment to adverse effects. Cannabis sites located on a hazardous materials site would be required to comply with the Government Code Section 65962.5, the Unified Program, Sonoma County CUPA's hazardous materials programs, and Sonoma County General Plan Policy PS-4b to ensure that cannabis sites have not been previously contaminated in such a way that could expose the public or the environment to hazardous materials. General Plan Policy PS-4b requires the County to prepare and maintain an inventory of sites with storage or use of hazardous materials in threshold planning quantities as determined by Federal and State laws.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed and grading that requires a permit under Chapter 11 or Chapter 36 and deep ripping to remove existing crops would be prohibited; therefore, no significant hazards to the public or environment would occur.

Construction of Event Facilities and Event Operations

Construction and operation of event facilities would be subject to federal, state, and County standards related to hazards and hazardous materials, as described above, that would minimize the potential for significant hazards to the public or environment.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses. Development of new structures would result in the same impacts as discussed above within agricultural and resources zoning districts.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects related to exposure of the public or environment to hazardous conditions.

Conclusion

As discussed above, implementation of the proposed Cannabis Program Update may include the siting of cannabis uses on a site where known or unknown hazardous conditions may be present. As discussed above, while sites that have been listed pursuant to Government Code Section 65962.5 would be subject to remediation requirements per

DTSC, SCWRCB, or another agency with jurisdiction, there may be contamination from previous or historical practices from certain land uses (e.g., agricultural use of pesticides and herbicides), placement of undocumented fill, presence of naturally occurring asbestos, or even authorized disposal of hazardous wastes from prior land uses. These materials could expose construction workers, the public, or the environment to adverse effects, depending on the volume, hazardous materials involved, and their concentrations. Thus, this impact would be **potentially significant**.

The following mitigation measures would be implemented through design review with hearing (DRH) or use permit for cannabis (UPC) process for individual projects.

Mitigation Measures

Mitigation Measure 3.9-3 (DRH and UPC): Implement Soils Investigation Requirements

Sonoma County shall require the following mitigation measures for cannabis project applications subject to a use permit or design review with hearing.

- ▶ If a site is identified on the Cortese List, a Phase I Environmental Site Assessment (ESA) must be prepared. For all other sites, in the event that previously unidentified potentially hazardous materials are discovered at any time during ground disturbance, all work shall be halted in the vicinity and a Phase I ESA must be prepared.
- ▶ The required Phase I ESA must be prepared in accordance with the American Society for Testing and Materials' E-1527-05 standard. For work requiring any demolition, the Phase I ESA shall make recommendations for any hazardous building materials survey work that shall be done. All recommendations included in a Phase I ESA prepared for a site shall be implemented to protect public health. If a Phase I ESA indicates the presence or likely presence of contamination, the applicant shall prepare a Phase II ESA, and recommendations of the Phase II ESA shall be fully implemented before ground disturbance, which will be made a requirement for approval of the project.

Significance after Mitigation

Implementation of Mitigation Measure 3.9-3 would reduce potentially significant impacts related to exposure of the public or environment to hazardous conditions because hazardous site conditions would be identified and addressed prior to the development or expansion of cannabis uses. Implementation of this mitigation measure would reduce this impact to a **less-than-significant** level.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to hazards and hazardous materials and would be consistent with Sonoma County General Plan Policies PS-4a, PS-4b, PS-4d, and PS-4k, which establish requirements for the handling, storage, use, and disposal of hazardous materials to reduce the risk of damage and injury from hazardous materials. It would also be consistent with the hazardous material provisions of the Penngrove Area Plan and the South Santa Rosa Area Plan.

Impact 3.9-4: Result in a Safety Hazard or Noise Hazard for People Residing or Working within 2 Miles of a Public Airport or Public Use Airport

Implementation of the Cannabis Program Update may allow for the permitting and development of cannabis uses on sites near airports. However, cannabis uses are required to comply with applicable development standards and land use requirements of the CALUP, General Plan Air Transportation Element policies, and FAA notification requirements, as applicable. This impact would be **less than significant**.

New cannabis uses that would be allowed under the proposed Cannabis Program Update may include the siting of cannabis uses on project sites within 2 miles of a public airport or public use airport.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Cannabis uses would be required to comply with CALUP restrictions on the intensity of land uses and standards for maximum height of structures outlined in Chapter 8. In addition, the Cannabis Program Update itself would be required to be referred to the ALUC, prior to its approval by the County, to determine the Cannabis Program Update's proposed zoning code changes are consistent with the CALUP's land use compatibility criteria and restrictions, in accordance with Sections 8.73 and 8.74 of the CALUP. Individual discretionary projects (excluding ministerial crop swap or uses permitted by right) would also be referred to the ALUC for a consistency review.

Cannabis uses would be required to comply with, as applicable, CFR Title CFR Part 77.9, regarding FAA notification, as described in Section 3.9.1, "Regulatory Setting." For these reasons, the Cannabis Program Update would not result in a significant impact with respect to safety hazards and excessive aircraft noise for people residing or working in a project site area.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed; therefore, no increased risk of airport safety or noise hazards would occur.

Construction of Event Facilities and Event Operations

Construction and operation of event facilities would be subject to County, state, and FAA standards, as described above, which include restrictions on the intensity of land uses and standards for maximum height of structures, consistency with land use compatibility criteria and restrictions, and FAA notification. Adherence to these requirements would minimize airport safety and noise hazards.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses. Development of new structures would result in the same impacts as discussed above within agricultural and resources zoning districts.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects related to a safety hazard or noise hazard for people residing or working within 2 miles of a public airport or public use airport.

Conclusion

As discussed above, implementation of the proposed Cannabis Program Update may include the siting of cannabis uses on project sites within 2 miles of a public airport or public use airport. Adherence to existing regulatory compliance regarding airport safety and land use compatibility requirements mandated by applicable federal and

state laws and County regulations would minimize the risk of new and existing cannabis cultivation under the Cannabis Program Update resulting in a safety hazard or noise hazard for people residing or working within 2 miles of a public airport or public use airport. For these reasons, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to air transportation and would be consistent with Sonoma County General Plan Policies AT-1c, AT-1e, AT-1f, and AT-2a, which require projects to comply with prescribed height limits; be consistent with the CALUP uniform construction codes; protect airport approach zones; and comply with ALUC policies regarding height, location, marking and lighting of structures.

This page is intentionally left blank.

3.10 HYDROLOGY AND WATER QUALITY

This section identifies the regulatory context and policies related to hydrology and water quality, describes the existing hydrologic conditions in the Program area, and evaluates potential hydrology and receiving water-quality impacts of the proposed Cannabis Update Program. Potential effects on the capacity of municipal water supply, sewer/wastewater, and drainage/stormwater facilities are addressed in Section 3.16, "Utilities and Service Systems."

Comments regarding hydrology and water quality submitted in response to the notice of preparation (NOP) were received from the California Department of Fish and Wildlife, as well as organizations and individuals. Comments pertained to impacts on hydrology that could alter streamflow; water supply, particularly during dry years; groundwater management; and water quality degradation. These issues are addressed in the impact analysis below. All comments received in response to the NOP are presented in Appendix A of this EIR.

3.10.1 Regulatory Setting

FEDERAL

Clean Water Act

The US Environmental Protection Agency (EPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) (33 USC Section 1251 et seq.) is the primary federal law that governs and authorizes water quality control activities by EPA, as well as the states. Various elements of the CWA address water quality. These are discussed below.

CWA Water Quality Criteria/Standards

Pursuant to federal law, EPA has published water quality regulations under Title 40 of the Code of Federal Regulations (CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the act, water quality standards consist of designated beneficial uses of the water body in question and criteria that protect the designated uses. Section 304(a) of the CWA requires EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. As described in the discussion of state regulations below, the State Water Resource Control Board (SWRCB) and its nine regional water quality control boards (RWQCBs) have designated authority in California to identify beneficial uses and adopt applicable water quality objectives.

CWA Section 303(d) Impaired Waters List

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that do not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) of the CWA requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of the pollutant that the water body can receive and still comply with water quality objectives. The TMDL is also a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. In California, implementation of TMDLs is achieved through water quality control plans, known as Basin Plans, of the RWQCBs. See the "State" section, below.

CWA Section 404

In accordance with Section 404 of the CWA, the US Army Corps of Engineers (USACE) regulates discharge of dredged or fill material into waters of the United States. Waters of the United States and their lateral limits are defined in Title 33, Part 328.3(a) of the CFR to include navigable waters of the United States, interstate waters, and all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters or wetlands that meet any of these criteria or that are adjacent to any of these waters or their

tributaries. Any activity resulting in the placement of dredged or fill material within waters of the United States requires a permit from USACE. In accordance with Section 401 of the CWA, projects that apply for a USACE permit for discharge of dredged or fill material must obtain water quality certification from the appropriate RWQCB indicating that the project will uphold water quality standards. Waters of the United States and wetland protection requirements of the CWA administered by USACE are further discussed in Section 3.4, "Biological Resources."

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the United States. NPDES permit regulations have been established for broad categories of discharges, including point source waste discharges and nonpoint source stormwater runoff. Each NPDES permit identifies limits of allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits.

"Nonpoint source" pollution originates over a wide area rather than from a definable point. Nonpoint source pollution often enters receiving water in the form of surface runoff and is not conveyed by way of pipelines or discrete conveyances. Two types of nonpoint source discharges are controlled by the NPDES program: discharges caused by general construction activities and stormwater in municipal stormwater systems. The goal of the NPDES nonpoint source regulations is to improve the quality of stormwater discharged to receiving waters to the maximum extent practicable. The RWQCBs in California are responsible for implementing the NPDES permit system (see the "State" section, below).

Federal Antidegradation Policy

The federal antidegradation policy, established in 1968, is designed to protect existing uses of waters, water quality, and national water resources. The policy directs states to adopt a statewide policy that includes the following primary provisions:

- ▶ existing instream uses and the water quality necessary to protect those uses shall be maintained and protected;
- ▶ where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development; and
- ▶ where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

National Flood Insurance Act

The Federal Emergency Management Agency (FEMA) is tasked with responding to, planning for, recovering from, and mitigating against disasters. The Federal Insurance and Mitigation Administration within FEMA is responsible for administering the National Flood Insurance Program (NFIP) and administering programs that aid in mitigating future damages from natural hazards.

FEMA prepares Flood Insurance Rate Maps (FIRMs) that delineate the regulatory floodplain to assist local governments with the land use planning and floodplain management decisions needed to meet the requirements of the NFIP. Floodplains are divided into flood hazard areas, which are areas designated according to their potential for flooding, as delineated on FIRMs. Special Flood Hazard Areas are the areas identified as having a 1-percent chance of flooding each year (otherwise known as the 100-year flood). In general, the NFIP mandates that development is not to proceed within the regulatory 100-year floodplain if the development is expected to increase flood elevation by 1 foot or more.

Safe Drinking Water Act

As mandated by the Safe Drinking Water Act (Public Law 93-523), passed in 1974, EPA regulates contaminants of concern to domestic water supply. Such contaminants are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are regulated by EPA's primary and

secondary maximum contaminant levels (MCLs). MCLs and the process for setting these standards are reviewed triennially. Amendments to the Safe Drinking Water Act enacted in 1986 established an accelerated schedule for setting drinking water MCLs. EPA has delegated responsibility for California's drinking water program to the California Department of Health Services (DHS). DHS is accountable to EPA for program implementation and for adoption of standards and regulations that are at least as stringent as those developed by EPA.

STATE

Porter-Cologne Water Quality Control Act

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act) (Water Code Section 13000 et seq.). The Porter-Cologne Act grants SWRCB and each of the nine RWQCBs power to protect water quality and is the primary vehicle for implementation of California's responsibilities under the CWA. The applicable RWQCBs for the Cannabis Program Update are the North Coast RWQCB and the San Francisco Bay RWQCB. SWRCB and the RWQCBs have the authority and responsibility to adopt plans and policies, regulate discharges to surface water and groundwater, regulate waste disposal sites, and require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substances, sewage, or oil or petroleum products.

Each RWQCB must formulate and adopt a Basin Plan for its region. The Basin Plans must conform to the policies set forth in the Porter-Cologne Act and established by SWRCB in its state water policy. The Porter-Cologne Act also provides that an RWQCB may include within its Basin Plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

NPDES Construction General Permit for Stormwater Discharges Associated with Construction Activity

SWRCB adopted the statewide NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Permit - Order WQ 2022-0057-DWQ), which was adopted in August 1999 and has been subsequently updated. The state requires that projects disturbing more than 1 acre of land during construction file a Notice of Intent with the RWQCB to be covered under this permit. Construction activities subject to the General Construction Permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non-stormwater discharges to storm sewer systems and other waters. A stormwater pollution prevention plan (SWPPP) must be developed and implemented for each site covered by the permit. The SWPPP must include best management practices (BMPs) designed to prevent construction pollutants from contacting stormwater and keep products of erosion from moving off-site into receiving waters throughout the construction and life of the project; the BMPs must address source control and, if necessary, pollutant control.

State Drinking Water Standards

Title 22, Division 4, Chapter 15, of the California Code of Regulations (CCR) establishes parameters for safe drinking water throughout the state. These drinking water standards are similar to but, in many cases, more stringent than, federal standards. Title 22 contains both primary standards and secondary standards related to aesthetics (taste and odor). These standards include limits for water quality parameters that may be found in runoff from permitted or unpermitted commercial cannabis cultivation sites, such as heavy metals, pesticides, petroleum hydrocarbons, color, foaming agents, turbidity, and total dissolved solids/specific conductance.

Policy for Implementation of Toxics Standards in Inland Surface Waters, Enclosed Bays, and Estuaries of California

In 1994, SWRCB and EPA agreed to a coordinated approach for addressing priority toxic pollutants in inland surface waters, enclosed bays, and estuaries of California. In March 2000, SWRCB adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, commonly referred to as the State Implementation Policy. This policy implements the National Toxics Rule and California Toxics Rule criteria and

applicable Basin Plan objectives for toxic pollutants. When an RWQCB issues any permit allowing the discharge of any toxic pollutant(s) in accordance with the CWA or the Porter-Cologne Act, the permit's promulgation and implementation must be consistent with the State Implementation Policy's substantive or procedural requirements. Any deviation from the State Implementation Policy requires the concurrence of EPA if the RWQCB is issuing any permit under the CWA. Consistency with the State Implementation Policy would occur when water permits are issued for proposed program activities.

California Pesticide Management Plan for Water Quality

The California Pesticide Management Plan for Water Quality is a joint effort between the California Department of Pesticide Regulation (CDPR), county agricultural commissioners, SWRCB, and the RWQCBs to protect water quality from pesticide pollution. To reduce the possibility of pesticides entering groundwater or surface water, a four-stage approach was designed by CDPR and SWRCB. Stage 1 involves educational outreach to the community to prevent pesticide contamination in water supplies. Stage 2 occurs after pesticides are detected in a water supply and an appropriate response is selected that is safe and site-specific. If Stage 2 is not effective, then Stage 3 tactics are employed, which include implementing restricted material use permit requirements, regulations, and other regulatory authority by CDPR and the county agricultural commissioners. In addition, SWRCB and the RWQCBs can employ Stage 4, a variety of water quality control planning programs, and other regulatory measures to protect water quality, as necessary.

Surface Water Protection Program

CDPR implements the California Pesticide Management Plan for surface water protection through its Surface Water Protection Program, under a Management Agency Agreement with SWRCB. The Surface Water Protection Program is designed to characterize pesticide residues, identify contamination sources, determine the flow of pesticides to surface water, and prepare site-specific mitigation measures. The program addresses both agricultural and nonagricultural sources of pesticide residues in surface waters. It has preventive and response components that reduce the presence of pesticides in surface waters. The preventive component includes local outreach to promote management practices that reduce pesticide runoff. Prevention also relies on CDPR's registration process, in which potential adverse effects on surface water quality, and particularly those in high-risk situations, are evaluated. The response component includes mitigation options to meet water quality goals, recognizing the value of self-regulating efforts to reduce pesticides in surface water, as well as regulatory authorities of CDPR, SWRCB, and the RWQCBs.

Pesticide Contamination Prevention Act

The Pesticide Contamination Prevention Act (Food and Agricultural Code Sections 13145–13152) consists of the following requirements for CDPR:

- ▶ obtain environmental fate and chemistry data for agricultural pesticides before they can be registered for use in California;
- ▶ identify agricultural pesticides with the potential to pollute groundwater;
- ▶ sample wells to determine the presence of agricultural pesticides in groundwater;
- ▶ obtain, report, and analyze the results of well sampling for pesticides by public agencies;
- ▶ formally review any detected pesticide to determine whether its use can be allowed; and
- ▶ adopt use modifications to protect groundwater from pollution if formal review indicates that continued use can be allowed.

The act requires CDPR to develop numerical values for water solubility, soil adsorption coefficient, hydrolysis, aerobic and anaerobic soil metabolism, and field dissipation of pesticides to protect groundwater based in part on data submitted by pesticide registrants.

The act also states that CDPR shall establish a list of pesticides that have the potential to pollute groundwater, called the Groundwater Protection List. Any person who uses a pesticide that is on the Groundwater Protection List is

required to file a report with the county agricultural commissioner, and pesticide dealers are required to make quarterly reports to CDPR of all sales of pesticides on the list to people not otherwise required to file a report. The Pesticide Contamination Prevention Act ensures that pesticides allowed for use in California, including those that may be used in commercial cannabis cultivation, will have been studied by CDPR for their potential to contaminate groundwater and the environment.

Groundwater Protection Program

CDPR implements the Pesticide Contamination Prevention Act through its Groundwater Protection Program, which is coordinated with SWRCB under the California Pesticide Management Plan. The Groundwater Protection Program evaluates and samples pesticides to determine whether they may contaminate groundwater, identifies areas sensitive to pesticide contamination, and develops mitigation measures to prevent the movement of pesticides. CDPR may adopt regulations to carry out these mitigation measures. CDPR conducts four groundwater monitoring programs. The first monitors whether pesticides on the Groundwater Protection List with the potential to pollute have been found in groundwater. The second type is four-section monitoring, which monitors wells near a contaminated well. The third monitoring type is sensitive-area monitoring, which identifies areas sensitive to pesticide pollution. The fourth type is investigative monitoring, which is used to identify and understand the factors that affect pesticide movement into groundwater.

State Surface Water Rights System

SWRCB administers a water rights system for the diversion of surface waters (springs, streams, and rivers). The granting of a water right generally provides permission to withdraw water from surface water source for a "reasonable" and "beneficial" use. Water right permits and licenses identify the amounts, conditions, and construction timetables for a proposed diversion. Before issuing the permit, SWRCB must consider all prior rights and the availability of water in the basin, as well as the flows needed to preserve instream uses, such as recreation, and fish and wildlife habitat. Water rights are administered using a seniority system based on the date of the application for the water right—commonly referred to as "first in time, first in right." Junior water rights holders may not divert water in a manner that would reduce the ability of senior water rights holders to exercise their water right.

All surface water used for commercial cannabis cultivation must be associated with a valid water right, whether the cultivator personally holds such a water right or it is held by the water purveyor supplying the commercial cannabis cultivation operation (e.g., a municipal water system or a water delivery service).

California Water Code

The California Water Code is enforced by various entities throughout the State, including the California Department of Water Resources (DWR). The mission of DWR is "to manage the water resources of California in cooperation with other agencies, to benefit the State's people, and to protect, restore, and enhance the natural and human environments." DWR is responsible for promoting California's general welfare by ensuring beneficial water use and development statewide.

Statement of Diversion

California Water Code Section 5101 requires each person and organization that uses diverted surface water or pumped groundwater from a known subterranean stream after December 31, 1965, to file with SWRCB an initial Statement of Water Diversion. Supplemental statements are required at 3-year intervals following the filing of an initial statement if there is continued diversion of water.

The main purpose of the Statement Program is to create a central repository for records of diversions of water. This repository differs from the records of appropriated water rights that are registered, permitted, and licensed. A statement is not a confirmed water right; it is only a statement of diversion and use.

In addition, SWRCB regulates the state's Cannabis Cultivation Program's Water Rights, including a Cannabis Small Irrigation Use Registration (Cannabis SIUR), which is a streamlined option to obtain a small appropriative water right to divert and store surface water for commercial cannabis. Furthermore, the Cannabis SIUR prohibits cannabis cultivators from diverting surface water during the dry season forbearance period, from April 1 through October 31 of

each calendar year. This means that water used for cannabis cultivation activities must be diverted to off-stream storage during the wet season to be used during the dry season.

Groundwater Management

Groundwater management is outlined in the Water Code Sections 10750–10755.4. The Groundwater Management Act was first introduced in 1992 as Assembly Bill (AB) 3030 (Chapter 947, Statutes of 1992) and has since been modified by Senate Bill (SB) 1938 (Chapter 983, Statutes of 2002), AB 359 (Chapter 572, Statutes of 2011), and the Sustainable Groundwater Management Act (SGMA) (SB 1168) (Chapter 346, Statutes of 2014), SB 1319 (Chapter 348, Statutes of 2014), and AB 1739 (Chapter 347, Statutes of 2014). The intent of the act is to encourage local agencies to work cooperatively to manage groundwater resources within their jurisdictions and to provide a methodology for developing a groundwater management plan.

Sustainable Groundwater Management Act (SGMA) of 2014

SGMA became effective on January 1, 2015, and applies to all groundwater basins in the state (Water Code Section 10720.3). By enacting the SGMA, the legislature intended to provide local agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater within their jurisdiction (Water Code Section 10720.1).

SGMA requires DWR to categorize each groundwater basin in the state as high-, medium-, low-, or very low-priority (Water Code Sections 10720.7, 10722.4). All basins designated as high- or medium-priority basins must be managed by a groundwater sustainability agency under a groundwater sustainability plan (GSP) that complies with Water Code Section 10727 et seq. The three groundwater sustainability agencies in Sonoma County are Sonoma Valley, Petaluma Valley, and Santa Rosa Plain, and each has prepared a GSP. See the “Local” section below.

California Nondegradation Policy

In 1968, as required under the federal antidegradation policy described previously, SWRCB adopted a nondegradation policy aimed at maintaining high quality waters in California. The nondegradation policy states that the disposal of wastes into state waters shall be regulated to achieve the highest water quality consistent with maximum benefit to the people of the state and to promote the peace, health, safety, and welfare of the people of the state. The policy provides the following requirements:

- a) Where the existing quality of water is better than required under existing water quality control plans, such quality would be maintained until it has been demonstrated that any change would be consistent with maximum benefit to the people of the state and would not unreasonably affect present and anticipated beneficial uses of such water.
- Any activity which produces waste or increases the volume or concentration of waste and which discharges to existing high-quality waters would be required to meet waste discharge requirements (WDRs).

California Administrative Code

The Administrative Code (CCR, Title 24, Part 1) defines secondary drinking water standards, which are established primarily for reasons of consumer acceptance (i.e., taste) rather than for health issues (CCR, Title 24, Section 64449).

California Well Standards

DWR Bulletins 74-81 and 74-90 authorized the establishment of well standards and regulations pertaining to the construction, alteration, and destruction of wells. California Water Code Section 13750.5 requires that those responsible for the construction, alteration, or destruction of water wells, cathodic protection wells, groundwater monitoring wells, or geothermal heat exchange wells possess a C-57 Water Well Contractor's License. The Contractors State License Board issues this license. California Water Code Section 13751 requires that anyone who constructs, alters, or destroys a water well, cathodic protection well, groundwater monitoring well, or geothermal heat exchange well must file with DWR a report of completion within 60 days of the completion of the work.

2015 State Water Resources Control Board's Emergency Information Order

Portions of Mill, Mark West, Green Valley, and Dutch Bill Creek watersheds were the subject of the 2015 State Water Resources Control Board's Emergency Information Order and are widely considered to be the most important watersheds for supporting coho restoration efforts in the lower Russian River (SWRCB Order WR 2015–0026-DWR [August 24, 2015] and Findings of Emergency for Emergency Actions due to Insufficient Flow for Specific Fisheries in Tributaries to the Russian River [June 19, 2015]). The SWRCB found that surface water diversions and groundwater pumping had potential to reduce instream flows and degrade high value aquatic habitat within these areas. SWRCB recognized that the upper portion of each of the watersheds listed as the most critical for mid- to late-summer rearing of state and federally threatened and endangered salmon and steelhead species.

Water Quality Control Plans

The North Coast RWQCB completed a Water Quality Control Plan (WQCP) for the North Coast Region in June 2018 (North Coast RWQCB 2018). The San Francisco Bay RWQCB completed a WQCP for the Bay Area Region in 2019 (San Francisco Bay RWQCB 2024). Both WQCPs identify the beneficial uses for water bodies within the respective regions and provide implementation actions and strategies to achieve the water quality objectives set forth in the WQCPs.

State Water Resources Control Board Regulations for Cannabis Cultivation

Discharges related to cannabis cultivation must be covered under the SWRCB Cannabis Policy under Order WQ 2023-0102-DWQ, General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities.

SWRCB Order WQ 2023-0102-DWQ provides a statewide tiered approach for permitting discharges and threatened discharges of waste from cannabis cultivation and associated activities. The tier structure consists of two tiers:

- ▶ Tier 1: Outdoor commercial cultivation activities disturb an area equal to or greater than 2,000 square feet and less than 1 acre (43,560 square feet).
- ▶ Tier 2: Outdoor commercial cultivation activities disturb an area equal to or greater than 1 acre.

Tier 1 and Tier 2 enrollees must characterize the risk designation based on the slope of disturbed areas and the proximity to a water body. Applicants must comply with the riparian setback and slope limits and are classified as low, moderate, or high risk, as described below:

- ▶ Low risk: A cannabis cultivation site is classified as low risk if no part of the disturbed area is located on a slope of 30 percent or greater. Such cannabis cultivators shall register as low risk and submit a Site Management Plan.
- ▶ Moderate risk: A cannabis cultivation site is classified as moderate risk if any part of the disturbed area is located on a slope greater than 30 percent and less than 50 percent. Such cannabis cultivators shall register as moderate risk and submit a Site Erosion and Sediment Control Plan.
- ▶ High risk: A cannabis cultivation site is classified as high risk if any part of the disturbed area exists within the riparian setback limits. Such cannabis cultivators shall register as high risk, submit a Disturbed Area Stabilization Plan, and shall address the compliance issue as described below. Because such cannabis cultivators pose a higher risk to water quality and will require a higher level of RWQCB oversight, they are subject to a higher application and annual fee. When the cannabis cultivation site is reconfigured to comply with the riparian setbacks, the cannabis cultivator can request the RWQCB reclassify the site to a lower risk level and allow a lower annual fee to be assessed.

To obtain coverage under the waiver or enroll under the general order, the discharger is required to submit an online application and application fee and relevant technical reports. Technical report requirements are based on tier and risk level (Table 3.10-1). A summary of the types of information included in the technical reports is provided below.

Table 3.10-1 Technical Report Requirements by Tier

Tier	Risk Level	Technical Reports
Conditionally Exempt	N/A	Site Closure Report
Tier 1	All	Site Management Plan Site Closure Report Site Management Plan
	Moderate	Site Erosion Sediment Control Plan
	High	Disturbed Area Stabilization Plan
Tier 2	All	Site Management Plan Nitrogen Management Plan Site Closure Report
	Moderate	Site Erosion Sediment Control Plan
	High	Disturbed Area Stabilization Plan

Source: Data downloaded from SWRCB in 2024.

Site Management Plan

A Site Management Plan describes how the commercial cannabis cultivator is complying with the requirements listed in Attachment A of SWRCB Order WQ 2023-0102-DWQ. These requirements include a description of how the requirements are implemented property wide, including requirements to address discharges from legacy activities and water diversions, as well as WDRs related to commercial cannabis cultivation. Dischargers must also indicate how the best practical treatment or control (BPTC) measures included in the SWRCB Cannabis Policy will be implemented. The Site Management Plan may include a schedule to achieve compliance, but all work must be completed by the onset of the winter period each year.

Best Practical Treatment or Control Categories

The requirements related to water diversion and waste discharge for commercial cannabis cultivation cover the following 10 BPTC categories:

1. Riparian and wetland protection and management.
2. Water diversion, storage, and use.
3. Irrigation runoff.
4. Land development and maintenance, erosion control, and drainage features.
5. Soil disposal.
6. Stream crossing installation and maintenance.
7. Fertilizer and soil use and storage.
8. Cultivation-related waste disposal.
9. Refuse and human waste disposal.
10. Winterization.

Site Erosion and Sediment Control Plan

A Site Erosion and Sediment Control Plan describes how the cannabis cultivator will implement the site erosion and sediment control requirements listed in Attachment A of SWRCB Order WQ 2023-0102-DWQ. The report must include an analysis of slope stability and is subject to approval by the RWQCB. When required, the Site Erosion and Sediment Control Plan is to be prepared by a qualified individual (i.e., a registered professional per the Cannabis Policy requirements).

Disturbed Area Stabilization Plan

A Disturbed Area Stabilization Plan describes how the BPTC measures will be implemented to achieve the goal of stabilizing the disturbed area to minimize the discharge of sediment off-site and complying with the riparian setback requirements. The report must be approved by the RWQCB executive officer before implementation. When required, the Disturbed Area Stabilization Plan shall be prepared by a qualified professional.

Nitrogen Management Plan

A nitrogen management plan is required for commercial cannabis cultivation sites. The plan provides calculations of all the nitrogen applied to the commercial cannabis cultivation area (dissolved in irrigation water, originating in soil amendments, and applied fertilizers) and describes procedures to limit excessive fertilizer application.

Site Closure Report

A Site Closure Report describes how the site will be decommissioned to prevent sediment and turbidity discharges that degrade water quality. If construction activities are proposed in the Site Closure Report, a project implementation schedule shall be included in the report. A Notice of Termination must be submitted (Attachment C of SWRCB Order WQ 2023-0102-DWQ) with the Site Closure Report.

Monitoring and Reporting Program

The monitoring and reporting program describes requirements for monitoring a commercial cannabis cultivation site and its associated facilities. Tier 1 and Tier 2 facilities must report on issues pertaining to facility status, site maintenance status, and stormwater runoff monitoring. Tables 3.10-2, 3.10-3, and 3.10-4 provide an overview of these requirements.

Table 3.10-2 Facility Status

Monitoring Requirement	Description
Winterization Measures Implemented	Report winterization procedures implemented, any outstanding measures, and the schedule for completion.
Tier Status Confirmation	Report any change in the tier status. (Stabilization of disturbed areas may change the tier status of a facility. Contact the Regional Water Quality Control Board if a change in status is appropriate.)
Third-Party Identification	Report any change in third-party status as appropriate. Nitrogen Application Report generated monthly and annual total nitrogen use for bulk, solid, and liquid forms of nitrogen. Provide the data as pounds/canopy acre/time (month or year) as described in Attachment D, Nitrogen Management Plan. If plant tissue was collected to determine limited nitrogen availability, the results shall be submitted.

Source: SWRCB 2018.

Table 3.10-3 Site Maintenance Status

Observations	Description	Monitoring Frequency
Surface Water Runoff	Report any conditions of surface water runoff, including location, duration, source of runoff (irrigation water, storm water, etc.).	Monthly
Soil Erosion Control	Report any indications of soil erosion (e.g., gully, gully, turbid water discharge, landslide, etc.). Monthly Sediment Capture Report on the status of sediment capture measures (e.g., silt fence, fiber rolls, settling basin, etc.).	Monthly
Erosion/Sediment Capture Maintenance	Report maintenance activities to maintain the effectiveness of erosion control and sediment capture measures (e.g., reinstallation of straw mulch, hydroseeding, tarp placement, removal or stabilization of sediment captured, removal of settled sediment in a basin, etc.).	Monthly
Stabilization of Disturbed Areas	Dischargers characterized as high risk (with any portion of the disturbed area within the setbacks) shall provide a status report describing activities performed to stabilize the disturbed area within the setback.	Monthly

Observations	Description	Monitoring Frequency
Material(s) Storage Erosion/ Spills Prevention	Report materials delivered or stored at the site that could degrade water quality if discharged off-site (e.g., potting soil, manure, chemical fertilizer, gasoline, herbicides, pesticides, etc.).	Monthly
Holding Tank, Septic Tank, or Chemical Toilet Servicing	Report the dates, activity, and name of the servicing company for servicing holding tanks or chemical toilets.	Monthly

Source: SWRCB 2018.

Table 3.10-4 Stormwater Runoff Monitoring

Constituent	Frequency	Monitoring Frequency
Turbidity	Once per calendar month when precipitation exceeds 0.25 inches/day or when stormwater runoff from the site is generated.	All months until winterization procedures are completed.
pH	Once per calendar month when precipitation amount is forecast to exceed 0.25 inch/day.	All months until winterization procedures are completed.

Source: SWRCB 2018.

Annual reports are required to be submitted to the RWQCB. The SWRCB Cannabis Policy includes informal and formal enforcement actions to address a violation or threatened violation of water rights or water quality law, regulations, policies, plans, or orders. These actions include a notice of violation, cleanup and abatement orders, cease and desist orders, revocation of water rights permits, and modifications or rescission of WDR permits.

Numeric and Instream Flow Requirements

California Water Code Section 13149 directed SWRCB, in consultation with California Department of Fish and Wildlife (CDFW) and DCC, to adopt interim and long-term principles and guidelines for the diversion and use of water for cannabis cultivation in areas where cannabis cultivation may have the potential to substantially affect instream flows. Attachment A of SWRCB Order WQ 2023-0102-DWQ contains these principles and guidelines (Requirements) for commercial cannabis cultivation activities to protect water quality and instream flows. The Requirements are divided into five main categories:

- ▶ Section 1: General Requirements and Prohibitions, and Cannabis General Water Quality Certification
- ▶ Section 2: Requirements Related to Water Diversions and Waste Discharge for Cannabis Cultivation
- ▶ Section 3: Numeric and Narrative Instream Flow Requirements (including Gauging)
- ▶ Section 4: Watershed Compliance Gauge Assignments
- ▶ Section 5: Planning and Reporting

Instream flow requirements were established by SWRCB in consultation with CDFW for the protection of aquatic species life history needs, including endangered anadromous salmonids. Numeric instream flow requirements (minimum instream flows required to protect aquatic species) are established for each region in the state in Attachment A of SWRCB Order WQ 2023-0102-DWQ. The state order also contains a policy to address aquatic base flows. SWRCB's flow standards and diversion requirements were developed to protect fish spawning, migration, and rearing for endangered anadromous salmonids, and flows needed to maintain natural flow variability within each watershed. The diversion requirements would ensure that the individual and cumulative effects of water diversions and discharges associated with commercial cannabis cultivation do not affect instream flows necessary for fish spawning, migration, and rearing for endangered anadromous salmonids, and flows needed to maintain natural flow variability (SWRCB 2017a). The policy was scientifically peer-reviewed by four experts. The peer review determined that water quality, instream flow, and diversion requirements of the policy were based on sound scientific knowledge, methods, and data (SWRCB 2017b).

General Requirements and Prohibitions in Attachment A of SWRCB Order WQ 2023-0102-DWQ implement existing SWRCB authorities and address issues such as compliance with state and local permits, discharge prohibitions, riparian setbacks, protection of tribal cultural resources, and SWRCB's right to access properties for inspections.

These requirements are enforced by SWRCB, as well as CDFA through cultivation licenses. In addition, the Watershed Enforcement Team provides public outreach and education, performs site inspections, and responds to complaints.

Detailed information related to the requirements that pertain to hydrology and water quality is provided below.

Instream Flow Requirements

Flow and Gauging Requirements

The instream flow requirements apply to cannabis cultivators throughout the state. The numeric instream flow requirements are developed at compliance gauges statewide and are used to inform the need for additional actions to address adverse conditions associated with cannabis water diversions. The instream flow requirements may be updated over time, as reasonably necessary. Interested parties may submit scientifically defensible information (e.g., instream flow studies) that supports modification to the instream flow requirements to the deputy director of SWRCB for consideration during updates to the Cannabis Policy.

Dry Season Surface Water Diversion Forbearance Period

In adopting regulations, the State found that absent restrictions on water diversion, the individual and cumulative effects of water diversions for commercial cannabis cultivation during the dry season are likely to substantially decrease instream flow and, in some instances, reduce hydrologic connectivity or completely dewater the stream.

Minimum flows that provide habitat connectivity are needed to maintain juvenile salmonid passage conditions in late spring and early summer. Instream flows are also needed to maintain habitat conditions necessary for juvenile salmonid viability throughout the dry season, including adequate dissolved oxygen concentrations, low stream temperatures, and high rates of invertebrate drift from riffles to pools. Furthermore, many species depend on spring recession flows as migratory or breeding cues. SWRCB has established a surface water diversion forbearance period (April 1 to October 31 each year) to ensure adequate flows are maintained throughout the dry season and protect aquatic species, aquatic habitat, and water quality.

Wet Season Surface Water Instream Flow Requirements

Minimum instream flow requirements during the wet season are needed for the protection of aquatic species life-history needs. For threatened and endangered anadromous salmonids, minimum flows are needed to address life-history needs, such as:

- ▶ maintaining natural abundance and availability of spawning habitat;
- ▶ minimizing unnatural adult exposure, stress, predation, and delay during adult spawning migration; and
- ▶ sustaining high-quality and abundant juvenile salmonid winter rearing habitat.

To meet the timeline, scale, and purpose of SWRCB Order WQ 2023-00102-DWQ, SWRCB, in consultation with CDFW, has determined that the Tessmann Method is the best methodology to develop interim instream flow requirements. The Tessmann Method and the USGS flow modeling data allow for instream flow requirements to be calculated at additional compliance points throughout the state. This allows SWRCB to use the Tessmann Method and the USGS flow modeling data to calculate or adjust a flow requirement, as needed, throughout the state.

Maintain High-Flow Events

To preserve the annual first flush flow event, the surface water diversion period for commercial cannabis cultivation will not occur until the real-time daily average flow is greater than the minimum monthly instream flow requirement at a compliance gauge for 7 consecutive days or after December 15 when flows are greater than the numeric flow requirement, whichever occurs first. Surface water diversions must bypass a minimum of 50 percent of the streamflow past the point of diversion. SWRCB will monitor other high-flow events that occur throughout the wet season to evaluate whether additional requirements are needed to maintain high-flow variability during other periods of the wet season.

Groundwater Requirements

To address potential impacts of groundwater diversions on surface flow, SWRCB's deputy director for water rights may require a forbearance period or other measures for cannabis groundwater diversions in areas where such restrictions are necessary to protect instream flows. Such areas may include watersheds with high surface water–groundwater connectivity, large numbers of cannabis groundwater diversions, or groundwater diversions in close proximity to streams. SWRCB will monitor instream flows during the dry season and evaluate the number and location of cannabis groundwater diversions to determine whether imposition of a groundwater forbearance period or other measures are necessary to address potential localized effects of groundwater diversions. As of now, the SWRCB has not required a forbearance period or other or other restrictive measures on groundwater use for the protection of instream flows.

Compliance Gauges and Requirements

Compliance gauge assignments have been developed for all watershed areas throughout the state. Numeric instream flow requirements are applied at a subset of existing gauges reported on two websites: (1) the USGS National Water Information System and (2) DWR's California Data Exchange Center.

Watershed areas that do not have existing gauges are assigned a compliance gauge for a different location in the same watershed or for a nearby watershed with similar flow characteristics. Cannabis cultivators in ungauged watersheds and in watersheds without an assigned gauge may be required to install a gauge if information indicates that use of the assigned gauge does not adequately protect instream flows. SWRCB will monitor commercial cannabis cultivation diversions to track areas where locally concentrated commercial cannabis cultivation water diversions within a watershed may adversely affect instream flows.

Many dams in California have existing instream flow requirements through the Federal Energy Regulatory Commission licensing program or through Biological Opinions, which issued by the National Marine Fisheries Service, the US Fish and Wildlife Service, or through water right decisions. Cannabis cultivators shall comply with either existing instream flow requirements (e.g., SWRCB Orders, Biological Opinions, Federal Energy Regulatory Commission Licensing Program) or the Tessmann instream flow requirements, whichever is greater.

The instream flow requirement compliance gauges are located in areas that are generally representative of the water availability and total demand occurring upstream of the gauging location or in a similar watershed. However, impacts may still occur in areas where there is significant localized commercial cannabis cultivation compared to water availability or where the compliance gauge does not accurately reflect the demand in a paired watershed. To help ensure diversion of water for commercial cannabis cultivation does not negatively affect the flows needed for fish spawning, migration, and rearing or the flows needed to maintain natural flow variability, the cannabis cultivator shall maintain a minimum bypass of at least 50 percent of the streamflow past the cannabis cultivator's point of diversion, in addition to the applicable numeric instream flow requirements.

Land Development and Maintenance, Erosion Control, and Drainage Features

Section 2 of the requirements in Attachment A of SWRCB Order WQ 2023-0102-DWQ addresses land development and maintenance, erosion control, and drainage features. These requirements place limitations on earthmoving, including prohibition of grading on slopes that exceed 50 percent; dust control measures; methods to limit the potential for leaks of hazardous or toxic materials into soils and waterways; erosion prevention and sediment capture measures; and standards for drainages associated with access roads, culverts, and land development.

Stream Crossing Installation and Maintenance

The requirements in Attachment A of SWRCB Order WQ 2023-0102-DWQ place limitations of work in watercourses and permanently ponded areas. Standard practices are provided to address the design of watercourse crossings and necessary maintenance activities. Guidance is also provided to address temporary watercourse diversion and dewatering.

Soil Disposal and Spoils Management

The requirements address the storage of soil, construction, and waste materials associated with cannabis cultivation.

Exemptions

SWRCB Order WQ 2023-0102-DWQ includes an exemption for activities that are considered to pose a low threat to water quality: personal use cannabis cultivators, indoor commercial cultivation activities, and outdoor commercial cultivation activities that disturb less than 2,000 square feet. Personal use cannabis cultivators are generally not subject to commercial cultivation regulations; indoor cultivation and cultivation operations that disturb less than 2,000 square feet are considered to be conditional exemption but are still subject to compliance with the regulations.

Commercial cannabis cultivation activities that disturb an area (in aggregate) less than 2,000 square feet on one parcel or on contiguous parcels managed as a single operation may be conditionally exempt from enrolling under the order but are required to obtain coverage under the waiver of WDRs. This exemption does not limit SWRCB's authority to inspect the site, evaluate the exemption status, or evaluate other water quality or water right regulatory requirements.

California Forest Practice Rules of 2017

The California Forest Practice Rules of 2017 (CCR; Title 14; Chapters 4, 4.5, and 10) implements the provision of the Z'berg-Nejedly Forest Practice Act of 1973. The Cannabis Policy, described above, requires access roads to be constructed consistent with the requirements in CCR, Title 14, Chapter 4. *The Handbook for Forest Ranch and Rural Roads* (Road Handbook) describes how to implement these regulations and provides a guide for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing wildland roads. Development of the Road Handbook was funded in part by SWRCB, EPA, and the California Department of Forestry and Fire Protection.

The Road Handbook recommends limited road slopes for safety, maintenance, and drainage issues. Road alignments should be designed with gentle to moderate slopes to minimize damage to the roadbed, allow for frequent and effective road surface drainage, and for safety. Roads with a slope of less than 1 percent can be difficult to drain and may develop potholes and other signs of impaired drainage. Steep roads are more likely to suffer from erosion and road surface damage, especially if they are used when wet. Steep roads can be more difficult to drain because surface runoff may flow down the road in wheel ruts rather than off the outside edge where it can be discharged and dissipated. In snow zones, steep roads may represent a safety hazard if they are used during cold weather periods. New road alignments should be constructed with slopes of 3–8 percent or less wherever possible. Forest roads should generally be kept below 12 percent except for short pitches of 500 feet or less where road slopes may go up to 20 percent. These steeper road slopes should be paved or rock surfaced and equipped with adequate drainage. Existing roads that do not comply with these limits require additional inspection by a qualified professional, as defined in the policy, to determine if improvements are needed.

California Code of Regulations

Cannabis Cultivation Licensing Requirements

CCR, Title 4, Division 19, Section 15011(a), "Additional Information," states:

- (11) If applicable, the applicant shall provide evidence that the proposed premises is not located in whole or in part in a watershed or other geographic area that the State Water Resources Control Board or the Department of Fish and Wildlife has determined to be significantly adversely impacted by cannabis cultivation pursuant to section 26060(a)(2) of the Business and Professions Code.

CCR, Title 4, Division 19, Section 16307, "Pesticide Use Requirements," states:

- (a) Licensed cultivators shall comply with all applicable pesticide statutes and regulations enforced by the Department of Pesticide Regulation.
- (b) For all pesticides that are exempt from registration requirements, licensed cultivators shall comply with all applicable pesticide statutes and regulations enforced by the Department of Pesticide Regulation and the following pesticide application and storage protocols: (1) Comply with all pesticide label directions; (2) Store chemicals in a secure building or shed to prevent access by wildlife; (3) Contain any chemical leaks and immediately clean up any spills; (4) Apply the minimum amount of product necessary to control the target pest; (5) Prevent offsite drift; (6) Do not apply pesticides when pollinators are present; (7) Do not allow drift to flowering plants attractive to pollinators; (8) Do not spray directly to surface water or allow pesticide

product to drift to surface water. Spray only when wind is blowing away from surface water bodies; (9) Do not apply pesticides when they may reach surface water or groundwater; and (10) Only use properly labeled pesticides. If no label is available, consult the Department of Pesticide Regulation.

CCR, Title 4, Division 19, Section 16311, "Supplemental Water Source Information," states:

The following information shall be provided for each water source identified by the applicant:

(a) Retail water supply sources:

- (1) If the water source is a retail water supplier, as defined in section 13575 of the Water Code, such as a municipal provider, provide the following:
 - (A) Name of the retail water supplier; and
 - (B) A copy of the most recent water service bill or written documentation from the water supplier stating that service will be provided at the premises address.
- (2) If the water source is a small retail water supplier, such as a delivery service, and is subject to section 26060.1(a)(1)(B) of the Business and Professions Code and the retail water supplier contract is for delivery or pickup of water from a surface water body or an underground stream flowing in a known and definite channel, provide all of the following:
 - (A) The name of the retail water supplier under the contract;
 - (B) The water source and geographic location coordinates, in either latitude and longitude or the California Coordinate System, of any point of diversion used by the retail water supplier to divert water delivered to the commercial cannabis business under the contract;
 - (C) The authorized place of use of any water right used by the retail water supplier to divert water delivered to the commercial cannabis business under the contract;
 - (D) The maximum amount of water delivered to the commercial cannabis business for cannabis cultivation in any year; and
 - (E) A copy of the most recent water service bill.
- (3) If the water source is a small retail water supplier, such as a delivery service, and is subject to section 26060.1(a)(1)(B) of the Business and Professions Code and the retail water supplier contract is for delivery or pickup of water from a groundwater well, provide all of the following:
 - (A) The name of the retail water supplier under the contract;
 - (B) The geographic location coordinates for any groundwater well used to supply water delivered to the commercial cannabis business, in either latitude and longitude or the California Coordinate System;
 - (C) The maximum amount of water delivered to the commercial cannabis business for cannabis cultivation in any year;
 - (D) A copy of the well completion report filed with the Department of Water Resources pursuant to section 13751 of the Water Code for each percolating groundwater well used to divert water delivered to the commercial cannabis business. If no well completion report is available, the applicant shall provide evidence from the Department of Water Resources indicating that the Department of Water Resources does not have a record of the well completion report. When no well completion report is available, the State Water Resources Control Board may request additional information about the well; and
 - (E) A copy of the most recent water service bill.

- (a) If the water source is a groundwater well, provide the following:
 - (1) The groundwater well's geographic location coordinates, in either latitude and longitude or the California Coordinate System; and
 - (2) A copy of the well completion report filed with the Department of Water Resources pursuant to section 13751 of the Water Code. If no well completion report is available, the applicant shall provide evidence from the Department of Water Resources indicating that the Department of Water Resources does not have a record of the well completion report. If no well completion report is available, the State Water Resources Control Board may request additional information about the well.
- (b) If the water source is a rainwater catchment system, provide the following:
 - (1) The total square footage of the catchment footprint area(s).
 - (2) The total storage capacity, in gallons, of the catchment system(s).
 - (3) A detailed description and photographs of the rainwater catchment system infrastructure, including the location, size, and type of all surface areas that collect rainwater. Examples of rainwater collection surface areas include a rooftop and greenhouse.
 - (4) Geographic location coordinates of the rainwater catchment infrastructure in either latitude and longitude or the California Coordinate System.
- (c) If the water source is a diversion from a waterbody (such as a river, stream, creek, pond, lake, etc.), provide any applicable water right statement, application, permit, license, or small irrigation use registration identification number(s), and a copy of any applicable statement, registration certificate, permit, license, or proof of a pending application issued under part 2 (commencing with section 1200) of division 2 of the California Water Code as evidence of approval of a water diversion by the State Water Resources Control Board.

LOCAL

Sonoma County General Plan

The County General Plan was adopted by the Sonoma County Board of Supervisors Resolution 08-0808 on September 23, 2008. The County General Plan includes broad goals and policies aimed at protecting the County's water supply and water quality and protecting against flood hazards. Goals and policies from the County General Plan are provided below.

- ▶ **Objective WR-1.2:** Avoid pollution of stormwater, water bodies and groundwater.
- ▶ **Policy WR-1c:** Prioritize stormwater management measures in coordination with the RWQCB direction, focusing first upon watershed areas that are urbanizing and watersheds with impaired water bodies. Work cooperatively with the RWQCBs to manage the quality and quantity of stormwater runoff from new development and redevelopment in order to:
 - (1) Prevent, to the maximum extent practicable, pollutants from reaching stormwater conveyance systems.
 - (2) Ensure, to the maximum extent practicable, that discharges from regulated municipal storm drains comply with water quality objectives.
 - (3) Limit, to the maximum extent practicable, stormwater from post development sites to pre-development quantities.
 - (4) Conserve and protect natural areas to the maximum extent practicable.
- ▶ **Policy WR-1g:** Minimize deposition and discharge of sediment, debris, waste and other pollutants into surface runoff, drainage systems, surface water bodies, and groundwater.

- ▶ **Policy WR-1h:** Require grading plans to include measures to avoid soil erosion and consider upgrading requirements as needed to avoid sedimentation in stormwater to the maximum extent practicable.
- ▶ **Policy WR-1q:** Require new development projects to evaluate and consider naturally occurring and human caused contaminants in groundwater.
- ▶ **Objective WR-2.3:** Encourage new groundwater recharge opportunities and protect existing groundwater recharge areas.
- ▶ **Objective WR-2.5:** Avoid additional land subsidence caused by groundwater extraction.
- ▶ **Policy WR-2d:** Continue the existing program to require groundwater monitoring for new or expanded discretionary commercial and industrial uses using wells. Where justified by the monitoring program, establish additional monitoring requirements for other new wells
- ▶ **Policy WR-2e:** Require proof of groundwater with a sufficient yield and quality to support proposed uses in Class 3 and 4 water areas. Require test wells or the establishment of community water systems in Class 4 water areas. Test wells may be required in Class 3 areas. Deny discretionary applications in Class 3 and 4 areas unless a hydrogeologic report establishes that groundwater quality and quantity are adequate and will not be adversely impacted by the cumulative amount of development and uses allowed in the area, so that the proposed use will not cause or exacerbate an overdraft condition in a groundwater basin or subbasin. Procedures for proving adequate groundwater should consider groundwater overdraft, land subsidence, saltwater intrusion, and the expense of such study in relation to the water needs of the project.
- ▶ **Policy WR-4b:** Use water effectively and reduce water demand by developing programs to:
 - (1) Increase water conserving design and equipment in new construction, including the use of design and technologies based on green building principles,
 - (2) Educate water users on water conserving landscaping and other conservation measures,
 - (3) Encourage retrofitting with water conserving devices,
 - (4) Design wastewater collection systems to minimize inflow and infiltration, and
 - (5) Reduce impervious surfaces to minimize runoff and increase groundwater recharge.
- ▶ **Policy WR-4f:** Promote programs for retrofitting plumbing, providing cost rebates, identifying leaks, changing landscaping, irrigating efficiently and other methods of reducing water consumption by existing users
- ▶ **Policy WR-4g:** Require that development and redevelopment projects, where feasible, retain stormwater for on-site use that offsets the use of other water.
- ▶ **Objective PS-2.2:** Regulate new development to reduce the risks of damage and injury from known flooding hazards to acceptable levels.
- ▶ **Policy PS-2e:** Expand the County's zero net fill requirements to address all areas of the Unincorporated County that are located within the 100-year FEMA special flood hazard area.
- ▶ **Policy PS-2f:** Preserve floodplain storage capacity by avoiding fill in areas outside of the 100- year FEMA special flood hazard area that retain or could retain flood waters.
- ▶ **Policy PS-2m:** Regulate development, water diversion, vegetation management, grading, and fills to minimize any increase in flooding and related damage to people and property.
- ▶ **Policy PS-2p:** Require that design and construction of drainage facilities be subject to the review and approval of the Permit and Resource Management Department.

Sonoma County Airport Industrial Area Specific Plan

The Sonoma County Airport Industrial Area Specific Plan was initially adopted by the County in 1984, and constitutes the master program for development of the 770-acre specific plan area located between the Sonoma County Airport

and United States Highway 101 (US 101). The plan designates specific land uses that include heavy industrial, industrial park, commercial, residential, and agriculture/open space.

The Sonoma County Airport Industrial Area Specific Plan includes a storm drainage system master plan that provides a preliminary layout for project planning and development review purposes. Topographic information was utilized to divide the planning area into drainage subareas tributary to the existing watercourses. The specific plan requires that engineered storm drainage plans be prepared at the development plan stage and approved for each project, as required by the Sonoma County Water Agency and the Sonoma County Public Works Department.

Franz Valley Area Plan

The Franz Valley Area Plan was initially adopted by the County in 1979 and has been amended multiple times through 2012. It is guided by the policy provisions of the Sonoma County General Plan. The plan area consists of approximately 91,500 acres and is along the eastern county boundary with Napa and Lake counties.

The Franz Valley Area Plan includes the following mitigation measures that addresses hydrology:

Hydrology

- (1) Within groundwater recharge areas, construction activities, creation of impervious surfaces, and changes in drainage should be avoided through discretionary action.
- (2) In order to prevent unnecessary erosion and decrease in water quality, enforce the provisions of Chapter 70 of Uniform Building Code.

Penngrove Area Plan

The Penngrove Area Plan was initially adopted by the County in 1984 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan. The plan area is located between the City of Petaluma and the City of Rohnert Park.

The following policies address hydrology:

IV Hydrology

- A. A goal of this Area Plan is to ensure a sufficient supply of high quality groundwater.
 - (1) Conserve and replenish groundwater recharge areas.
 - (3) Develop groundwater resources as a water supply only when consistent with a safe yield.
- B. It shall also be a goal of this Area Plan to minimize drainage impacts on floodplains.
 - (1) Consider drainage impacts in land use decisions and permit reviews and approvals.

Petaluma Dairy Belt Area Plan

The Petaluma Dairy Belt Area Plan was initially adopted by the County in 1985 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan, and its primary priority shall be to preserve and enhance the agricultural resources and protect the agricultural industry. The plan area is located west of the City of Petaluma along the county's western boundary.

Policies of the Petaluma Dairy Belt Area Plan that address hydrology include the following:

L. Water Resources

- (1) Give high priority to the protection of watersheds, aquifer recharge areas, and natural drainage systems in any consideration of land use.
- (2) Support construction of water reclamation facilities that provide an effective alternative to the discharge of urban and agricultural waste into Sonoma County's streams.
- (3) Recognize existing riparian water rights.

West Petaluma Area Plan

The West Petaluma Area Plan was initially adopted by the County in 1981 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan and consists of approximately 11,000 acres. The plan area is located west of US Highway 101 and the City of Petaluma.

Policies of the West Petaluma Area Plan that address hydrology include the following:

A. Conservation

Goal 1.4: Safeguard and maintain high water quality.

- (1) Support regulatory agencies in enforcing water quality regulations.

Goal 1.5: Insure high quality and a sufficient supply of groundwater.

- (1) Conserve and replenish groundwater recharge areas.
- (3) Develop groundwater resources for water supply only when consistent with safe yield (nitrate area on the in particular).
- (4) Protect natural drainage systems in any consideration of land use change,

Goal 1.5: Protect water resources that are essential to the continued viability of other resources.

- (1) Protect watersheds, aquifer recharge areas and natural drainage systems in any consideration of land use.
- (2) Monitor groundwater quantity.

Sonoma County Code

Flood Damage Prevention

Sonoma County Code Chapter 7B, "Flood Damage Prevention," prohibits encroachments, including fill, new construction, substantial improvements, and other development within the adopted floodway unless it has been demonstrated through hydrologic and hydraulic analysis performed in accordance with standard engineering practice and certified by a registered professional engineer or architect licensed in the state of California that the proposed encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge development within floodway requires permits be obtained prior to constructing residences in any area of special flood hazard, anchoring of new construction in areas of special flood hazard to prevent movement or collapse of a structure, the use of flood resistant materials and utility equipment in new construction, and elevation of the lowest residential floor to 12 inches above the base flood elevation. A permit is required for development within a flood zone, and the development must adhere to the standards for fill placement and construction elevation set forth in the Ordinance.

Construction Grading and Drainage

Chapter 11, "Construction Grading and Drainage," of the Sonoma County Code protects watercourses from construction practices that could result in pollutants entering the soil or watercourses through requiring best management practices be implemented and requiring construction grading permits and construction drainage permits.

Stormwater Quality Requirements

Chapter 11A, "Stormwater Quality," of the Sonoma County Code includes regulations to protect water quality, including prohibiting the discharge of non-stormwater into the County's stormwater system, compliance with NPDES permits for stormwater discharge, requiring measures to reduce and eliminate stormwater pollutants, and requiring the implementation of construction best management practices to prevent the discharge of contaminants.

Well Ordinance

Chapter 25B, "Water Well Construction Standards," contains the requirements for well construction, reporting, and abandonment. These requirements contain setbacks and other limits on drilling locations, well completion reporting requirements, groundwater monitoring, and procedures for well abandonment.

Agricultural Grading and Drainage

Chapter 36 of the Sonoma County Code regulates new vineyard and orchard development, vineyard and orchard replanting, and agricultural grading and drainage in the unincorporated area of the County and establishes a ministerial standard for those activities. Within Chapter 36, Section 10, 12, and 20 are applicable to outdoor cultivation under the proposed Cannabis Program and are summarized below.

Chapter 36, Article 10, of the County Code contains the permit requirements for agricultural grading, including preparatory land clearing, vegetation removal, or other ground disturbance. An agricultural grading permit shall be required prior to commencing any agricultural grading or related work, including preparatory land clearing, vegetation removal, or other ground disturbance.

Chapter 36, Article 12, of the County Code contains requirements for agricultural drainage permits, involving construction or modification of drainage facilities or related working, involving construction or modification of drainage facilities or related work, including preparatory land clearing, vegetation removal, or other ground disturbance.

Chapter 36, Article 20, of the County Code contains standards for agricultural grading, drainage, protection of human remains and archaeological resources, protection of listed species, removal of trees and other vegetation, road network requirements, setbacks from certain soil conditions, and requirements for best management practices (BMPs). These requirements provide standards for slopes and terracing and drainage developed by cuts and well as standards for fill, including slope specifications, surface preparation, compaction and terracing. Under these standards, drainage patterns and runoff must be designed and constructed to maintain natural and existing drainage patterns, and to establish setbacks from waterways and ridgetops.

Municipal Separate Storm Sewer System

Municipalities are required to obtain Municipal Separate Storm Sewer Systems (MS4s) Permits, which regulate storm water discharges. MS4s permits are issued by RWQCBs and are typically issued to a group of co-permittees encompassing an entire metropolitan area. Sonoma County has two MS4 permits because it contains two major watersheds regulated by two RWQCBs (i.e., North Coast and San Francisco Bay RWQCBs).

A Phase I MS4 Permit serves municipalities that support more than 100,000 people and is administered by the North Coast RWQCB. The County of Sonoma is a co-permittee with the City of Santa Rosa and the Sonoma County Water Agency for the Phase I boundary, which includes the City of Santa Rosa and unincorporated areas near the Cities of Healdsburg, Windsor, Santa Rosa, Rohnert Park, Cotati, and Sebastopol.

A Phase II General MS4 Permit serves municipalities that support between 10,000 and 100,000 people and is administered by the San Francisco Bay RWQCB. The County of Sonoma is a co-permittee with the Sonoma County Water Agency for the Phase II boundary, which includes the unincorporated areas near the Cities of Petaluma and Sonoma.

Low Impact Development Manual

The 2017 Storm Water Low Impact Development Technical Design Manual (LID Manual) provides technical guidance for project designs that require the implementation of permanent stormwater BMPs. This manual supersedes the 2005 Standard Urban Storm Water Mitigation Plan and satisfies Order R1-2015-0030, NPDES Permit CA0025054. While the City of Santa Rosa maintains the LID Manual, the County of Sonoma is a co-permittee along with the City and implements the LID Manual on projects in the Unincorporated County (City of Cloverdale, et. al. 2020).

Sonoma County Best Management Practices for Cannabis Cultivation

The Sonoma County Agricultural Division has developed BMPs for cannabis cultivation. These BMPs listed below are applicable to in-ground and container-based cannabis cultivation and enforceable through the current Cannabis Ordinance and proposed Cannabis Ordinance Update (i.e., through the grading and drainage requirement discussed in more detail below).

Outdoor Cultivation

1. Pesticide and Fertilizer Storage

1. Pesticide and fertilizer storage facilities shall be located outside of the Riparian Corridor setbacks for structures as listed in this document.
2. Pesticide and fertilizer storage facilities shall not be located within 100 feet of a wellhead, or within 50 feet of identified wetlands.
3. Pesticide and fertilizer storage facilities shall be adequate to protect pesticide and fertilizer containers from the weather.
4. Store all bags and boxes of pesticides and fertilizers off the ground on pallets or shelves.
5. If the structure does not have an impermeable floor, store all liquid pesticides and fertilizers on shelves capable of containing spills or provide appropriate secondary containment.
6. Routinely check for leaks and spills.
7. Have spill cleanup kit onsite to be able to respond to any leaks or spills.

2. Pesticide Use

1. Inspect planting stock for pests and diseases prior to planting. Avoid planting stock with pests and disease.
2. Comply with all pesticide laws and regulations as enforced by the California Department of Pesticide Regulation.
3. For pesticides with the signal word CAUTION that have listed food uses, comply with all pesticide label directions as they pertain to personal protective equipment, application method, and rate, environmental hazards, longest reentry intervals and greenhouse and indoor use directions.
4. For all other pesticides, use must comply with all label requirements including site and crop restrictions.
5. Prior to the use of any registered pesticide on cannabis, obtain an Operator Identification Number from the County Agricultural Commissioner.
6. Submit monthly pesticide use reports to the County Agricultural Commissioner.

3. Fertilizer Use

1. Prior to applying fertilizers, evaluate irrigation water, soils, growth media, and plant tissue to optimize plant growth and avoid over fertilization.
2. Apply fertilizers at label rates.
3. Do not apply fertilizers in a way that will result in runoff that may contaminate ground or surface water.

4. Riparian Protection

1. Observe riparian corridor setbacks for agricultural cultivation as applicable. These shall be maintained as "no touch" areas. The removal of vegetation is prohibited within the setback.
2. No equipment, vehicles, or other materials shall be stored in the riparian setback.
3. Composting areas shall not be located in the riparian setback area.

4. For more information on best management practices for agricultural cultivation within the Riparian Corridor, please go to sonomacounty.ca.gov/Agriculture-Weights-and-Measures/Agriculture-Division/Ordinances/Best-Management-Practices-for-Agricultural-Cultivation/

5. **Water Use and Storage**

1. Irrigation must be conducted in a manner that does not result in runoff from the cultivated area.
2. Any water tanks or storage facilities must obtain all necessary permits from the Sonoma County Permit and Resource Management Department (PRMD).
3. The use of water bladders is prohibited.
4. If using an irrigation system, inspect for and repair leaks prior to planting each year and continuously during the season.
5. Irrigation systems shall be equipped with a backflow prevention devices and shutoff valves.

6. **Waste Management**

1. Recycle or properly dispose of all plastic bags, containers, and irrigation materials.
2. Properly dispose of green waste in a manner that does not discharge pollutants to a watercourse. This may be accomplished by composting, chipping, and/or shredding. The method of green waste disposal must be documented.
3. Used growth medium (soil and other organic medium) shall be handled to minimize or prevent discharge of soil and residual nutrients and chemicals to watercourses. Proper disposal could include incorporating into garden beds, spreading on a stable surface and re-vegetating, storage in watertight dumpsters, or covering with tarps or plastic sheeting prior to proper disposal. The method of disposal must be documented.
4. Compost piles are to be located outside of riparian setbacks for agricultural cultivation and in a manner that will not discharge pollutants to a watercourse. If necessary, construct a berm or install fiber roll around compost area to prevent runoff or use straw wattles around perimeter.
5. Cover compost piles with tarp or impermeable surface prior to fall rains and continuously throughout the rainy season.

7. **Erosion Control/Grading and Drainage**

1. Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.
2. Avoid soil disturbance between November 1 and April 15.
3. All exposed and disturbed soil must be covered with a minimum of 2 inches of mulch, such as straw, bark, wood chips, etc., by November 15. Alternatively, establish a thick cover crop over disturbed areas.
4. Erosion control materials shall be available on site at all times in the form of straw or appropriate mulch adequate to cover area of disturbed soil. In the event of a forecast storm event likely to produce runoff, apply mulch to disturbed areas prior to rain event.
5. Any grading or drainage conducted as part of site preparation shall have the appropriate permits from the Sonoma County Permit and Resource Management Department.

Indoor Cultivation

1. Pesticide Use

1. Inspect planting stock for pests and diseases prior to planting. Avoid planting stock with pests and disease.
2. Comply with all pesticide laws and regulations as enforced by the California Department of Pesticide Regulation.

3. For pesticides with the signal word CAUTION that have listed food uses, comply with all pesticide label directions as they pertain to personal protective equipment, application method and rate, environmental hazards, longest reentry intervals and greenhouse and indoor use directions.
4. For all other pesticides, use must comply with all label requirements including site and crop restrictions.
5. Prior to the use of any registered pesticide on cannabis, obtain an Operator Identification Number from the County Agricultural Commissioner.
6. Submit monthly pesticide use reports to the County Agricultural Commissioner.

2. Waste Management

1. Recycle or properly dispose of all plastic bags, containers, and irrigation materials.
2. Properly dispose of green waste in a manner that does not discharge pollutants to a watercourse. This may be accomplished by composting, chipping, and/or shredding. The method of green waste disposal must be documented.
3. Used growth medium (soil and other organic medium) shall be handled to minimize or prevent discharge of soil and residual nutrients and chemicals to watercourses. Proper disposal could include incorporating into garden beds, spreading on a stable surface and re-vegetating, storage in watertight dumpsters, or covering with tarps or plastic sheeting prior to proper disposal. The method of disposal must be documented.
4. Excess irrigation water or effluent from indoor cultivation shall be discharged to an irrigation or bio-retention treatment system, sewer, or septic system that has been properly evaluated and sized.

3. Water Use

1. If using an irrigation system, inspect for and repair leaks prior to planting each year and continuously during the growth cycle.
2. Irrigation systems shall be equipped with a backflow prevention devices and shutoff valves.

Procedures for Groundwater Analysis and Hydrogeologic Reports, Policy and Procedure 8-1-14

This document outlines requirements for hydrogeologic reports that must be prepared for discretionary and ministerial projects to comply with General Plan Policy WR-2e and the Sustainable Groundwater Management Act (SGMA) of 2014. Specifically, the policy outlines requirements for hydrogeologic reports for groundwater-reliant projects located in certain designated groundwater availability areas in the county, as well as within medium and high priority groundwater basins designated by the California Department of Water Resources (DWR).

Hydrogeologic reports must be prepared by a qualified professional and include all information and analysis required in the Permit and Resource Management Department (Permit Sonoma) checklist (attached) for groundwater studies. Include impacts of the project with existing development and cumulative impacts from future development, and evaluate impacts to neighboring wells and interconnected surface waters.

The requirements of Policy WR-2e are that: 1) groundwater quality and quantity are adequate and will not be adversely impacted by the cumulative amount of development and uses allowed in the area; 2) the proposed use will not cause or exacerbate an overdraft condition in a groundwater basin or subbasin and 3) the proposal not result in groundwater overdraft, land subsidence, or saltwater intrusion. Groundwater use must not result in critical reduction in flow in directly connected surface waters or adverse impacts to groundwater dependent ecosystems.

Evidence that the requirements of Policy WR-2e have been met must be provided to Permit Sonoma staff and to the decision-making body prior to its discretionary decision.

For discretionary projects the hydrogeologic report will be integrated into the CEQA environmental review process.

Guidelines for Net Zero Groundwater Use, Policy and Procedure 8-2-2

Policy and Procedure 8-2-2 contains guidance on how to demonstrate that a development results in Net Zero groundwater use (i.e., a project groundwater use is equal or less than the existing groundwater use conditions). These guidelines are intended for discretionary and ministerial projects.

Goal WR-2 of the Sonoma County General Plan specifies that groundwater should be managed as a valuable and limited shared resource. Certain areas of the County have been designated as water scarce, have declining groundwater levels, or have streams that are vulnerable to streamflow depletion attributed to groundwater extraction. In these areas, or where available information indicates impaired groundwater resources, standards requiring Net Zero may apply. For example, Net Zero is required for Accessory Dwelling Units in Class 4 Groundwater Availability Areas (Sec. 26-88-060).

Discretionary projects subject to CEQA have the option to pursue Net Zero. A report demonstrating Net Zero may be used in lieu, or in support, of a hydrogeologic study that assesses impacts to groundwater resources. A project that meets the Net Zero standard is generally expected to have a less than significant impact on groundwater resources.

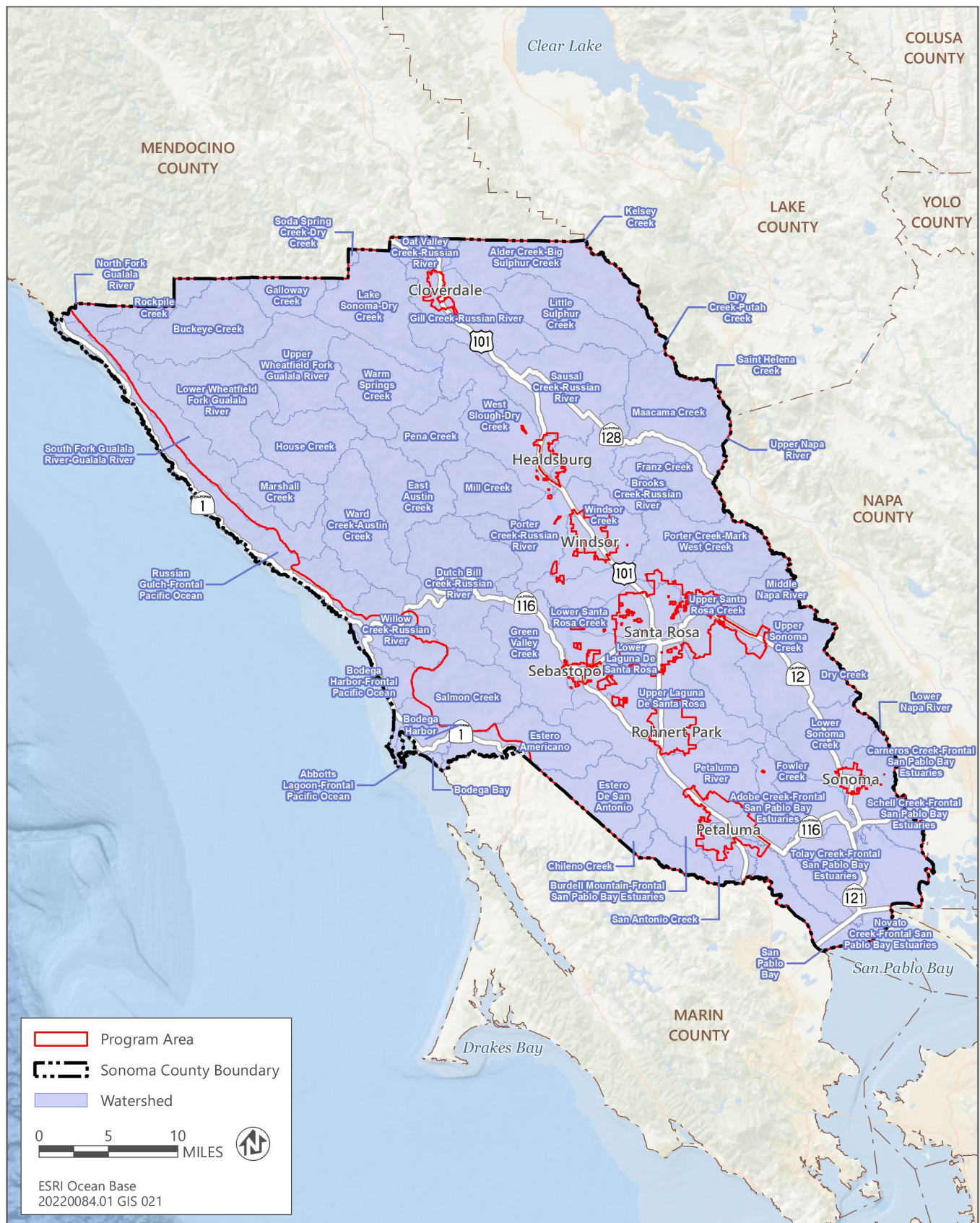
For discretionary projects, where there are concerns regarding potential seasonal environmental impacts from groundwater extraction, Net Zero may be applied during specific times of the year when groundwater pumping is more likely to lead to environmental impacts (e.g., depletion of stream base flows during the dry season).

3.10.2 Environmental Setting

HYDROLOGY AND DRAINAGE

Regional Hydrology

In general, watersheds in the northern areas of the County (Gualala River, Austin Creek, Dry Creek, Big Sulphur Creek, and Mayacama Creek) consist of mountainous, rugged terrain with little urban development. Land use in these upper watersheds is predominantly rural, with timber production and grazing being the primary uses. Most of central Sonoma County is part of the Russian River watershed and ultimately drains west to the Pacific Ocean. This area has a combination of steep mountainous terrain and relatively flat topography that lies in the alluvial floodplain of the Russian River. Much of the suburban and urban development of Sonoma County is located within these central sub-watersheds, including Healdsburg, Windsor, Santa Rosa, Sebastopol, Rohnert Park, and Cotati. The watersheds for the Petaluma River and Sonoma Creek in the southern portions of the County have their headwaters on the steep grass and oak foothills of the Sonoma Mountains and coast ranges, pass through small valleys where the Petaluma and Sonoma urban areas are located, and open up to wide marshlands that interact with the San Pablo Bay. Land use in these subbasins is varied and includes agriculture and rural and urban residential use. Watersheds in Sonoma County are depicted in Figure 3.10-1.



Source: Data downloaded from USGS in 2022; adapted by Ascent in 2024.

Figure 3.10-1 Sonoma County USGS Watersheds

Groundwater Hydrology

DWR has identified a total of 14 groundwater basins and subbasins in Sonoma County, which are shown on Figure 3.10-2. Consistent with SGMA requirements, as discussed above under Section 3.10.1, "Regulatory Setting," these basins have been assigned prioritization based on eight components that are identified in the California Water Code Section 10933(b), which primarily consider population levels and groundwater production. Of the 14 groundwater basins and subbasins, 11 are categorized as low- or very low-priority basins, two are medium-priority, and one is high-priority. Table 3.10-5 describes the area, prioritization, and groundwater quality associated with groundwater basins in Sonoma County.

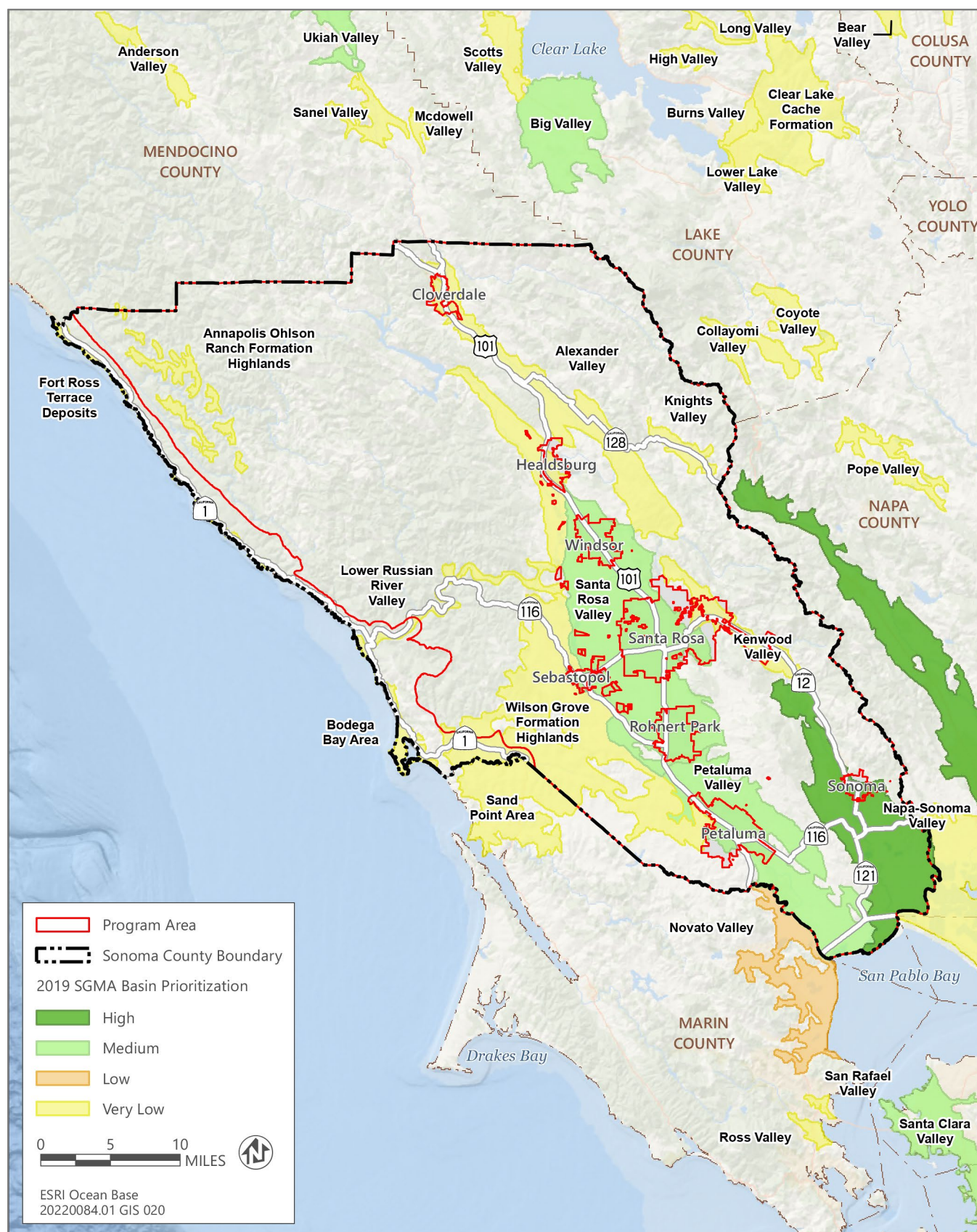
Table 3.10-5 Groundwater Basins in Sonoma County

Basin Name	Subbasin Name	Priority ¹	Basin Area (Irrigated Acres)	Groundwater (Acre-Feet)	Groundwater (Acre-Feet/Acre)
Annapolis Ohlson Ranch Fm Highlands		Very Low	8,653 (183)	243	0.02
Alexander Valley	Cloverdale Area	Very Low	6,530 (1,845)	2341	0.35
Alexander Valley	Alexander Area	Very Low	24,484 (7,831)	5901	0.24
Bodega Bay Area		Very Low	2,669 (0)	211	0.07
Fort Ross Terrace Deposits		Very Low	8,361 (0)	NA	NA
Kenwood Valley		Very Low	5,139 (0)	NA	NA
Knights Valley		Very Low	4,090 (1,511)	1448	0.35
Lower Russian River Valley		Very Low	6,645 (979)	987	0.14
Santa Rosa Valley	Healdsburg Area	Very Low	15,413 (6,537)	5302	0.34
Santa Rosa Valley	Rincon Valley	Very Low	5,553 (115)	436	0.07
Wilson Grove Formation Highlands		Very Low	63,836 (5,385)	8855	0.13
Santa Rosa Valley	Santa Rosa Plain	Medium	81,284 (11,108)	20,995	0.25
Napa-Sonoma Valley	Sonoma Valley	High	44,846 (8,558)	8,054	0.17
Petaluma Valley		Medium	3,507 (2,361)	3,124	0.06

Notes: NA=not available.

¹ As defined by DWR based on California Water Code Section 10933(b).

Source: DWR 2018.



Source: Data downloaded from DWR in 2024; adapted by Ascent in 2024.

Figure 3.10-2 SGMA 2019 Basin Prioritization

Sonoma County contains two medium-priority basins (Santa Rosa Plain and Petaluma Valley) and one high-priority basin (Sonoma Valley). As required by SGMA, the GSA-eligible entities formed a Joint Powers Authority for each basin and are working together to implement the requirements of SGMA. The GSAs were formed as follows:

- ▶ Santa Rosa Plain GSA was formed through a joint powers authority (JPA) between the Cities of Cotati, Rohnert Park, Santa Rosa, and Sebastopol; Town of Windsor; County of Sonoma; Sonoma Water; Gold Ridge Resource Conservation District; and Sonoma Resource Conservation District (Sonoma RCD) and has a participation agreement with mutual water companies and California Public Utilities Commission (CPUC) regulated water corporations to allow them to participate in the GSA.
- ▶ Sonoma Valley GSA was formed through a JPA between the City of Sonoma, County of Sonoma, North Bay Water District (NBWD), Sonoma Water, Sonoma RCD, and Valley of the Moon Water District.
- ▶ Petaluma Valley GSA was formed through a JPA between the City of Petaluma, County of Sonoma, NBWD, Sonoma Water, and Sonoma RCD.

Each GSA prepared an associated GSP, as described below:

Sonoma Valley Groundwater Subbasin GSP

The Napa-Sonoma Valley Basin consists of the Sonoma Valley and Napa-Sonoma Lowlands subbasins. The Sonoma Valley Subbasin is located in the southeastern corner of Sonoma County and extends over an area of 70 square miles. The Cities of Sonoma, Schellville, and Valley of the Moon are located in the recharge area of the subbasin. The Napa-Sonoma Lowlands Subbasin covers 65 square miles located north of San Pablo Bay (Sonoma Valley GSA 2021).

In 2020, imported surface water accounted for 35 percent of water supply in the Sonoma Valley Subbasin, recycled water accounted for about 10 percent, and local surface water supplies accounted for about 3 percent. Groundwater accounted for 52 percent of water supply in the Sonoma Valley Subbasin and is the primary water source for residents who live in areas not served by urban water suppliers. The exact number of domestic wells is unknown but is estimated to be between 900 and 1,250. Agriculture (primarily wine grapes), which relies on groundwater, local surface water, and recycled water, accounts for 44 percent of land use. Native vegetation or water bodies make up 43 percent of land use. The major urban water suppliers in the Sonoma Valley Subbasin are the City of Sonoma and Valley of the Moon Water District, which rely primarily on imported Russian River water supplied by Sonoma Water, but which also pump groundwater for supplemental supply and during droughts and in emergencies. These water suppliers serve most of the urban communities, which account for about 13 percent of land use. These communities are generally (but not entirely) located in areas that receive water from municipal suppliers (Sonoma Valley GSA 2021).

The sustainable yield for the Sonoma Valley Subbasin is estimated to be approximately 5,400 acre-feet per year (AFY). This value is higher than the estimated historical average subbasin-wide groundwater pumping of 4,900 AFY. However, both the current average of 5,700 AFY and the annual average projected pumping for the 50-year period from 2021 to 2070 of 6,500 AFY exceeds the sustainable yield, indicating that projects and management actions are needed to sustainably manage the subbasin and avoid potential future undesirable results (Sonoma Valley GSA 2021).

The most recent annual report indicates that, while groundwater levels were primarily higher in the wetter Water Year 2023 compared with Water Year 2022, long-term declining trends have continued in west side and east side areas within the subbasin and seasonal low groundwater elevations measured in Fall 2023 at four of the 10 deep aquifer system representative monitoring points in these areas remained below minimum thresholds in Water Year 2023. These areas of chronic decline are east of the Eastside Fault and near El Verano. Forty percent of the representative monitoring points in the deep aquifer saw three consecutive years of minimum threshold exceedances, which is an undesirable result for chronic lowering of groundwater levels, per the sustainability criteria set forth in the Groundwater Sustainability Plan. In January of 2025, the Sonoma Valley GSA adopted a mapped a sub-area, referred to as the "Groundwater Sustainability Priority Areas", that delineates areas where local groundwater levels are declining and have triggered undesirable results as defined in the GSA's Groundwater Sustainability Plan.

The GSA is undertaking actions to address areas with declining groundwater levels, and sustainability more broadly, including:

- ▶ Focused investigation and outreach to nearby groundwater users who could be affected by reduced groundwater levels and evaluation of the potential for wells going dry. This investigation and outreach will help the GSA better plan the specific projects and actions needed to address undesirable results in these areas.
- ▶ Initiation of programs that help the GSA understand and manage the water use in the basin, with programs funded through the SGMA implementation grant including voluntary metering and water-use efficiency programs in early 2024 and consideration of mandatory measures that may be needed to reduce groundwater demands through policy and program options (Sonoma Valley GSA 2024).

Petaluma Valley Groundwater Basin GSP

The entire Petaluma Valley Basin is located immediately north of San Pablo Bay and is bounded on the east by Sonoma Mountains and on the west by low-lying hills. The approximately 46,000-acre basin stretches from the Baylands northward, incorporating the City of Petaluma and the communities of Penngrove and Lakeville. The Petaluma River, which is the principal stream draining the Petaluma Valley Basin, is located within the larger Petaluma Valley watershed (Petaluma Valley GSA 2021).

The major urban water supplier in the Petaluma Valley Basin is the City of Petaluma, which relies primarily on imported Russian River water supplied by Sonoma Water. The City of Petaluma also pumps groundwater for supplemental supply and during droughts and in emergencies. The exact number of domestic wells is unknown but is estimated to be between 400 and 600. The majority of land in the Petaluma Valley Basin is native vegetation or surface water (57 percent) followed by agriculture (23 percent) and urban, commercial, and industrial, which total about 20 percent of land use. The majority of the native vegetation is located in the lower portions of the basin along the tidal marshlands and in the hills northeast of the City of Petaluma (Petaluma Valley GSA 2021).

The sustainable yield of the Petaluma Valley Basin is 8,000 AFY of total groundwater pumping. Both the estimated current average groundwater pumping of 4,500 AFY and the projected future groundwater pumping of 2,300 AFY are below the sustainable yield. The Petaluma Valley Basin GSP notes a substantial amount of uncertainty in the estimate of the sustainable yield and indicates that the sustainable yield will be refined and updated (Petaluma Valley GSA 2021).

The most recent annual report indicates that, although levels were above the minimum threshold in 2023, some areas have exhibited a pattern of decline over several years, particularly in the area near Stage Gulch Road and Old Adobe Road and in the northern basin boundary. The annual change in groundwater storage within the basin for Water Year 2023 is estimated to have increase by approximately 1,070 acre-feet (Petaluma Valley GSA 2024).

Santa Rosa Plain Subbasin GSP

The plan area for this GSP covers the entire 80,000-acre subbasin, which lies within the Coast Ranges geomorphic province. The Santa Rosa Plain Subbasin is one of three coastal alluvial subbasins of the Santa Rosa Valley Groundwater Basin in the North Coast Hydrologic Region; Healdsburg Area and Rincon Valley are the other two subbasins. The Santa Rosa Plain Subbasin is generally bounded on the west by low-lying hills of the Mendocino Range and on the east by the Sonoma Mountains and Mayacamas Mountains. It is approximately 22 miles long from north to south, and the width from west to east varies from approximately 9 miles through the Santa Rosa area to 6 miles at the south end near the City of Cotati and narrows greatly at its northern end. The subbasin includes the Town of Windsor; Cities of Cotati, Rohnert Park, Santa Rosa, and Sebastopol; and areas of unincorporated rural communities (Santa Rosa Plain GSA 2021).

The major urban water suppliers in the Santa Rosa Plain Subbasin are the individual cities and towns and CalAmerican Water Company's Larkfield system. Most of these water suppliers rely primarily on imported Russian River water supplied by Sonoma Water, but they also pump groundwater for supplemental supply and during droughts and in emergencies. The City of Sebastopol relies entirely on groundwater pumped from the Santa Rosa Plain Subbasin. The urban communities account for about 36 percent of the land use. Residences outside of urban water supply systems rely on groundwater. The exact number of domestic wells is unknown but is estimated to be between 4,000 and 5,500. Agriculture, which accounts for 26 percent of land use and is primarily wine grapes, depends on groundwater and recycled water, where available. Native vegetation and surface water make up 35

percent of land use, and 3 percent of land is classified as vacant. In 2020, imported water accounted for 45 percent of water supply in the subbasin, groundwater accounted for 35 percent, and recycled water accounted for about 20 percent (Santa Rosa Plain GSA 2021).

The sustainable yield of the Santa Rosa Plain Subbasin is 23,900 AF of total groundwater pumping. This value is 39 percent of the total groundwater inflows into the subbasin and is greater than the average total groundwater pumpage experienced during the current water budget period. However, the annual average projected pumping for the 50-year period from 2021 to 2070 of 26,100 AF exceeds the sustainable yield indicating that projects and management actions are needed to sustainably manage the Santa Rosa Plain Subbasin and avoid potential future undesirable results (Santa Rosa Plain GSA 2021).

The most recent annual report indicates that the annual change in groundwater storage within the basin for water year 2023 is estimated to have increased by approximately 6,460 acre-feet, with nearly all of that change occurring in the shallow aquifer system. The increase in groundwater storage in Water Year 2023 offset 55 percent of the declines in storage that occurred since Water Year 2011. The gains in groundwater storage in the deep aquifer in Water Year 2023 increased groundwater storage to near its highest levels since the late 1970's (Santa Rosa Plain GSA 2024).

Sonoma County Groundwater Availability Classifications

Sonoma County maintains a groundwater availability classification system, which utilizes a four tier classification system (Figure 3.10-3):

- ▶ Class 1: Major Groundwater Basin Area
- ▶ Class 2: Major Natural Recharge Area
- ▶ Class 3: Marginal Groundwater Area
- ▶ Class 4: Low/Highly Variable Water Yield Area

Geology and typical well water yield were used to classify areas of the County. Class 3 or Class 4 groundwater availability areas are considered groundwater scarce and have wells of variable productivity. Class 1 and 2 areas have generally higher and more consistent yield. Per General Plan policy WR-2E, a hydrogeologic report is required when a discretionary project is located in a Class 3 or Class 4 groundwater availability area.

In addition, Policy WR-2E requires proof of groundwater with a sufficient yield and quality to support proposed uses in Class 3 and 4 water areas. Sonoma County Code Chapter 7-12 specifies building permits in water scarce areas and second dwelling units in marginal water areas for residential development, and specifies a minimum well yield of 1 gallon per minute per connection. No minimum well yield is codified for commercial, industrial, or agricultural uses.

Figure 3.10-3 also contains critical habitat areas, portions of Mill, Mark West, Green Valley, and Dutch Bill Creek watersheds, which were subject of the 2015 SWRCB's Emergency Information Order and are widely considered to be the most important watersheds for supporting coho restoration efforts in the lower Russian River (SWRCB Order WR 2015-0026-DWR (August 24, 2015) and Findings of Emergency for Emergency Actions due to Insufficient Flow for Specific Fisheries in Tributaries to the Russian River (June 19, 2015)). Please see additional discussion of the 2015 Emergency Information Order in Section 3.10.1, "Regulatory Setting."

WATER QUALITY

Surface Water Quality

States that administer the CWA must submit the CWA section 303(d) list of impaired waters to EPA. CWA section 305(b) requires each state to report biennially to EPA on the condition of its surface water quality. EPA guidance to the states recommends the two reports be integrated. For California, this report is called the "California Integrated Report" and combines the State Water Board's Section 303(d) and 305(b) reporting requirements (EPA 2005).

Under CWA section 303(d), states are required to review, revise as necessary, and submit to EPA a list of water quality-limited segments that are not meeting or are not expected to meet water quality standards. This submission is referred to as the 303(d) list of Impaired Waters, or the “303(d) list.” The 303(d) list must identify the pollutants causing lack of attainment of water quality standards and include a priority ranking of the water quality-limited segments considering the severity of the pollution and the uses to be made of the waters (40 CFR Section 130.7[b][4]) Table 3.10-6 contains the 303(d)-listed waterbodies in Sonoma County and the associated pollutants.

Table 3.10-6 Sonoma County Impaired Waterbodies

Waterbody	Pollutant
Sonoma Creek, non-tidal ^{1, 2}	Indicator Bacteria Sedimentation/Siltation
Adobe Creek ³	Indicator Bacteria
Arroyo Seco ¹	Indicator Bacteria
Bodega Harbor	Invasive Species
Campbell Cove	Indicator Bacteria
Ellis Creek ³	Indicator Bacteria Low Dissolved Oxygen
Frey Creek ¹	Indicator Bacteria Low Dissolved Oxygen
Lichau Creek ³	Indicator Bacteria Low Dissolved Oxygen
Lynch Creek ³	Low Dissolved Oxygen Indicator Bacteria
Nathanson Creek ^{1, 4}	Fipronil (Pesticide) Indicator Bacteria Low Dissolved Oxygen Pyrethroids
Russian River	Aluminum Indicator Bacteria Manganese Mercury Low Dissolved Oxygen Phosphorus Sedimentation/Siltation Specific Conductivity Temperature, water
Santa Rosa Hydrologic Subarea, Spring Lake (Santa Rosa Creek Reservoir)	Mercury
Schell Creek ¹	Low Dissolved Oxygen Indicator Bacteria
Washington Creek ³	Low Dissolved Oxygen Indicator Bacteria
Willow Brook ³	Indicator Bacteria

Note: Specific details related to segment of water bodies may be found in the *2024 California Integrated Report, Final Revised Appendix A: Recommended 2024 303(d) List of Impaired Waters* (SWRCB 2024).

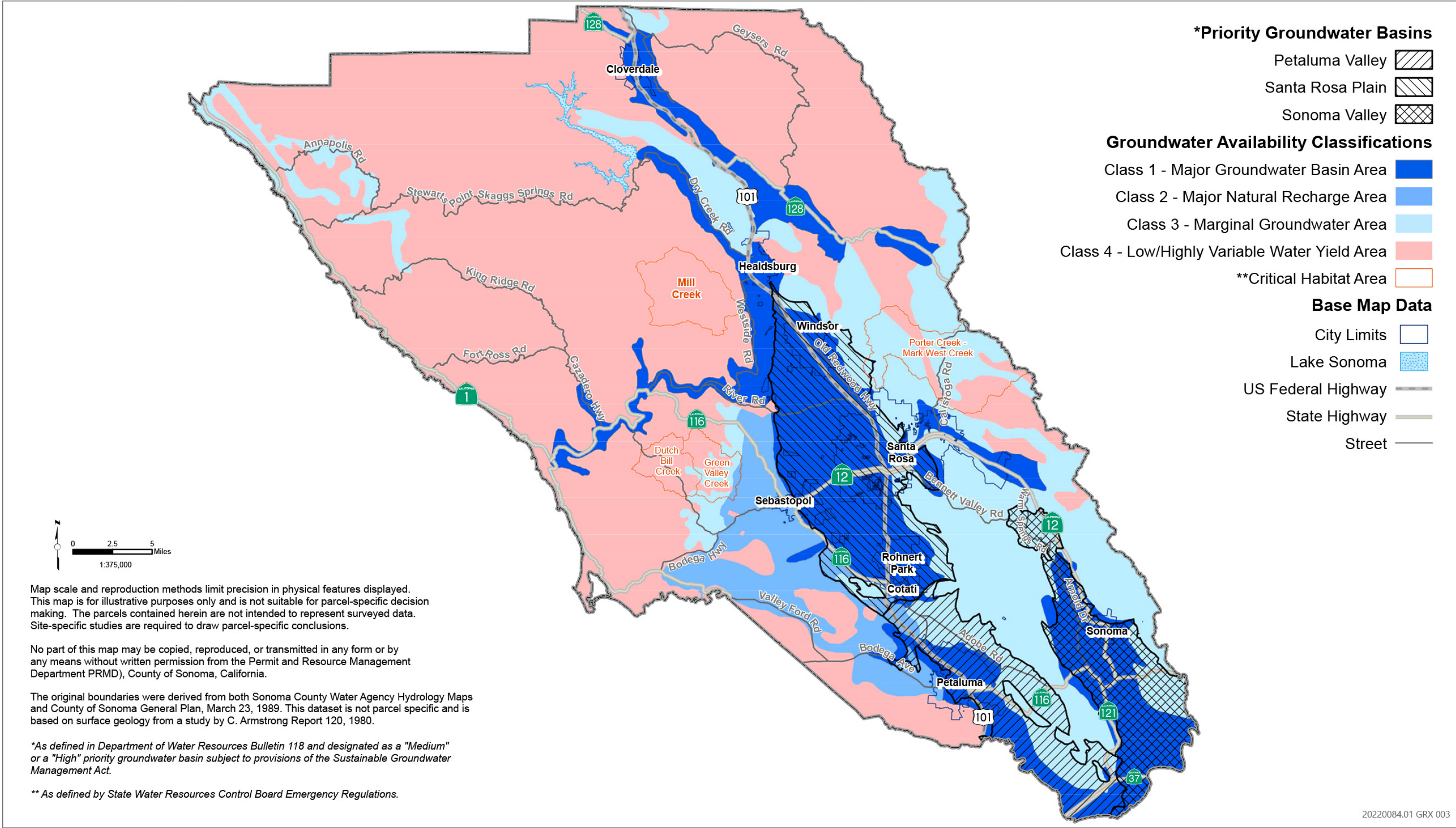
¹ Subject to the Sonoma Creek Pathogens Total Maximum Daily Load (TMDL)

² Subject to the Sonoma Creek Sediment TMDL

³ Subject to the Petaluma River Bacteria TMDL

⁴ Subject to the San Francisco Bay Urban Creeks Diazinon TMDL

Source: SWRCB 2024.



Source: Image produced and provided by Sonoma County PRMD, adapted by Ascent in 2024.

Figure 3.10-3 Groundwater Availability Areas

Water Quality Control Plan for the San Francisco Bay Basin

The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the San Francisco Bay RWQCB's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the state, including surface waters and groundwater. The San Francisco Bay region is 4,603 square miles, roughly the size of the State of Connecticut, and characterized by its dominant feature: 1,100 square miles of the 1,600 square mile San Francisco Bay Estuary (Estuary), the largest estuary on the west coast of the United States, where fresh waters from California's Central Valley mix with the saline waters of the Pacific Ocean. The region also includes coastal portions of Marin and San Mateo Counties, from Tomales Bay in the north to Pescadero and Butano Creeks in the south.

The Basin Plan contains programs of implementation to achieve water quality objectives. These programs include development of TMDLs, which are the pollutant load levels necessary to attain the applicable water quality standards and to address the impaired waterbodies on the 303(d) list. Within Sonoma County, there are four approved TMDLs, as described below. Table 3.10-1 notes which waterbodies are associated with these TMDLs.

Sonoma Creek Pathogens TMDL

Sonoma Creek and its tributaries are impaired by pathogens. The overall goal of this TMDL is to minimize human exposure to waterborne disease-causing pathogens and to protect uses of water for recreational activities, such as wading, swimming, fishing, and rafting. The most common sources of pathogens are wastes from warm-blooded animals, including humans, livestock, domestic pets, and wildlife. The following sections establish a density-based pathogen TMDL for Sonoma Creek and its tributaries and identify actions and monitoring necessary to implement the TMDL. The TMDL defines allowable density-based bacteria concentrations and prohibits discharge of raw or inadequately treated human waste. The implementation plan specifies actions necessary to protect and restore water contact recreation beneficial uses. This TMDL strives to achieve a balance that allows ongoing human activities including agriculture and recreation to continue, while restoring and protecting water quality. As outlined in the adaptive implementation section, the effectiveness of implementation actions, results of monitoring to track progress toward targets, and the scientific understanding of pathogens will be reviewed periodically, and the TMDL may be adapted to future conditions as warranted. In addition to pathogens, both animal and human wastes contain nutrients that in excess pose a threat to aquatic ecosystem beneficial uses; Sonoma Creek is also listed as impaired by excess nutrients. By eliminating the discharge of human waste and controlling the discharge of animal waste, this TMDL will also protect the beneficial uses of the Sonoma Creek watershed's aquatic ecosystem, such as cold and warm freshwater habitat, and wildlife habitat. Controlling human and animal wastes discharges will also reduce risks from other harmful constituents, such as steroids and pharmaceuticals (San Francisco Bay RWQCB 2024). The Sonoma Creek Pathogen TMDL was approved by EPA in February 2008 (SWRCB 2024).

Sonoma Creek Sediment TMDL

Sonoma Creek exceeds water quality standards for sediment. The listing was prompted by declines in native fish populations. The Sonoma Creek Sediment TMDL addresses this water quality problem, identifies pollutant sources, and specifies actions to create solutions. As described in the Sonoma Creek Sediment TMDL, sediment in Sonoma Creek is associated with both natural processes and human actions, including landslides, channel incisions, surface and bank erosion, and road-related erosion. TMDL attainment will be evaluated at the limit of tidal influence in the Sonoma Creek watershed, which approximates the downstream boundary of freshwater habitat for steelhead.

Sonoma Creek has several tributaries that join the mainstem below the tidal limit; therefore, several points will be used to evaluate TMDL attainment. These points are mainstem Sonoma Creek just downstream of the Fowler/Carriger Creek confluence and the freshwater portions (above tidal influence) of Schell, Ramos, Carneros, and Merazo Creeks (San Francisco Bay RWQCB 2024). The Sonoma Creek Sediment TMDL was approved by the EPA in July 2010 (SWRCB 2024).

Petaluma River Bacteria TMDL

Petaluma River and its tributaries are impaired by bacteria. Bacteriological water quality objectives are exceeded based on elevated indicator bacteria densities, and, thus, there is impairment of the water contact recreation (REC-1) beneficial use in these water bodies. Recreating in waters with elevated indicator bacteria densities has long been

associated with adverse health effects. Specifically, national epidemiological studies demonstrate that there is a causal relationship between adverse health effects and recreational water quality, as measured by indicator bacteria densities. Impaired segments include the entire Petaluma River, San Antonio Creek, Lichau Creek, Willow Brook, Lynch Creek, Adobe Creek, Ellis Creek, as well as other named and unnamed tributaries (San Francisco Bay RWQCB 2024). The Petaluma River Bacteria TMDL was approved by the EPA in May 2021 (SWRCB 2024).

San Francisco Bay Urban Creek Diazinon TMDL

In 1998, a number of the San Francisco region's urban creeks were placed on the 303(d) list of impaired waters due to toxicity attributed to diazinon. In the early 1990s, many urban creek water samples collected from selected creeks throughout the region were toxic to aquatic organisms. Studies found that pesticides, particularly diazinon, caused the toxicity. The 303(d) listings were based on observed toxicity, diazinon detections, and similarities among the region's urban pesticide use profiles. When pesticide-related toxicity occurs in urban creek water, creeks do not meet the narrative toxicity objective. When pesticide-related toxicity occurs in sediment, the creeks also do not meet the narrative sediment objective. Likewise, when creek water or sediment is toxic, creeks do not meet the narrative population and community ecology objective. Urban creek waters that fail to meet these objectives are not protective of cold and warm freshwater habitats. Although EPA phased out urban diazinon applications at the end of 2004, other pesticides may now pose potential water quality and sediment quality concerns because they are used as diazinon replacements and because pesticide regulatory programs, as currently implemented, allow pesticides to be used in ways that threaten water quality (San Francisco Bay RWQCB 2024). The San Francisco Bay Urban Creek Diazinon TMDL was approved by EPA in May 2007 (SWRCB 2024).

CANNABIS PRIORITY WATERSHEDS

SWRCB, in coordination with CDFW, has identified "Cannabis Priority Watersheds" throughout the state. All Cannabis Priority Watersheds contain a high concentration of commercial cannabis cultivation; noncompliant commercial cannabis cultivation in these high-value areas has the potential to cause severe environmental impacts. Pursuant to Business and Professions Code Section 26060(a)(1), if SWRCB or CDFW notifies DCC in writing that commercial cannabis cultivation is causing significant adverse impacts on the environment in a watershed or other geographic area, DCC shall not issue new licenses or increase the total number of plant identifiers in that watershed or area while the moratorium is in effect. The Mark West Creek and Dry Creek Watersheds are designated as Cannabis Priority Watersheds designated in Sonoma County.

Groundwater Quality

Groundwater associated with the very-low priority groundwater basins listed above in Table 3.10-5 was not indicated to be of low quality in the prioritization report for the state (DWR 2018). The following groundwater quality issues were noted within the GSP for the County's medium- and high-priority groundwater basins.

Petaluma Valley Groundwater Basin GSP: Groundwater is tested for arsenic, nitrates, and total dissolved solids by public water suppliers to determine the concentration of each constituent and then those results are compared with maximum contaminant levels established by the state and Environmental Protection Agency. The GSA considers groundwater quality to be degrading if two additional wells (above the baseline number of wells) are above maximum contaminant levels. In Water Year 2023, the concentration levels for these substances did not exceed the thresholds for groundwater quality in the subbasin (Petaluma Valley GSA 2024).

Sonoma Valley Subbasin: Groundwater is tested for arsenic, nitrates, and total dissolved solids by public water suppliers to determine the concentration of each constituent and then those results are compared with maximum contaminant levels established by the state and Environmental Protection Agency. The GSA considers groundwater quality to be degrading if two additional wells (above the baseline number of wells) are above maximum contaminant levels. In Water Year 2023, the concentration levels for these substances did not exceed the thresholds for groundwater quality in the subbasin (Sonoma Valley GSA 2024).

Santa Rosa Plain Subbasin: Groundwater is tested for arsenic, nitrates, and total dissolved solids by public water suppliers to determine the concentration of each constituent and then those results are compared with maximum contaminant levels established by the state and Environmental Protection Agency. The GSA considers groundwater

quality to be degrading if two additional wells (above the baseline number of wells) are above maximum contaminant levels. In Water Year 2023, the concentration levels for these substances did not exceed the thresholds for groundwater quality in the subbasin (Santa Rosa Plan GSA 2024).

Flooding

The FIRM is the official map created and distributed by FEMA and the NFIP that delineates the Special Flood Hazard Areas (SFHAs), which are the areas subject to inundation by the base flood (1-percent annual chance, or a 100-year flood) for every county and community that participates in the NFIP. FIRMs contain flood risk information based on historic, meteorological, hydrologic, and hydraulic data, as well as open-space conditions, flood control works, and development. It should be noted that alluvial fans are designated as SFHAs on FIRMs. Flood hazard zones in Sonoma County are depicted in Figure 3.10-4.

Tsunamis

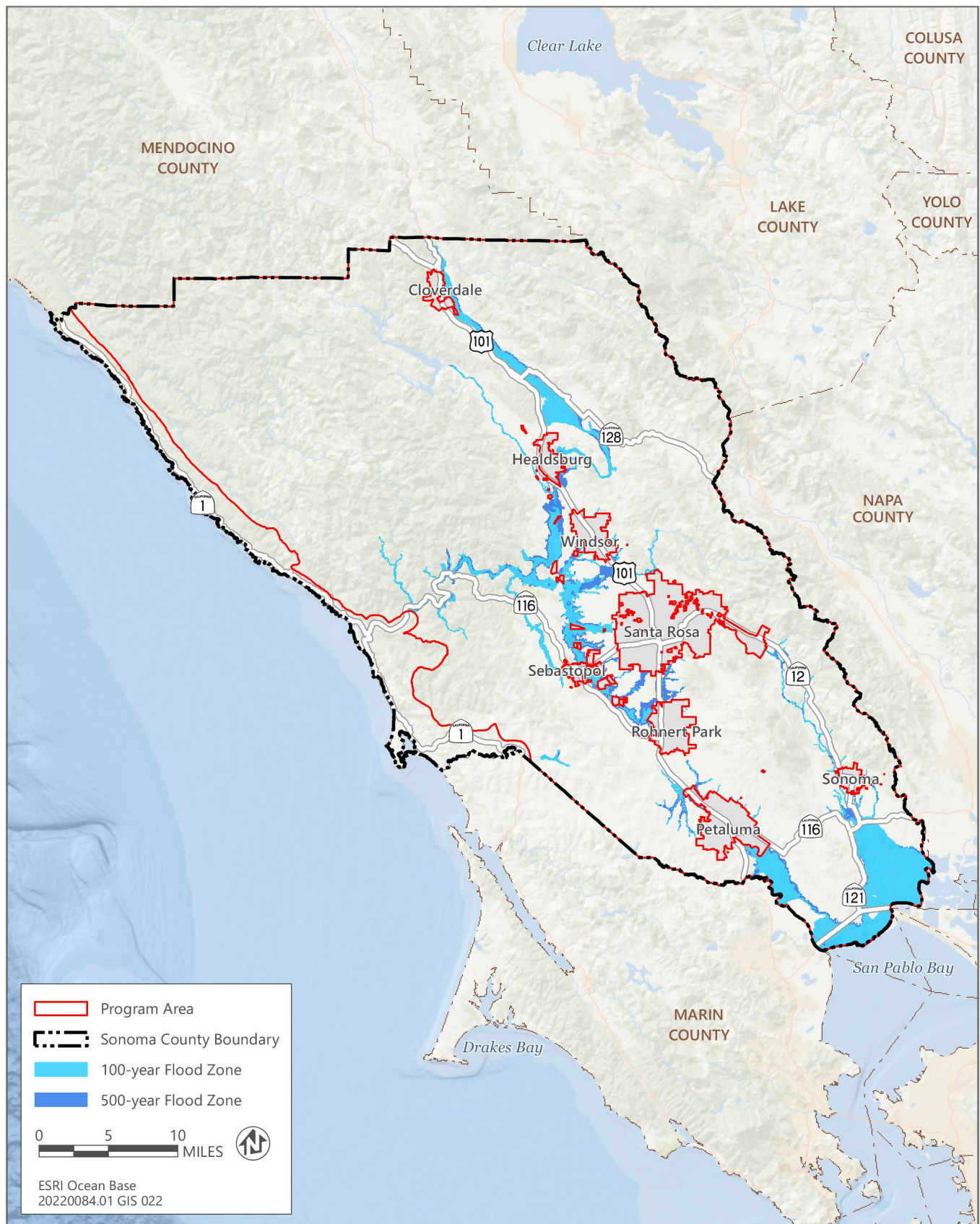
Since 1812, the California coast has had 14 tsunamis. The worst tsunami resulted from the 1964 Alaskan earthquake, which caused 12 deaths and substantial damage in the coastal community of Crescent City in northern California. In recent years, the 2011 Tohoku Earthquake generated a tsunami that reached the California coast 10 hours after affecting Japan. As a result, one person died, and all docks in Crescent City and Santa Cruz harbors were damaged or destroyed by several strong tsunami surges that arrived over the next 24+ hours (Sonoma County 2022).

With 55 miles of coastline, Sonoma County has a mix of rugged coastal terrain comprised of bluffs, cliffs, and low-lying terrain and beaches. The degree of potential damage to these areas would depend on the local sea bottom, coastal topographic characteristics, as well as the incoming direction and height of the tsunami. Although there are no known deaths or substantial damage documented as a result from a tsunami in Sonoma County, there were small tsunami impacts in 1946 and 1960. The tsunami threat in Sonoma County is directed on the following areas in low-lying communities, which are primarily outside of the Program Area because they are located within the Coastal Zone (Sonoma County 2022):

- ▶ Jenner
- ▶ Carmet
- ▶ Salmon Creek
- ▶ Bodega Bay
- ▶ Fort Ross
- ▶ Sea Ranch
- ▶ Port Sonoma

Seiches

A seiche is a standing wave in a completely or partially enclosed body of water. Areas located along the shoreline of a lake or reservoir are susceptible to inundation by a seiche. High winds, seismic activity, and changes in atmospheric pressure are typical causes of seiches. The size of a seiche and the affected inundation area are dependent on different factors, including size and depth of the water body, elevation, source, and if humanmade, the structural condition of the body of water in which the seiche occurs. Most enclosed water bodies within Sonoma County are reservoirs built by local municipalities and water districts to provide water service to local residents and businesses, including Sonoma Lake.



Source: Data downloaded from FEMA in 2023; adapted by Ascent in 2024.

Figure 3.10-4 FEMA Flood Zones - Program Area

3.10.3 Environmental Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, “Project Description,” and Section 3.0, “Approach to the Environmental Analysis,” regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

Evaluation of potential hydrologic and water quality impacts is based on a review of existing documents and studies that address water resources. Information obtained from these sources was reviewed and summarized to describe existing conditions and to identify potential environmental effects based on the standards of significance presented in this section. In determining the level of significance, the analysis assumes that the project would comply with relevant federal, state, and local laws, ordinances, and regulations.

The environmental analysis in this Draft EIR is programmatic and does not evaluate the impacts that could occur due to construction of specific cannabis sites, potential expansion of existing cultivation sites, and operation or the future extent of accessory uses on cannabis sites as it is not possible to estimate the locations configuration of future cannabis uses. Thus, the analysis programmatically addresses impacts from the range of uses that may occur under implementation of the Cannabis Program Update.

The following estimated water demands (Table 3.10-7) were used in the groundwater and surface water diversion impact discussions below for total cannabis uses by type based on the default use ratios developed by Sonoma County in Policy and Procedures 8-2-1 Water Supply, Use, and Conservation Assessment Guidelines.

Table 3.10-7 Estimated Project Irrigation Water Demand for Future New Cannabis Cultivation and Supply Chain Uses

Cannabis Facility Type	Demand Ratio
Outdoor	2 acre-feet per acre per year
Mixed-light	4 acre-feet per acre per year
Indoor	4 acre-feet per acre per year
Nursery	4 acre-feet per acre per year
Processing	0.03 acre-feet per site per year
Manufacturing	0.12 acre-feet per site per year
Testing	0.07 acre-feet per site per year
Distribution	0.14 acre-feet per site per year
Events	3 gallons per visitor
Retail	0.20 acre-feet per site per year

Note: It is assumed that nursery water demands would be similar to indoor cannabis cultivation water demands. Demand ratios include domestic uses and water needed to support business-related water use. Assumptions relate to both standalone and accessory uses. Supply chain water demands are based on employment assumptions provided in Table 3-1 and a demand ratio of 15 gallons/shift provided in Sonoma County Policy and Procedures 8-2-1.

Sources: Compiled by Ascent in 2024. Cultivation ratios based on Sonoma County in Policy and Procedures 8-2-1 Water Supply, Use, and Conservation Assessment Guidelines. Demand ratio provided by Table 3.10-9 of the Yolo County Cannabis Land Use Ordinance Draft EIR (Yolo County 2019). These demand ratio provided in this table are conservative compared to water demand factors were derived from information provided by existing cannabis cultivation operations in the in other counties in California (Yolo, Humboldt, Trinity, and Santa Cruz Counties) and commercial and industrial water demand factors for supply chain uses.

The following proposed Code requirements apply to hydrology and water quality:

Section 26-18-115(C)(4)(d): Best Management Practices. Outdoor cultivation must comply with best management practices for cannabis cultivation issued by the agricultural commissioner for erosion and sediment control and management of wastes, water, fertilizers, and pesticides.

Section 26.18.115(C)(4)(h)(8) – Crop Swap Requirements: Water Source. The on-site water supply must be adequate to support the new use as demonstrated by consistency with the following for each water source proposed. Trucked water is only allowed in the event of an emergency as determined by the director.

- a. Municipal Water or Recycled Water. Municipal water and municipal recycled water require proof of availability.
- b. Groundwater Well. A study prepared by a qualified professional must be submitted to demonstrate no net increase in groundwater use for all agricultural operations on the parcel.
- c. Surface Water. A surface water diversion to a tank or an existing reservoir requires an appropriative water right and a Lake and Streambed Alteration (LSA) Agreement. A maximum of 100,000 gallons of new tank storage is allowed. Riparian water rights are prohibited.
- d. Rainwater and sheet flow. A rainwater catchment system or an existing reservoir that collects sheet flow, requires a water supply assessment prepared by a qualified professional. A maximum of 100,000 gallons of new tank storage is allowed.

Section 26-18-020(B)(1): Crop production must comply with applicable provisions of Article 65 (RC riparian corridor combining zone) and Chapter 36 (vineyard and orchard development ordinance); which may require a use permit.

THRESHOLDS OF SIGNIFICANCE

Based on State CEQA Guidelines Appendix G, an impact on hydrology or water quality is considered significant if implementation of the Cannabis Program Update would do any of the following:

- ▶ violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- ▶ substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- ▶ substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would
 - result in substantial erosion or siltation on- or off-site;
 - result in flooding on-site or off-site;
 - create or contribute runoff water that would exceed the capacity of existing or planned stormwater- drainage systems or provide substantial additional sources of polluted runoff;
 - impede or redirect flood flows.
- ▶ in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- ▶ conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

ISSUES NOT DISCUSSED FURTHER

Personal Cultivation

The proposed Cannabis Program Update does not include changes to personal cultivation standards that would be substantially different from existing requirements such that physical changes to the environment could occur that would create significant impacts related to hydrology and water quality. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

Release of Pollutants in Flood Hazard Zone or Alterations of Flood Conditions

Sonoma County Code Chapter 7B prohibits encroachments, including fill, new construction, substantial improvements, and other development within the adopted floodway unless it has been demonstrated through hydrologic and hydraulic analysis performed in accordance with standard engineering practice and certified by a registered professional engineer or architect licensed in the state of California that the proposed encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge. Thus, no significant impacts associated with flooding hazards or alteration of drainage conditions or associated water quality would occur. These issues are not discussed further in this Draft EIR.

Release of Pollutants in Tsunamis and Seiches

Environmental impact analyses under CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents, but when a proposed project risks exacerbating environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment and not the environment's impact on the project that compels an evaluation of how future residents or users could be affected by exacerbated conditions (*California Building Industry Association v. Bay Area Air Quality Management District* [2015] 62 Cal.4th 369). Implementation of the Cannabis Program Update in the County would not exacerbate any existing conditions related to the potential for tsunami or seiche. Additionally, cannabis uses are not allowed within the designated Coastal Zone and would not be developed along the shorelines of a lake or reservoir where tsunami or seiche conditions could occur. For these reasons there would be no potential for cannabis operations to be inundated by a tsunami or seiche, and result in subsequent inundation and release of pollutants. These issues are not discussed further in this Draft EIR.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: Violate Water Quality Standards and Regulation or Conflict with Water Quality Control Plans

Construction and operation of cannabis cultivation and supply chain uses under the proposed Cannabis Program Update have the potential to degrade water quality in various ways. Compliance with relevant water quality regulations and BMPs would reduce the risk of water degradation from soil erosion and other pollutants related to project construction and operational activities. These requirements would ensure that the Cannabis Program Update does not contribute to or exacerbate identified water quality contamination in the applicable water quality control board. For these reasons, construction and operation of development approved under the Cannabis Program Update would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality. Therefore, this impact would be **less than significant**.

Construction and operation of cannabis cultivation and supply chain uses have the potential to degrade water quality in various ways. Generally, cannabis cultivation-related discharges to water are associated with the following activities (SWRCB 2023):

- ▶ discharges of sediment from land disturbance activities (e.g., road construction, grading), improper construction or maintenance of road stream crossings and drainage culverts, or improper stabilization and maintenance of disturbed areas, unstable slopes, and construction material (e.g., spoil piles, excavated material);
- ▶ discharges from land disturbance and development within and adjacent to wetlands and riparian zones;
- ▶ discharges of fertilizers and pesticides;
- ▶ spills or leaks of fuels, lubricants, hydraulic oil, or other chemicals associated with water diversion pumps, construction equipment, or other equipment; and
- ▶ discharges of trash, household refuse, domestic wastewater, and cannabis wastewater.

Outdoor cannabis cultivation typically occurs on undeveloped parcels. In addition to the cannabis cultivation area, there is also typically a nursery and other support facilities (e.g., water supply and distribution, storage bays for soil amendments, generators for power supply, storage sheds, access roads), as well as accessory uses, such as retail, distribution, or non-volatile manufacturing. Site grading is often a necessary first step to construct these facilities, and the resultant disturbed area is vulnerable to increased erosion and sedimentation.

Within Sonoma County, waterways are listed on the 303(d) list for pathogens, sediment, and pesticides. While the most common sources of pathogens are wastes from warm-blooded animals, including humans, livestock, domestic pets, and wildlife, sediment delivery is associated with land uses and natural sources, and pesticide concentrations are related to past and ongoing agricultural operations.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program Update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses at existing sites must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

The proposed Cannabis Program Update (Section 26-18-115[C][4][d]) requires compliance with best management practices for cannabis cultivation issued by the County for erosion and sediment control and management of wastes, water, fertilizers, and pesticides. These BMPs, listed above in Section 3.10.1, "Regulatory Setting," contain specific actions that would limit erosion and require specific methods of fertilizer and pesticide application. These requirements would eliminate the potential for contamination of ground or surface water with sediment and pesticide or fertilizers. Furthermore, agricultural grading and construction or modification of drainage facilities or related working, involving construction or modification of drainage facilities or related work, including preparatory land clearing, vegetation removal, or other ground disturbance would be required to meet the permitting requirements and standards outlined in Articles 10, 12, and 20, of Chapter 36 of the County Code (as required by proposed Code Section 26-18-020[B][1]). These requirements provide standards for slopes and terracing and drainage developed by cuts as well as standards for fill, including slope specifications, surface preparation, compaction and terracing. Under these standards, drainage patterns and runoff must be designed and constructed to maintain natural and existing drainage patterns, and to establish setbacks from waterways and ridgetops.

Additionally, any new or modified structure in the County must meet the mandatory building and inspection requirements set forth in Chapter 7 of the Sonoma County Code. These regulations require a building permit when an applicant seeks to erect, construct, enlarge, alter, repair, move, improve, convert or demolish any building or structure in the unincorporated County. While agricultural buildings constructed on site with existing agricultural use do not need to obtain a building permit, the design and construction of these structures must comply with building code requirements and are subject to submittal of an application to the County. As part of the building permit requirements, projects must be consistent with grading and drainage requirements in Chapter 11 and stormwater requirements in Chapter 11A. These grading and drainage requirements provide standards for construction grading and drainage, which includes cut and fill

requirements, setbacks from waterways, and requirements for BMPs to limit soil and other pollutant discharge, and includes regulations to protect water quality, including prohibiting the discharge of non-stormwater into the County's stormwater system, compliance with NPDES permits for stormwater discharge, requiring measures to reduce and eliminate stormwater pollutants, thereby minimizing erosion and loss of topsoil.

Additionally, SWRCB Order WQ 2023-0102-DWQ contains requirements for cannabis cultivation. These requirements include plans that address site erosion and sediment control, disturbed areas stabilization, nitrogen management, implementation of BPTC measures, site closure procedures, and monitoring and reporting requirements. In addition, the order contains requirements for land development maintenance, erosion control, drainage features, stream-crossing installation and maintenance, soil disposal and spoils management, and roadway design and maintenance. Cannabis cultivation operations that cover less than 2,000 square feet are conditionally exempt and are required to obtain coverage under the waiver and are still subject to standards in SWRCB Order WQ 2023-0102-DWQ. These requirements include implementation of the BPTC measures provided in Attachment A of SWRCB Order WQ 2023-0102-DWQ, which address the following topics:

- ▶ riparian and wetland protection and management;
- ▶ water diversion, storage, and use;
- ▶ irrigation runoff;
- ▶ land development and maintenance, erosion control, and drainage features;
- ▶ soil disposal;
- ▶ stream crossing installation and maintenance;
- ▶ fertilizer and soil use and storage;
- ▶ pesticide and herbicide application and storage;
- ▶ petroleum products and other chemical use and storage;
- ▶ cultivation-related waste disposal (including cannabis wastewater);
- ▶ refuse and human waste disposal; and
- ▶ winterization.

These required BPTC measures contain specific procedures, associated with the topics listed above, to prevent direct discharge of waste to surface waters and stormwater mobilization of constituents of concern (e.g., nitrogen, pathogens, phosphorus, salinity, and turbidity) to waters of the state, which include groundwater and surface waterbodies.

Furthermore, development of new uses on sites greater than 1 acre in size would be subject to the SWRCB Construction General Permit and would be required to develop a SWPPP, including erosion and sediment control BMPs that would meet or exceed measures required by the Construction General Permit. Construction BMPs could include inlet protection, silt fencing, fiber rolls, stabilized construction entrances, stockpile management, solid waste management, and concrete waste management. Post-construction stormwater performance standards are also required to specifically address water quality and channel protection events. Implementation of the required SWPPP would reduce the potential for eroded soil and any contaminants attached to that soil to contaminate a waterbody following a storm event.

As discussed above in Section 3.10.1, there are two water quality control plans that overlap with Sonoma County. The North Coast RWQCB's WQCP and the San Francisco Bay RWQCB's WQCP. The WQCPs identify beneficial uses for surface water and groundwater and establish water quality objectives to attain those beneficial uses. The identified beneficial uses and the water quality objectives to maintain or achieve those uses are together known as water quality standards. As discussed in detail above, compliance with relevant water quality regulations, BMPs, and policies would reduce the risk of water degradation from soil erosion and other pollutants related to project construction and operational activities. These requirements would ensure that the project does not contribute or exacerbate identified water quality contamination in the applicable WQCP. As such, construction and operation of cannabis facilities approved under the Cannabis Program Update would not violate any water quality standards, waste discharge

requirements, or otherwise substantially degrade water quality. Consequently, the Cannabis Program Update would not result in violation of water quality standards and requirements or be inconsistent WQCPs.

Applications Meeting Crop Swap Requirements

Cultivation allowed through a crop swap application would be subject to requirements provided in SWRCB Order WQ 2023-0102-DWQ. As discussed in more detail above under, "Proposed Allowable Uses in Agricultural and Resources Districts," these requirements include plans that address site erosion and sediment control, disturbed areas stabilization, nitrogen management, implementation of BPTC measures, site closure procedures, and monitoring and reporting requirements. In addition, the order contains requirements for land development maintenance, erosion control, drainage features, stream-crossing installation and maintenance, soil disposal and spoils management, and roadway design and maintenance. Cannabis cultivation operations that cover less than 2,000 square feet are conditionally exempt and are required to obtain coverage under the waiver and are still subject to standards in SWRCB Order WQ 2023-0102-DWQ. Consequently, the sites allowed through crop swap applications would not result in violation of water quality standards and requirements or be inconsistent WQCPs.

Construction of Event Facilities and Event Operations

As discussed in more detail above under, "Proposed Allowable Uses in Agricultural and Resources Districts," compliance with local water quality regulations, BMPs, and policies would reduce the risk of water degradation from soil erosion and other pollutants related to project construction and operational activities. These requirements would ensure that the project does not contribute or exacerbate identified water quality contamination in the applicable WQCP.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. While new cannabis uses could be located within existing buildings, new structures may be developed within the county. Additionally, accessory uses to cultivation other than retail would be allowed, such as manufacturing. Generally, new structures developed within industrial and commercial districts would be located on previously disturbed land where grading has already occurred, thus limiting the potential effects associated water quality degradation. Regardless, any new development would be subject to County and State standards, described in more detail above with regard to proposed allowable uses in agricultural and resources districts. As discussed above, State and local water quality regulations, BMPs, and policies would reduce the risk of water degradation from soil erosion and other pollutants related to project construction and operational activities.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on compliance with water quality standards or WQCP requirements.

Conclusion

As discussed above, implementation of the proposed Cannabis Program Update may include development of structures to support new cannabis uses and on-going cultivation activities. As discussed above cannabis cultivation would be subject to SWRCB Order WQ 2023-0102-DWQ requirements, which address site erosion and sediment control, disturbed areas stabilization, nitrogen management, implementation of BPTC measures, site closure procedures, and monitoring and reporting requirements. Additionally, new structures developed within industrial and commercial districts would be located on previously disturbed land where grading has already occurred, thus limiting the potential effects associated water quality degradation. Regardless, any new development would be subject to County and State standards, described in more detail above with regard to proposed allowable uses in agricultural and resources districts. As discussed above, State and local water quality regulations, BMPs, and policies would

reduce the risk of water degradation from soil erosion and other pollutants related to project construction and operational activities. Therefore, construction and operation of cannabis facilities approved under the Cannabis Program Update would not violate any water quality standards, waste discharge requirements, or otherwise substantially degrade water quality. Consequently, the Cannabis Program Update would not result in violation of water quality standards and requirements or be inconsistent WQCPs. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The Cannabis Program Update would not result in violation of water quality standards and requirements or be inconsistent WQCPs. Due to the regulatory requirements placed on cannabis facilities, the Cannabis Program Update would not substantially adversely affect stormwater, consistent with General Plan Policy WR-1c; would place requirements on grading to avoid soil erosion and sedimentation in stormwater, consistent with General Plan Policy WR-1h; and would be protective of potential groundwater contamination, consistent with General Plan Policy The Cannabis Program Update would also be consistent with the water quality and soil erosion protection provisions of the Frantz Valley Area Plan and the West Petaluma Area Plan.

Impact 3.10-2: Decrease of Groundwater Supplies or Interfere Substantially with Groundwater Recharge Such That the Project May Impede Sustainable Groundwater Management of the Basin

Cannabis uses may rely upon groundwater resources to support water demand. In areas where groundwater is available and depending on the location of extraction and condition of local groundwater resources, it is possible for drawdown at a well in one location to affect groundwater elevations in other wells. It is also possible that groundwater extraction may cause or exacerbate declines in water levels regionally, degradation of groundwater quality, and reduce streamflow of interconnected surface waters. While SGMA involves long term planning and groundwater management intended to ensure groundwater basins are managed sustainably, not all areas of the County are subject to regulations under SGMA. Regardless of SGMA priority designation, it cannot be stated with certainty that operation of new cannabis facilities relying on groundwater would not decrease groundwater supplies such that resources are not affected or that implementation of a groundwater sustainability plan would not be impeded. Increased groundwater extraction may result in adverse environmental impacts, including reduced groundwater levels and/or altered streamflow through depletion of interconnected surface waters, as well as degraded groundwater quality. Therefore, this impact would be **potentially significant**.

The issue of groundwater is regional because subbasins are not bound by zoning district or other political boundary. Groundwater impacts affect the groundwater basin from which water is drawn. Therefore, the impacts associated with decreasing groundwater supplies or impeding sustainable groundwater management of a basin for allowable uses within Agricultural, Resources, Industrial, and Commercial Districts are considered wholistically below.

Within Sonoma County, programs intended to manage and protect groundwater resources include sustainable groundwater management, as defined by SGMA for groundwater basins classified by DWR as medium or high priority (see Figure 3.10-2), and groundwater availability areas classified by the County as water scarce with unreliable groundwater resources (See Figure 3.10-3). These programs were developed independently to address different issues and potential impacts on groundwater resources.

Under the proposed Cannabis Program Update, a total of 188 acres of outdoor cultivation, 7 acres of mixed-light cultivation, 13 acres of indoor cultivation, 40 nurseries, and 195 supply chain sites are anticipated to be in operation within the County in 2044 (the reader is referred to Chapter 2, "Project Description," and Section 3.0, "Approach to the Environmental Analysis," for a description of cannabis development assumptions). As shown below in Table 3.10-8, countywide water demand for all projected cannabis uses would be approximately 500 AF.

Table 3.10-8 Water Demand by Cannabis Facility Type

Cannabis Facility Type	Demand Ratio	Projected Future Cannabis Uses	Water Demand (AFY)
Outdoor	2 acre-feet per acre per year	188 acres	376
Mixed-light	4 acre-feet per acre per year	7 acres	28
Indoor	4 acre-feet per acre per year	13 acres	52
Nursery ¹	4 acre-feet per acre per year	4 acres	16
Processing	0.03 acre-feet per site per year	9 sites	0.3
Manufacturing	0.12 acre-feet per site per year	37 sites	4.4
Testing	0.07 acre-feet per site per year	9 sites	0.6
Distribution	0.14 acre-feet per site per year	84 sites	11.8
Retail	0.20 acre-feet per site per year	56 sites	11.2
Events ²	3 gallons per visitor at events	NA	NA
Total ³			500

¹ It is assumed that nursery water demands would be similar to indoor commercial cannabis cultivation water demands.

² It is not possible to identify how many sites would hold events or whether they would hold the maximum number of events allowed by the Cannabis Program Update. While a general assumption of 3 gallons per visitor can be made, based on the County's Policy and Procedure 8-2-1, it would be speculative to attempt to quantify annual countywide water demands related to events.

³ Total assumes all standalone operations and is considered conservative (i.e., potentially overstating) demand because some efficiencies would be built into combined uses.

Sources: Compiled by Ascent in 2024. Cultivation ratios based on Sonoma County in Policy and Procedure 8-2-1 Water Supply, Use, and Conservation Assessment Guidelines. Demand ratio provided by Table 3.10-9 of the Yolo County Cannabis Land Use Ordinance Draft EIR (Yolo County 2019). The demand ratio provided in this table are conservative compared to water demand factors that were derived from information provided by existing cannabis cultivation operations in other counties in California (Yolo, Humboldt, Trinity, and Santa Cruz Counties) and commercial and industrial water demand factors for supply chain uses.

All new wells in the County are subject to Chapter 25B of the County Code, which contains the requirements for well construction, reporting, and abandonment. These requirements contain setbacks and other limits on drilling locations, well completion reporting requirements, water conservation, groundwater monitoring, and procedures for well abandonment.

For crop swap applications relying on groundwater wells, under proposed Cannabis Program Update, Section 26.18.115(C)(4)(h)(8)(b), proof of no net increase in groundwater use for all agricultural uses of the parcel would be required through submittal of a study prepared by a qualified professional. Because proposed requirements would require no net increase in groundwater extraction, a crop swap project is not expected to cause adverse effects on groundwater resources or conflict with a groundwater sustainability plan within areas designated as medium- and high-priority groundwater basins by DWR, or within any other area of the County. Therefore, the operation of a cultivation site approved via a crop swap permit would not result in an impact associated with decreased groundwater supplies.

For supply-chain uses, water use rates are consistent with those of other industrial and commercial uses. Based on Sonoma County Policy and Procedures 8-2-1 Water Supply, Use and Conservation Assessment Guidelines, Appendix A, commercial and industrial water demand ranges from 0.6 AFY for printing/publishing up to 31 AFY to food processing. Thus, water assumptions for commercial and industrial uses tend to be consistent with the proposed allowable cannabis uses in industrial and commercial districts. Therefore, when cannabis supply-chain uses are proposed within existing developed structures in industrial and commercial districts that rely on groundwater rather than retail or recycled water, groundwater use is not anticipated to change substantially such that adverse environmental impacts would occur.

Cannabis cultivation that does not meet crop swap requirements would be required to obtain a use permit within zoning districts LIA, LEA, DA, RRD, as well as in MP, M1, M2, and M3, where retail or recycled water are not available;

and, would be subject to discretionary design review with hearing for all new construction in commercial and industrial zones. Use permits and design review approvals require consistency with the County General Plan, County Zoning Code, and other applicable planning documents. Thus, as required by Sonoma County General Plan Policy WR-2e, a hydrogeologic report would be required when a project reliant on groundwater is located in a Class 3 or Class 4 groundwater availability area and also within "priority groundwater basins" consistent with the Procedures for Groundwater Analysis and Hydrogeologic Reports, Policy and Procedure 8-1-14 (Sonoma County 2017). However, the General Plan does not define a "priority groundwater basin," and as shown in Figure 3.10-3 large areas within DWR-designated medium- and high-priority groundwater basins do not overlap with Class 3 and Class 4 groundwater availability areas and therefore would not be required to submit a hydrogeologic report.

As discussed in Section 3.10.2, "Environmental Setting," the groundwater production in the Sonoma Valley Groundwater Subbasin and the Santa Rosa Plain Subbasin are projected to exceed sustainable yield (Sonoma Valley Groundwater Sustainability Agency 2021; Santa Rosa Plain GSA 2021). Certain areas of Sonoma Valley have exhibited chronic lowering of groundwater levels, and the Sonoma Valley GSA has adopted and mapped "Groundwater Sustainability Priority Areas" to identify the region of the basin that should be prioritized for conservation and other management actions. In addition, while groundwater production associated with Petaluma Valley Groundwater Basin is projected to fall below its established sustainable yield, the Petaluma Valley Basin GSP indicates that the sustainable yield is uncertain and will be refined and updated (Petaluma Valley GSA 2021). As discussed above, there are no County requirements to address new groundwater use in DWR-designated medium- and high-priority groundwater basins. Depending on the quantity of water drawn from these aquifers, groundwater sustainability goals may be impeded.

The County also has identified portions of Mill, Mark West, Green Valley, and Dutch Bill Creek watersheds as critical habitat areas, shown in the groundwater availability map attached to Procedures for Groundwater Analysis and Hydrogeologic Reports, Policy and Procedure 8-1-14 (see Figure 3.10-3). These four watersheds were the subject of the 2015 State Water Resources Control Board's Emergency Information Order and are widely considered to be the most important watersheds for supporting coho restoration efforts in the lower Russian River (SWRCB Order WR 2015-0026-DWR [August 24, 2015] and Findings of Emergency for Emergency Actions due to Insufficient Flow for Specific Fisheries in Tributaries to the Russian River [June 19, 2015]). SWRCB found that surface water diversions and groundwater pumping had potential to reduce instream flows and degrade high value aquatic habitat within these areas. SWRCB recognized that the upper portion of each of the watersheds listed as the most critical for mid- to late-summer rearing of state and federally threatened and endangered salmon and steelhead species. Subsequent studies have found that existing groundwater pumping results in relatively small reductions in flows during most periods of the year; however, given the ecologic importance of these watersheds, even small reductions in flow may be ecologically meaningful (Kobor, O'Connor and Creed 2021, and 2020; and Kobor and O'Connor 2016). However, General Plan Policy WR-2d requires groundwater monitoring for new or expanded discretionary commercial and industrial uses using groundwater wells, which is implemented through Policy and Procedure 8-1-3. Policy and Procedure 8-1-3 ensures groundwater monitoring would be required for new development in commercial and industrial zones as well as for commercial agricultural support uses. However, monitoring to ensure compliance with the proposed water usage may not be required for cannabis cultivation and crop swap applications in agricultural and resource zones.

General Plan Policy WR-2e, which is implemented through Policy and Procedure 8-1-14 requires that 1) groundwater quality and quantity are adequate and will not be adversely impacted by the cumulative amount of development and uses allowed in the area; 2) the proposed use will not cause or exacerbate an overdraft condition in a groundwater basin or subbasin and 3) the proposal will not result in groundwater overdraft, land subsidence, or saltwater intrusion. Additionally, Policy and Procedure 8-1-14 requires that groundwater use must not result in critical reduction in flow in directly connected surface waters or adverse impacts to groundwater dependent ecosystems. This procedure applies to discretionary permits, permits that have a performance standard related to groundwater, and to ministerial projects such as building permits. To meet these requirement, a hydrogeologic report must be prepared and reviewed by Permit Sonoma staff prior to the public hearing on the project. Test wells may be a condition of project approval in Class 3 marginal groundwater availability areas if the hydrogeologic report recommends additional test wells. Test wells are required in Class 4 water scarce areas by Section 7-12 and 25-17 of the Sonoma County Code.

Additionally, per Policy and Procedure 8-1-3, Sonoma County requires quarterly metering and monitoring requirements for cannabis permits that use very low (0 to 0.5 AFY), low (0.5 to 2 AFY), and moderate (2 to 5 AFY) groundwater quantified. Monthly water meter readings and groundwater levels are required for projects that require high groundwater use (5 to 10 AFY).

As discussed above, projects must comply with County requirements that aim to limit adverse effects related to groundwater use through requirements of hydrogeologic reports and groundwater monitoring. However, these requirements are related to discretionary permits, permits that have a performance standard related to groundwater, and to ministerial projects such as building permits. Without a performance standard, new cannabis facilities that are on groundwater could deplete aquifers, and subsequently result in interference with sustainable management of a basin or impede implementation of a sustainable groundwater management plan. Increased groundwater extraction may result in adverse environmental impacts, including reduced groundwater levels, interference with nearby wells, reduced streamflow, altered habitat of interconnected surface waters, and degraded groundwater quality. Therefore, this impact would be **potentially significant**.

Mitigation Measures

The following mitigation measures would be implemented through a zoning permit for cannabis (ZPC), design review with hearing (DRH) or use permit for cannabis (UPC) process for individual projects.

Mitigation Measure 3.10-2a (DRH and UPC): Implement Additional Measures to Protect Groundwater Resources

Sonoma County shall require the following mitigation measures for cannabis project applications subject to a use permit or design review with hearing.

- ▶ For projects that demonstrate no increase in groundwater production at a site, no further mitigation is necessary.
- ▶ For water supply wells located within Class 3 or 4 groundwater availability areas, no cannabis permit shall be granted without meeting the following standards.
 - Proof of sufficient yield demonstrated through an 8-hour dry season well yield test with sustained yield of 5 gallons per minute per 1 AFY of irrigation demand, plus sufficient yield for other existing uses.
 - A hydrogeologic report that meets the requirements set forth under Policy and Procedure 8-1-14 shall be prepared that contains supporting data and analysis to demonstrate that the onsite groundwater supply is adequate to meet the proposed uses and cumulative projected land uses in the area on a sustained basis, and that the operation will not: (1) result in or exacerbate an overdraft condition in basin or aquifer; (2) result in reduction of critical flow in nearby streams; or (3) result in well interference at offsite wells.
- ▶ For water supply wells located within medium- and high-priority groundwater basins, a groundwater report must be prepared in compliance with requirements set forth under Policy and Procedure 8-1-14. The report must demonstrate the following standards for issuance of a cannabis permit:
 - consistency with applicable sustainable groundwater management programs, and
 - that the project does not decrease the likelihood of achieving sustainability in the underlying basin.
- ▶ For water supply wells located within upper portions of critical habitat watersheds identified in the 2015 SWRCB's Emergency Information Order, and within the "Groundwater Sustainability Priority Areas" adopted by the Sonoma Valley GSA, or as further updated, a cannabis permit may only be granted if the report demonstrates that the cannabis use meets net zero groundwater standards consistent with Policy and Procedure 8-2-2.
- ▶ A maximum level of groundwater use shall be established for each cannabis permit. If monitoring data collected in compliance with Policy and Procedure 8-1-3 indicates groundwater use in excess of the maximum allowed for a permit, the facility operators, in conjunction with the County, shall develop adaptive management measures to reduced groundwater to net zero levels. Adaptive management measures may include forbearance (e.g., prohibition of groundwater extraction from the months of May to October), water conservation measures, reductions in on-site cannabis cultivation, alteration of the groundwater pumping schedule, or other measures

determined appropriate. Adaptive management measures will remain in place until groundwater use levels have recovered based on quarterly monitoring data provided to the County as part of subsequent annual inspections.

Mitigation Measure 3.10-2b (ZPC): Implement Groundwater Monitoring

Sonoma County shall require the following mitigation measures for cannabis project applications subject to zoning permit.

- ▶ Groundwater Metering and Monitoring. An easement shall be recorded to provide Sonoma County personnel access to any on-site water well serving the proposed use and any required monitoring well to collect water meter readings and groundwater level measurements. Access shall be granted for this purpose Monday through Friday from 8:00 a.m. to 5:00 p.m. All easement language is subject to review and approval by Permit Sonoma and County Counsel prior to recordation. Groundwater level and total quantity of water pumped shall be recorded quarterly and reported annually. Groundwater metering, groundwater level monitoring, reporting, maintenance, and meter calibration shall be conducted consistent with Policy and Procedure 8-1-3.
- ▶ If monitoring data collected in compliance with Policy and Procedure 8-1-3 indicates groundwater use exceeds net zero production from the time that the cannabis permit was granted, the facility operators, in conjunction with the County, shall develop adaptive management measures to allow for recovery of groundwater levels. Adaptive management measures may include forbearance (e.g., prohibition of groundwater extraction from the months of May to October), water conservation measures, reductions in on-site cannabis cultivation, alteration of the groundwater pumping schedule, or other measures determined appropriate. Adaptive management measures will remain in place until groundwater levels have recovered based on annual monitoring data provided to the County as part of subsequent annual inspections.

Significance after Mitigation

Implementation of Mitigation Measure 3.10-2a would reduce potentially significant impacts to groundwater resources associated with new cannabis facilities because proof of adequate water supply would be incorporated into the County's Standards for cannabis projects. These requirements would apply to cannabis operations that rely on private wells associated with County-designated Class 3 or 4 groundwater availability areas through a dry season well yield standard. The dry season well yield requirement of was formulated by adapting requirements for residential development of 1 gallon per minute per connection. Per Appendix A of Policy and Procedure 8-2-1, estimated water use is 0.5 acre feet per residence per year, and water use during a 5 month period is estimated to be approximately 0.2 acre feet per residence per year. Thus, 1 gallon per minute well yield is required for approximately 0.2 acre feet of demand for a 5 month period for residential development. This minimum yield rate was scaled proportionally to 5 gallons per minute per 1 acre feet of irrigation demand for the mitigation under Mitigation Measure 3.10-2a. This minimum yield is expected to reasonably guarantee that the groundwater well has sufficient yield to support existing and proposed uses. For applications relying on water drawn from SGMA-designated medium- and high-priority groundwater basins, a report subject to County requirements under Policy and Procedure 8-1-14 would be required to establish that sustainable management of these aquifers would not be impeded. With regard to State designated critical habitat watersheds, this mitigation measures requires net zero groundwater use is demonstrated consistent with County Policy and Procedure 8-2-2. These standards ensure that a cannabis permit would not be granted to applicants if groundwater use would result in or exacerbate an overdraft condition in basin or aquifer, reduced critical flow in nearby streams, or well interference at offsite wells. Furthermore, metering and monitoring requirements would ensure that long-term maintenance of groundwater supplies remain sustainable because adaptive management requirements would be required if the expected maximum groundwater use is exceeded.

Mitigation Measure 3.10-2b would require metering and monitoring at sites subject to a zoning permit (i.e., crop swap). If cannabis facilities exceed net zero groundwater use associated with an individual crop swap site, requirements for adaptive management would implemented to ensure that groundwater production does not result in adverse environmental effects.

Therefore, with implementation of Mitigation Measures 3.10-2a and 3.10-2b, impacts would be reduced to a **less-than-significant** level.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

With implementation of Mitigation Measure 3.10-2a and 3.10-2b, the Cannabis Program Update would not result in decrease groundwater supplies or conflict with implementation of a sustainable groundwater plan. These requirements would require projects that rely on groundwater to demonstrate available supplies, which is consistent with General Plan Policy WR-2d, which addresses groundwater monitoring and General Plan Policy WR-2e, which provide guidance to address groundwater use in Class 3 and 4 water areas. In addition, due to requirements for zero-net groundwater use applicants would be encouraged to use water effectively and reduce water demand, consistent with General Plan Policies WR-4b and WR-4f. Similar to the consistency with General Plan policy provisions, the proposed Cannabis Program Update would be generally consistent with the groundwater provisions in the Penngrove, Petaluma Dairy Belt, and West Petaluma area plans.

Impact 3.10-3: Degrade Water Quality through Diversion of Surface Water

Cannabis cultivation sites could divert surface water from County streams and rivers to support water supply demands. Low flows are associated with increased temperature and may also aggravate the effects of water pollution. Compliance with SWRCB Order WQ 2023-0102-DWQ requires that certain flow and gauging requirements be met and that a surface water diversion forbearance period be implemented. This impact would be **less than significant**.

Operation of cannabis cultivation sites and associated accessory uses in the county could result in the diversion of surface water for irrigation needs that could impact and waterway flows and associated biological resources along waterways.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program Update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

As noted in Section 3.10.2, "Environmental Setting," there are 15 waterbodies in Sonoma County that are listed as impaired by SWRCB due to quality issues, such as low dissolved oxygen, indicator bacteria, metals, temperature, and sediment. To address these issues, in part, four TMDLs have been approved: Sonoma Creek Pathogens TMDL, Sonoma Creek Sediment TMDL, Petaluma River Bacteria TMDL, and San Francisco Bay Urban Creeks TMDL. Additional surface water diversions for cannabis operations can substantially reduce or eliminate surface water flows during dry summer months and may be further diminished through prolonged drought conditions related to climate change. A decrease in flow can contribute to degraded water quality conditions.

New cannabis cultivation sites, including accessory uses, would be subject to site-specific review of surface water use and potential impacts during the discretionary use permit process, with the exception of crop swaps. Cannabis cultivation uses are required to comply with SWRCB Order WQ 2023-0102-DWQ standards for water diversions described in Section 3.10.1, "Regulatory Setting." Water diversions and associated rates can occur only when determined by SWRCB, based on an online database that must be checked daily. In addition, there is a mandatory water diversion forbearance period during the dry months of the year when waterway flows are low. SWRCB's flow standards and diversion requirements were developed to protect fish spawning, migration, and rearing for endangered anadromous salmonids and flows needed to maintain natural flow variability within each watershed. The diversion requirements would ensure that the individual and cumulative effects of water diversions and discharges associated with cannabis cultivation do not affect instream flows necessary for spawning, migration, and rearing for

endangered anadromous salmonids, and flows needed to maintain natural flow variability (SWRCB 2017a). The policy was scientifically peer-reviewed by four experts. The peer review determined that water quality, instream flow, and diversion requirements of the policy were based on sound scientific knowledge, methods, and data (SWRCB 2017b). The effectiveness of compliance with numeric flow standards, associated curtailment of water diversions during flow periods, and the use of water storage is supported by research conducted by the UC Berkeley Cannabis Research Center of 91 watersheds in Humboldt and Mendocino Counties. This research identified that licensed cannabis cultivation sites generated substantially less impact on watershed flow conditions than unlicensed cannabis cultivation sites, as well as residential uses, and consist of 1 to 4 percent of available surface water flows depending on the extent of water storage used. (Dillis et al. 2024). With implementation of the requirements discussed above, the Cannabis Program Update would not result in degraded water quality due to surface water diversions.

Applications Meeting Crop Swap Requirements

While crop swap applications would locate cannabis cultivation within an area that is already in agricultural production, there may be a difference in water demand rates. However, Section 26-18-115(C)(4)(h)(8) requires cannabis cultivation, involving a crop swap, to divert surface water using an appropriative water right only (i.e., no surface water diversion via a riparian water right may be allowed). An appropriative water right would place a limit on the amount of water that may be diverted from a surface water supply, whereas a riparian water right would allow for use of a water body's natural flow. Prohibition of water supplies using a riparian right may decrease overall water diversion from a particular waterway; further, as described above, SWRCB Order WQ 2023-0102 substantially limits the potential for adverse effects from water diversion associated with cannabis cultivation regardless of whether or not the cultivation is associated with a crop swap or previously un-cultivated lands. With implementation of the requirements discussed above, the Cannabis Program Update would not result in degraded water quality due to surface water diversions.

Construction of Event Facilities and Event Operations

Water demand for construction is temporary in nature and uses little water. These uses are expected to rely either on groundwater or retail/municipal supplies and would not use irrigation water used for cannabis cultivation. No surface water diversion is reasonably foreseeable to support construction or operation of events.

Proposed Allowable Uses in Industrial and Commercial Districts

Surface water diversions would not be expected to provide water supply to uses within industrial and commercial districts. Surface water is not an allowed potable water source under Sonoma County Code. These uses are expected to rely either on well water or retail/municipal supplies.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on surface water diversions and would not use irrigation water used for cannabis cultivation.

Conclusion

The proposed Cannabis Program Update allows groundwater, retail water, or surface water as the primary water source. Projects using surface water are required to follow SWRCB's standards and diversion requirements or an established appropriative water right. With implementation of the requirements discussed above, the Cannabis Program Update would not result in degraded water quality due to surface water diversions. This impact water would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

There are no land use plans, policies, or regulations that are applicable to surface water diversions.

Impact 3.10-4: Substantially Alter the Existing Drainage Pattern of a Site or Area through Alteration of the Course of a Stream or River

Development and operation of cannabis facilities could affect the peak flow and volume of storm water runoff generated from such areas would be affected by development through conversion of vegetated or otherwise pervious surfaces to impervious surfaces (e.g., roads, roofs, driveways, walkways) and by the development of drainage systems that might more effectively connect these impervious surfaces to streams or other water bodies. However, implementation of State and local regulations, pertaining to site drainage and erosion, would ensure that drainage patterns are not substantially altered. This impact would be **less than significant**.

Construction of new or expansion of existing cannabis uses in the county could result in the alteration of drainage patterns that could adversely impact drainage and waterway flows. These alterations could result in erosion and sedimentation as well as destabilization of waterway banks through increase flow velocities that result scour events.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program Update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

The peak flow and volume of storm water runoff generated from areas where new cultivation would be established would be affected by development through conversion of vegetated or otherwise pervious surfaces to impervious surfaces (e.g. roads, roofs, driveways, walkways) and by the development of drainage systems that might more effectively connect these impervious surfaces to streams or other water bodies. The rate of runoff originally travelling as overland sheet flow could be reduced when routed into constructed conveyance systems directly from impervious surfaces.

However, agricultural grading and construction or modification of drainage facilities would involve preparatory land clearing, vegetation removal, or other ground disturbance, which would be required to meet the permitting requirements and standards outlined in Articles 10, 12, and 20, of Chapter 36 of the County Code (as required by proposed Code Section 26-18-020[B][1]). These requirements provide standards for slopes and terracing and drainage developed by cuts, as well as standards for fill, including slope specifications, surface preparation, compaction and terracing. Under these standards, drainage patterns and runoff must be designed and constructed to maintain natural and existing drainage patterns, and to establish setbacks from waterways and ridgetops. Additionally, as required by proposed Code section 26-18-115(C)(4)(d), cultivation activities would be subject to the County's BMPs for cannabis cultivation, which prohibit soil disturbance between November 1 and April 15, and erosion control materials (i.e., straw or other appropriate mulch) to be available on the site at all times to cover areas of disturbed soil.

Development of buildings, including indoor cultivation facilities and supply chain uses could also reduce the local permeability of natural surfaces. Compaction from structural development could reduce the local permeability of natural surfaces. Any new or modified structure in the County must meet the mandatory building and inspection requirements set forth in Chapter 7 of the Sonoma County Code. These regulations require a building permit when an applicant seeks to erect, construct, enlarge, alter, repair, move, improve, convert or demolish any building or structure in the unincorporated County. While certain agricultural buildings constructed on sites with existing agricultural use do not need to obtain a building permit, the design and construction of these structures must comply

with building code requirements and are subject to submittal of an application to the County. As part of the building permit requirements, projects must be consistent with grading and drainage requirements in Chapter 11 and stormwater requirements in Chapter 11A. These grading and drainage requirements provide standards for construction grading and drainage, which include cut and fill requirements, setbacks from waterways, and requirements for BMPs.

Furthermore, cannabis cultivation uses would be subject to SWRCB Order WQ 2023-0102-DWQ, which contains requirements for setbacks from waterways, and soil erosion and sedimentation controls (BMPs) for soil stability and the implementation of a Site Erosion and Sediment Control Plan and Disturbed Area Stabilization Plan for higher risk sites. Examples of BMPs for soil erosion control that may be used include the use of ground cover vegetation (grasses), detention/water quality control basins, drainage control features that are rock lined and that reduce stormwater flow velocities, and other similar features. New cannabis structures would also be subject to Appendix J, "Grading," of the CBC, which regulates grading activities, including drainage and erosion control. Additionally, CBC Section 1803A.6 requires geohazards report for all proposed construction to identify geologic conditions, and methods to reduce risk, to be prepared by a California-certified engineering geologist in consultation with a California-registered geotechnical engineer. Additionally, on-site development and any associated off-site improvements greater than one acre in size would be required to comply with the NPDES Construction General Permit, which requires the development of a SWPPP.

With implementation of applicable State and local regulations, development and operation of cannabis facilities would not cause impacts to surface drainage that could cause on-site or off-site flooding.

Applications Meeting Crop Swap Requirements

Crop swap operations would be required to be in compliance with county and State cultivation requirements, as discussed above for cannabis cultivation within agricultural and resources districts. As discussed above, cultivation allowed through a crop swap application would be subject to requirements set forth under County Code Chapter 36, Articles 10, 12, and 20 and the County's BMPs for cannabis cultivation. Additionally, cannabis cultivation must operate in compliance with SWRCB Order WQ 2023-0102-DWQ, which requires soil erosion and sedimentation controls (BMPs) for soil stability and the implementation of a Site Erosion and Sediment Control Plan and Disturbed Area Stabilization Plan for higher risk sites. With implementation of applicable State and local regulations, development and operation of cannabis facilities would not cause impacts to surface drainage that would impact waterways or could cause on-site or off-site flooding.

Construction of Event Facilities and Event Operations

As discussed in more detail above under, "Proposed Allowable Uses in Agricultural and Resources Districts," new development must comply with existing State and local requirements. As discussed above, any new or modified structure in the County must meet the mandatory building and inspection requirements set forth in Chapter 7 of the Sonoma County Code. As part of the building permit requirements, projects must be consistent with grading and drainage requirements in Chapter 11 and stormwater requirements in Chapter 11A. These grading and drainage requirements provide standards for construction grading and drainage, which includes cut and fill requirements, setbacks from waterways, and requirements for BMPs. With implementation of applicable State and local regulations, development and operation of cannabis facilities would not cause impacts to surface drainage that would impact waterways or could cause on-site or off-site flooding.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses. Impacts on drainage patterns would be the same as discussed above under, "Proposed Allowable Uses in Agricultural and Resources Districts." With implementation of applicable State and local regulations, development and operation of cannabis facilities would not cause impacts to surface drainage that would impact waterways or could cause on-site or off-site flooding.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on existing drainage patterns.

Conclusion

Development and operation of cannabis facilities would affect the peak flow and volume of storm water runoff generated from such areas would be affected by development through conversion of vegetated or otherwise pervious surfaces to impervious surfaces (e.g., roads, roofs, driveways, walkways) and by the development of drainage systems that might more effectively connect these impervious surfaces to streams or other water bodies. However, implementation of State and local regulations, pertaining to site drainage and erosion, would ensure that drainage patterns are not substantially altered. This impact water would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

As discussed above, implementation of State and local regulations, pertaining to site drainage and erosion, would ensure that drainage patterns are not substantially altered. This is consistent with General Plan Policy PS-2m, which aims to minimize any increase in flooding and related damage to people and property related to development, water diversion, vegetation management, grading, and fills. Similar to the consistency with General Plan policy provisions, the proposed Cannabis Program Update would be generally consistent with the water quality provisions in the Penngrove, Petaluma Dairy Belt, and West Petaluma area plans.

3.11 LAND USE AND PLANNING

This land use analysis evaluates consistency of the Cannabis Program Update with applicable land use plans and policies. The physical environmental effects associated with the project, many of which pertain to issues of land use compatibility (e.g., noise, aesthetics, air quality), are evaluated in other sections of Chapter 3 of this Draft EIR.

Comment letters submitted in response to the notice of preparation (NOP) for this EIR identified issues with neighborhood compatibilities, proposed zoning changes, and adherence to zoning district requirements. All comments received in response to the NOP are presented in Appendix A of this EIR.

3.11.1 Regulatory Setting

FEDERAL

No federal plans, policies, regulations, or laws related to land use are applicable to the Cannabis Program Update.

STATE

State Planning and Zoning Laws

California Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term, and general document that describes plans for the physical development of a city or county and of any land outside its boundaries that, in the city's or county's judgment, bears relation to its planning. Cities typically identify a "sphere of influence" in their general plans; these are areas outside the city corporate boundaries that comprise the probable future boundary and service area of the city. The general plan addresses a broad range of topics, including at a minimum land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the city's or county's vision for the area.

The State Zoning Law (Government Code Section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific zone district, are required to be consistent with the general plan.

Local general plan policies and zoning ordinances developed consistent with state planning and zoning laws are summarized below as they relate to the Cannabis Program Update.

LOCAL

Sonoma County 2020 General Plan

The Sonoma County 2020 General Plan was adopted on September 23, 2008, and most recently amended in 2016. The 2020 General Plan consists of 10 elements that address land use, housing, agricultural resources, open space and resource conservation, water resources, public safety, circulation and transit, air transportation, public facilities and services, and noise. All properties outside of the jurisdictional boundaries of the County's nine incorporated cities constitute the geography to which the Sonoma County 2020 General Plan would apply to. The following policies related to land use and planning are applicable to the project (Sonoma County 2016).

- ▶ **Policy LU-1g:** If necessary, use zoning to regulate the timing of development to assure a desirable balance between jobs and population. Zoning may authorize a lower development potential than that allowed by the Land Use Maps.
- ▶ **Policy LU-5b:** Avoid commercial and industrial land uses in Community Separators. Allow the full range of uses allowed in the agricultural and resource categories.

- ▶ **Policy LU-9c:** Use rezonings, easements and other methods to ensure that development on agricultural lands does not exceed the permitted density except where allowed by the policies of the Agricultural Resources Element.

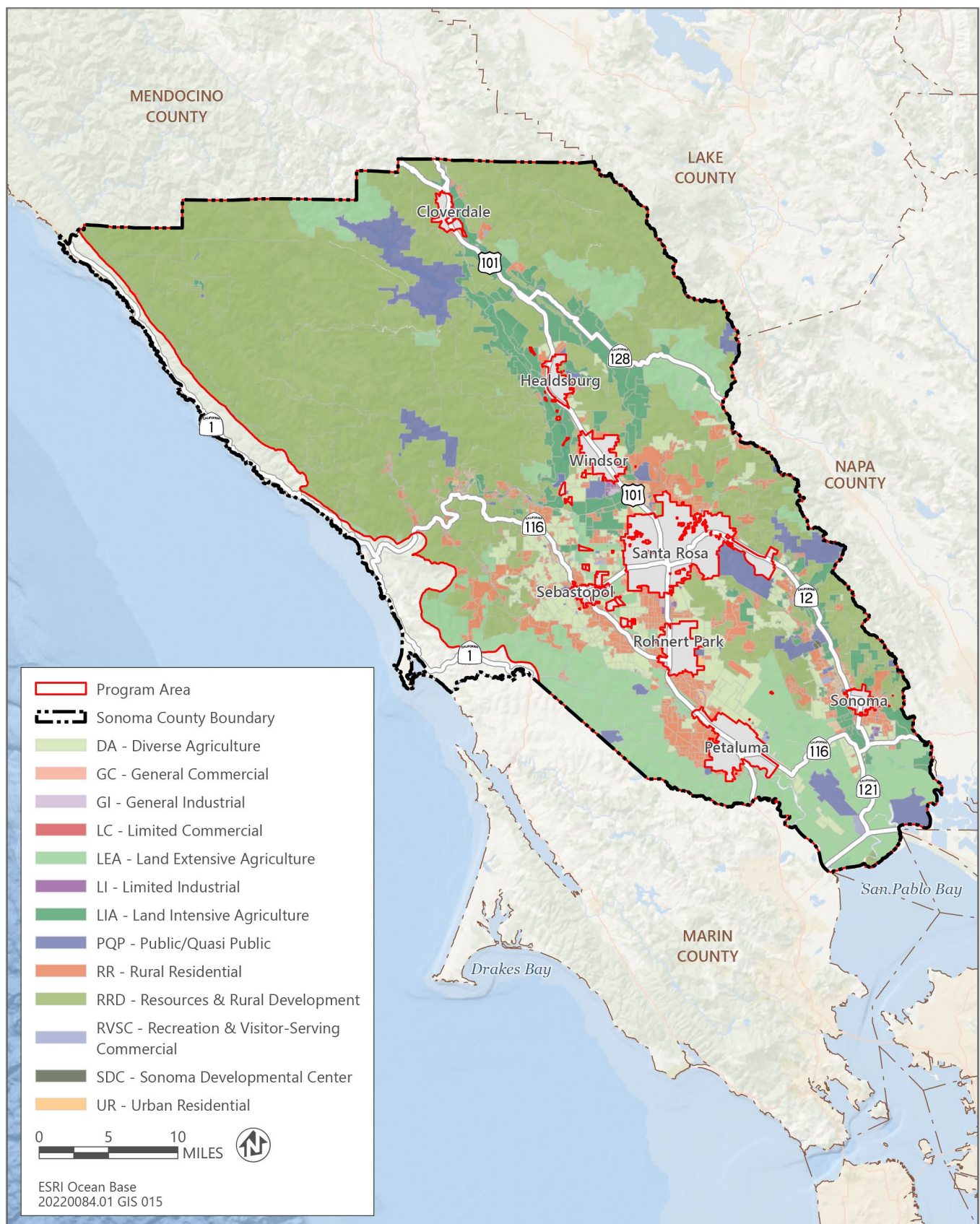
According to the Sonoma County 2020 General Plan, there are 12 land use categories designated throughout the unincorporated County (Figure 3.11-1).

Sonoma Coast/Gualala Basin

- ▶ **Policy LU-12g:** Design discretionary projects in any commercial or industrial categories in harmony with the natural and scenic qualities of the local area. Give natural landscapes precedence over man made features.
- ▶ **Policy LU-12k:** Avoid location of recreation and visitor serving and resource related commercial or industrial uses in close proximity to one another.
- ▶ **Policy LU-12o:** As allowed by Policy AR-9b, establish a design review process for barns and similar agricultural support structures within the 200' State designated Highway 116 corridor.

Cloverdale/Northeast County

- ▶ **Policy LU-13a:** Use the following criteria for approving discretionary projects in the "Limited Commercial" and "General Commercial" categories within Geyserville's Urban Service Area:
 - (1) The use is in keeping with the scale and character of the community,
 - (2) The proposed use specifically serves local area needs or the needs of visitors and tourism, and
 - (3) The design of any structure is compatible with the historic architecture of the community.
- ▶ **Policy LU-13b:** Use the following criteria for approving discretionary projects in the "Limited Industrial" category within the Geyserville Urban Service Area:
 - (1) The use is in keeping with the rural character of the community,
 - (2) The use does not involve heavy manufacturing or heavy industrial uses and does not use or produce flammable, explosive, or noxious materials, and
 - (3) The site is adequately screened from the roadway and adjacent residential or commercial uses.
- ▶ **Policy LU-13c:** Additional development in the "Limited Commercial" category for the Alexander Valley Store, Dry Creek Store, and Jimtown Store shall not include lodgings or restaurants and shall not adversely affect adjacent agricultural or resource uses.
- ▶ **Policy LU-13i:** Use zoning to limit industrial development within the urban boundary area of Cloverdale, except for expansion of existing uses, until annexation occurs or an assessment district is formed. Use the following criteria for discretionary projects for expansion of existing uses:
 - (1) Adequate water supply is available for fire suppression, and
 - (2) Frontage improvements meet city standards.



Source: Data downloaded from Sonoma County in 2024; adapted by Ascent in 2024.

Figure 3.11-1 Sonoma County Land Use Designations Healdsburg and Environs

- ▶ **Policy LU-14c:** In addition to the designation criteria for the "Recreation and Visitor Serving Commercial" category, use the following additional criteria for consideration of amendments to add this designation:
 - (1) The amendment is consistent with the Agricultural Resources Element,
 - (2) The use involves the restoration of a designated county landmark and does not require new structures or major building additions, or the use is an improved campground or guest ranch located near a major recreation area,
 - (3) Uses other than historic restorations are incidental to and compatible with the primary resource use of the parcel,
 - (4) The use does not adversely impact adjacent agricultural or other resource uses,
 - (5) Project traffic will not adversely impact the level of service or interfere with the movement of farm equipment, and
 - (6) Adequate law enforcement, fire protection services, and water supply for fire suppression and domestic use are available.
- ▶ **Policy LU-14e:** Use zoning to limit residential and commercial development within the urban boundary of Healdsburg prior to annexation or formation of an assessment district.

Russian River Area

- ▶ **Policy LU-15e:** Use the "Limited Commercial" category outside Urban Service Boundaries only for uses that were existing as of 1986.
- ▶ **Policy LU-15f:** Outside Urban Service Boundaries, consider new recreation and visitor serving commercial uses in the Resources and Rural Development category subject to the following criteria:
 - (1) The use is located close to a major recreational area such as the Russian River,
 - (2) The use is compatible with the primary resource use of the parcel,
 - (3) Where practical the use will retain existing redwood trees and will not result in substantial damage to the redwood ecosystem,
 - (4) The use would not adversely affect adjacent agricultural lands,
 - (5) The use would not adversely affect the level of service on roadways,
 - (6) Adequate water supply is available for fire suppression and domestic use,
 - (7) Adequate police and fire protection are available, and
 - (8) The use will not have an adverse visual impact on a scenic corridor or scenic landscape unit.
- ▶ **Policy LU-15k:** As allowed by Policy AR-9b, establish a design review process for barns and similar agricultural support structures within the 200' State designated Highway 116 Corridor.

Santa Rosa and Environs

- ▶ **Policy LU-16e:** Recognize existing commercial, industrial, and public/quasi-public uses outside Urban Service Boundaries. Limit expansion of these uses to that which does not necessitate extension of water and sewer.
- ▶ **Policy LU-16f:** Avoid amendments to include additional commercial or industrial use outside Urban Service Areas.

Sebastopol and Environs

- ▶ **Policy LU-17c:** Avoid the "General Commercial" and "General Industrial" land use categories outside the Sebastopol and Graton Urban Service Areas.
- ▶ **Policy LU-17f:** Avoid discretionary projects on "Limited Commercial" or "Limited Industrial" lands unless the use:
 - (1) Serves the commercial, service, employment or agricultural processing needs of the planning area,

- (2) Is compatible with adjacent residential or agricultural uses,
 - (3) Would not adversely affect the level of service on public roadways or interfere with the movement of farm vehicles,
 - (4) Provides mitigation for visual impacts within a designated Scenic Corridor through appropriate setbacks, landscaping, and/or screening, and
 - (5) Is in keeping with the scale and character of the community.
- **Policy LU-17i:** As allowed by Policy AR-9b, establish a design review process for barns and similar agricultural support structures within the 200' State-designated Highway 116 Corridor.

Rohnert Park - Cotati and Environs

- **Policy LU-18a:** Apply the commercial and industrial categories only in the Penngrove Urban Service Area and to sites designated for such use by Specific or Area Plans in effect as of 1986.
- **Policy LU-18b:** Use the following criteria for approving discretionary projects in the "Limited Commercial" or "Limited Industrial" category.
- (1) The use specifically serves the service, employment or agricultural processing needs of planning area residents,
 - (2) The use is compatible with adjacent residential or agricultural uses,
 - (3) The use does not adversely affect the level of service on public roadways and would not interfere with the movement of farm vehicles, and
 - (4) If the use would be located within a designated Scenic Corridor, visual impacts can be mitigated by appropriate setbacks, landscaping, or screening.
- **Policy LU-18d:** Place conditions on discretionary projects to minimize potential adverse impacts on soil and biotic resources, wildlife, designated scenic resources, Crane Creek Park and the Fairfield Osborn Preserve.

Petaluma and Environs

- **Policy LU-19c:** Apply the "General Commercial" and "General Industrial" categories only to appropriate uses existing as of 1986 inside the Urban Service Boundary. Apply the "Limited Commercial" and "Limited Industrial" categories only to appropriate uses existing as of 1986. However, consider additional river dependent commercial and industrial uses along the Petaluma River, where necessary to maintain the river as a navigable waterway connecting the Bay to downtown Petaluma.
- **Policy LU-19d:** Use the following criteria for approval of discretionary projects in the "Limited Commercial" and "Limited Industrial" category:
- (1) The use specifically serves the service, employment, or agricultural processing needs of local area residents or the local agricultural community,
 - (2) The use is compatible with adjacent residential or agricultural uses,
 - (3) The use won't adversely affect the level of service on public roadways and will not interfere with the movement of farm vehicles, and
 - (4) If the use is located within a designated scenic corridor, mitigate visual impacts by appropriate setbacks, landscaping, and/or screening.

Sonoma Valley

- **Policy LU-20a:** Avoid urban residential and commercial development within Sonoma's Urban Growth Boundary until annexed by the City.

- ▶ **Policy LU-20d:** Recognize certain existing commercial development on the Land Use Map with the "Limited Commercial" land use designation to encourage and facilitate the maintenance, upgrading, and redevelopment of commercial structures within the Sonoma Valley Redevelopment Area.
- ▶ **Policy LU-20i:** Use the "Limited Commercial" and "Limited Commercial - Traffic Sensitive" categories for commercial lands in communities with urban services, including Boyes Hot Springs/El Verano/Agua Caliente, Glen Ellen and Kenwood. Require that new uses meet the following criteria:
 - (1) The size, scale, and intensity of the use is consistent and compatible with the character of the local community, Land Use Element Footnote: *Mitigating Policy Page LU-108
 - (2) Capacities of public services are adequate to accommodate the use and maintain an acceptable level of service,
 - (3) Design and siting are compatible with the scenic qualities and local area development guidelines of the local area, and
 - (4) Siting of structures is compatible with planned infrastructure improvements such as roadway widening and undergrounding of public utilities.

Sonoma County Airport Industrial Area Specific Plan

The Sonoma County Airport Industrial Area Specific Plan was initially adopted by the County in 1984 and constitutes the master program for development of the 770-acre specific plan area located between the Sonoma County Airport and US 101. The plan designates specific land uses that include heavy industrial, industrial park, commercial, residential, and agriculture/open space. The Sonoma County Airport Industrial Area Specific Plan contains the following policies related to land use that may be relevant to the Cannabis Program Update (Sonoma County PRMD 2013):

V. Land Use and Open Space Element

B. Industrial Park Areas

All permitted uses listed in the Sonoma County Zoning Ordinance for the MP-Industrial Park District are allowable. These include non-nuisance manufacturing, processing, assembling, fabricating, refining, repairing, packaging, testing, warehousing, disturbing, research, administrative and professional activities, fitness and gymnastic centers, and childcare facilities.

C. Heavy Industrial Areas

All permitted uses listed in the Sonoma County Zoning Ordinance for the MP-Industrial Park District are allowable. These include non-nuisance manufacturing, processing, assembling, fabricating, refining, repairing, packaging, testing, warehousing, disturbing, research, administrative and professional activities, fitness and gymnastic centers, and childcare facilities.

All permitted uses listed in the County Zoning Ordinance for the M2 – Heavy Industrial District are allowable with the exception of the following:

1. Outdoor advertising structures or other signage which are not appurtenant signs subject to the Sign Regulations of the County Zoning Ordinance;
2. Public airports and private landing strips;
3. Professional, administrative, and general offices except as ancillary uses to a permitted user; and
4. Concrete production at 1240 Century Court, APN 059-240-050.

D. Commercial Areas

All permitted uses listed in the Sonoma County Zoning Ordinance for the C2 – Retail Business and Service District are permitted in planning area commercial areas with a use permit only, with the exception of those uses as Uses Not

Permitted. Use Permits may be issued by the Board of Zoning Adjustments as set forth in the Administrative and Public Noticing Procedures section of the Sonoma County Zoning Ordinance.

F. Open Space and Agricultural Areas

1. Purpose and Objectives. Open space and conservation areas and policies are established in this plan for the following purposes.
 - a. To preserve existing agricultural values;
 - b. To retain those planning area open space components with particularly high scenic and community separator values;
 - c. To protect planning area native streams from water quality degradation and from alterations or obstructions which might create flood hazards;
 - d. To protect planning area riparian values; and
 - e. To mitigate potential development impacts on rare and endangered plant species.
2. Open Space Area Designations
 - a. Agriculture and Open Space Areas. Agricultural and Open Space designations on Figure 5 [of the Sonoma County Airport Industrial Area Specific Area Plan] are intended to accommodate and preserve agricultural uses, to provide a distinct open space separation between planning area industrial activity and other developed areas, to maintain rural scenic values along U.S. 101, and to provide general visual relief from urbanization without encroachment by incompatible uses.

Bennett Valley Area Plan

The Bennett Valley Area Plan was initially adopted by the County in 1979 and has been amended multiple times through 2011. It is guided by the policy provisions of the Sonoma County General Plan, and is intended to achieve the desired balance of residential and agricultural use within the plan area that is located south of the City of Santa Rosa and northeast of the City of Rohnert Park. The plan area consists of approximately 15,500 acres. The Bennett Valley Area Plan contains the following policies related to land use that may be relevant to the Cannabis Program Update (Sonoma County PRMD 2011):

Policies

I. Land Use

Low density is important to maintain the rural character of Bennett Valley.

- (1) Residential densities shall reflect the extent of constraints, suitabilities, and sensitivities of the area.
- (2) Commercial development is not considered appropriate to the rural character of Bennett Valley.
- (3) Development shall be coordinated with the public's ability to provide schools, fire, police and other needed services.
- (4) To minimize environmental disruption, the County Subdivision Ordinance shall be the minimum standards applied for grading, road construction, drainage, driveway construction, siting, landscaping and energy. Where development standards included in Bennett Valley Plan exceed County Subdivision Standards, the Bennett Valley Standards shall apply.
- (5) New development throughout Bennett Valley shall be reviewed for site design and consistency with Bennett Valley development guidelines.
- (6) Cluster development should be encouraged.

Mitigation Measures

F. To Maintain Valuable Open Space

- (1) Prohibit structures in riparian corridors and unique biotic features as mapped in the Critical Open Space Plan.
- (2) Site and design structures in harmony with natural surroundings.

G. To Preserve and Protect Agriculture

- (1) Encourage utilization of Land Conservation Act of 1965 as amended.
- (2) Retain appropriately low densities.

Bennett Valley Development Guidelines

Review of any proposed development should consider each of the standards described below. Each standard should be applied to the maximum extent feasible, recognizing that in some cases these standards when applied to a particular project may be contradictory. General Plan policies shall apply where the development guidelines conflict with the General Plan. The Design Review Committee should consider the total impact of the project in determining the extent to which each standard should be applied.

- (1) It is the policy of this study to preserve the natural state of the land and vegetation.
- (2) Structures shall blend with the existing landscape and vegetation to the maximum feasible extent. Therefore, minimum setbacks shall be consistent with the Sonoma County Subdivision Ordinance, the General Plan, or where applicable, with the adopted Bennett Valley Area Plan, whichever is more restrictive. No new structure shall be sited within visual/scenic corridors, riparian corridors or unique biotic resource areas as designated on the Critical Open Space Plan Map of the Bennett Valley Area Plan, where applicable, except in the visual/scenic corridor where the entire parcel is included within such designation or except in the visual/scenic corridor where said structure is a fence or agricultural appurtenance. Where the entire parcel is included in a visual/scenic corridor area, or where said structure is an agricultural appurtenance greater than 200 sq. ft., the Bennett Valley/North Sonoma Mountain Design Review Committee shall condition the approval of such structure(s) to mitigate adverse effects to the open space resource. In considering mitigation measures on agricultural appurtenances, the Design Review Committee will give priority to the needs of productive agriculture. A fence or agricultural appurtenance of less than 200 square feet is permitted without design review.
- (3) Site plans shall be presented to the Bennett Valley/North Sonoma Mountain Design Review Committee including:
 - a. An existing topographic map
 - b. An existing vegetation plan
 - c. Photographs of the site from four (4) directions
 - d. A proposed grading plan (if any)
 - e. A proposed landscape plan
 - f. A plan showing siting, bulk, design, color and materials of structures.
- (4) Approval of plans for new structures shall consider the relationships of the site.
- (5) All new structures shall be sited so that they harmonize with the natural surroundings, including but not limited to topography and vegetation; specifically
 - a. Roof lines shall follow established lines of land and/or tree forms;
 - b. Existing vegetation and landforms shall be utilized to screen structures from public view.
- (7) Structures shall utilize color, texture and materials that blend harmoniously with surrounding landscape. The following are recommended for harmonious development:
 - a. Materials: natural wood siding or shingles and natural stone for exteriors;

- b. Colors: earth tone;
 - c. Roofing: fire resistant but dark toned if visible;
 - d. Roofline: considered in relationship to the total composition of structure with landscape.
- (8) Utilities shall be placed underground from source point, unless masked by existing vegetation.
- (9) Project outdoor lighting shall comply with the outdoor lighting policies of the General Plan Open Space and Resource Conservation Element.
- (10) Existing structures shall be encouraged to comply with the standards for new structures as they undergo remodeling and maintenance.
- (11) Existing neighborhoods shall be encouraged to undertake tree planting and landscaping programs to screen existing development from public view and to increase the privacy, comfort and habitability of the neighborhood (Chart 1 [of the Bannett Valley Area Plan]).

Franz Valley Area Plan

The Franz Valley Area Plan was initially adopted by the County in 1979 and has been amended multiple times through 2012. It is guided by the policy provisions of the Sonoma County General Plan. The plan area consists of approximately 91,500 acres and is along the eastern county boundary with Napa and Lake counties. The Franz Valley Area Plan contains the following policies related to land use that may be relevant to the Cannabis Program Update (Sonoma County PRMD 2012a):

- ▶ Plan with respect to planning area growth projections.
- ▶ Preserve the rural character of the area.
- ▶ Guide residential development so that urban-level public services are not required at a future time.
- ▶ Cluster development where the environmental suitability allows.
- ▶ Promote commercial services in existing communities outside of the Franz Valley Area.

Open Space Plan

The Franz Valley Open Space Plan complements the Land Use Plan, providing implementation procedures to ensure that environmental, recreation, and resource values are maintained. The Open Space Plan proposes the preservation of open space having the following characteristics:

- (3) Managed production of resources such as forests, geothermal areas, rangelands, agricultural lands, areas required for the recharge of groundwater, and areas containing mineral deposits.

Penngrove Area Plan

The Penngrove Area Plan was initially adopted by the County in 1984 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan. The plan area is located between the City of Petaluma and the City of Rohnert Park. The Penngrove Area Plan contains the following policies related to land use that may be relevant to the Cannabis Program Update (Sonoma County PRMD 2008a):

- (4) Preserve agricultural lands and encourage agriculture.
- (5) Utilize environmental suitability criteria to locate rural growth and guide urban growth.
- (6) Accommodate growth in a rationally phased manner in accordance with the ability of public agencies in the county to provide public services.
- (7) Formulate an ongoing program for open space around and within cities in order to provide visual relief from urban densities.

Open Space Plan

- (2) The land use designations and residential densities in the Land Use Plan define appropriate areas for agricultural land uses and opportunities to pursue agricultural activities. Minimum lot size requirements, clustering of residential development, building setback lines and building envelopes to separate conflicting residential development from agriculture shall be utilized, to the extent possible, to ensure the long-term protection and preservation of agricultural lands.

Scenic Corridors

- (1) Along scenic corridors a building setback of 30 percent of the depth of the lot or a maximum of 200 feet from the centerline of the road is required to preserve the rural, open character of the corridor. If development is proposed within the setback, a design review field inspection will be required to authorize exception based on screening by existing vegetation and topography. Where such setback is less restrictive than required for General Plan designated scenic corridors, compliance with the General Plan standards is required.

Community Form Land/Community Separator/Scenic Landscape Unit

- (1) These areas are presently farm lands and preservation of agriculture is a high priority of the plan. Low density zoning will aid in the retention of the character of the area.

Petaluma Dairy Belt Area Plan

The Petaluma Dairy Belt Area Plan was initially adopted by the County in 1985 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan, and its primary priority shall be to preserve and enhance the agricultural resources and protect the agricultural industry. The plan area is located west of the City of Petaluma along the county's western boundary. The Petaluma Dairy Belt Area Plan contains the following policies related to land use that may be relevant to the Cannabis Program Update (Sonoma County PRMD 2008b):

Community Form

- (1) Preserve the identities of present communities.
- (2) Promote compactness of all community boundaries in order to reduce the cost of providing urban level services within these areas.

Agriculture

- (1) Recognize the diversity of agricultural uses.
- (6) Encourage parcel sizes sufficient to provide productive, economic agricultural use.
- (7) Promote agricultural practices consistent with long-term conservation of the county's agricultural capability.

Sonoma Mountain Area Plan

The Sonoma Mountain Area Plan was initially adopted by the County in 1978 and has been amended through 2012. It is guided by the policy provisions of the Sonoma County General Plan. The plan area is located west of US Highway 101 in the southern portion of the county. The Sonoma Mountain Area Plan contains the following policies related to land use that may be relevant to the Cannabis Program Update (Sonoma County PRMD 2012b):

Land Use Policies

- (1) Encourage a pattern of growth which maintains the existing range of types of communities: the unincorporated villages and towns and cities.
- (2) Preserve the identities of present communities.
- (3) Develop an ongoing open space program around and within cities to provide visual relief from urban densities.
- (4) Promote compactness of all community boundaries to reduce the cost of providing urban level services within these areas.

Open Space Plan Resource Areas

- (1) Encourage the utilization of agricultural preserve zoning as a means of protecting agriculture.
- (4) Maintain and monitor major agricultural production areas, marginal production areas, and areas where production may be compatible with residential and other land uses.
- (8) Encourage parcel sizes sufficient to provide for productive economic agricultural use.
- (9) Promote agricultural practices consistent with long-term conservation of the County's agricultural capability.

South Santa Rosa Area Plan

The South Santa Rosa Area Plan was initially adopted by the County in 1982 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan and consists of approximately 18,000 acres. The plan area is bisected by US Highway 101 and is located east of State Route 116 and south of State Route 12. The South Santa Rosa Area Plan contains the following policies related to land use that may be relevant to the Cannabis Program Update (Sonoma County PRMD 2008c):

Community Form

- (1) Preserve the identities of the present communities of Santa Rosa, Rohnert Park and Sebastopol.
- (2) Promote compactness of the Santa Rosa City urban boundary in order to provide urban level public services efficiently.

Agriculture

- (1) Support programs ensuring long term retention of agriculture, including agriculture, including agricultural preserve contracts.
- (2) Tailor appropriate land use categories and zoning to accommodate existing potential agricultural uses.

West Petaluma Area Plan

The West Petaluma Area Plan was initially adopted by the County in 1981 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan and consists of approximately 11,000 acres. The plan area is located west of US Highway 101 and the City of Petaluma. The West Petaluma Area Plan contains the following policies related to land use that may be relevant to the Cannabis Program Update (Sonoma County PRMD 2008d):

- (1) Preserve agricultural lands and encourage agriculture.
- (2) Utilize environmental-suitability criteria to locate rural growth and guide urban growth.
- (3) Encourage a pattern of growth which maintains the existing range of types of communities; the unincorporated villages and towns and cities.
- (4) Preserve the identities of present communities.
- (5) Formulate an ongoing program for open space around and within cities to provide visual relief from urban densities.
- (6) Promote compactness of all community boundaries in order to reduce the cost of providing urban level services within these areas.

Sonoma County Code

Zoning Regulation

Chapter 26, "Zoning Regulations," of the Sonoma County Code is intended to promote and protect the public health, safety, peace, comfort, convenience, and general welfare. It is also adopted for the following purposes:

- a) To provide for the orderly and beneficial land use of the county;

- b) To protect the character and social and economic stability of agricultural, residential, commercial, industrial and other communities within the county;
- c) To protect the public safety and welfare by regulating the location and uses of all structures and land;
- d) To protect and conserve the scenic, recreational and natural resource characteristics of the county; to provide for the orderly and timely processing of development projects as anticipated by the California Permit Streamlining Act. Development projects do not include rezonings, plan amendments or other applications accompanied by a request for a rezoning or plan amendment.

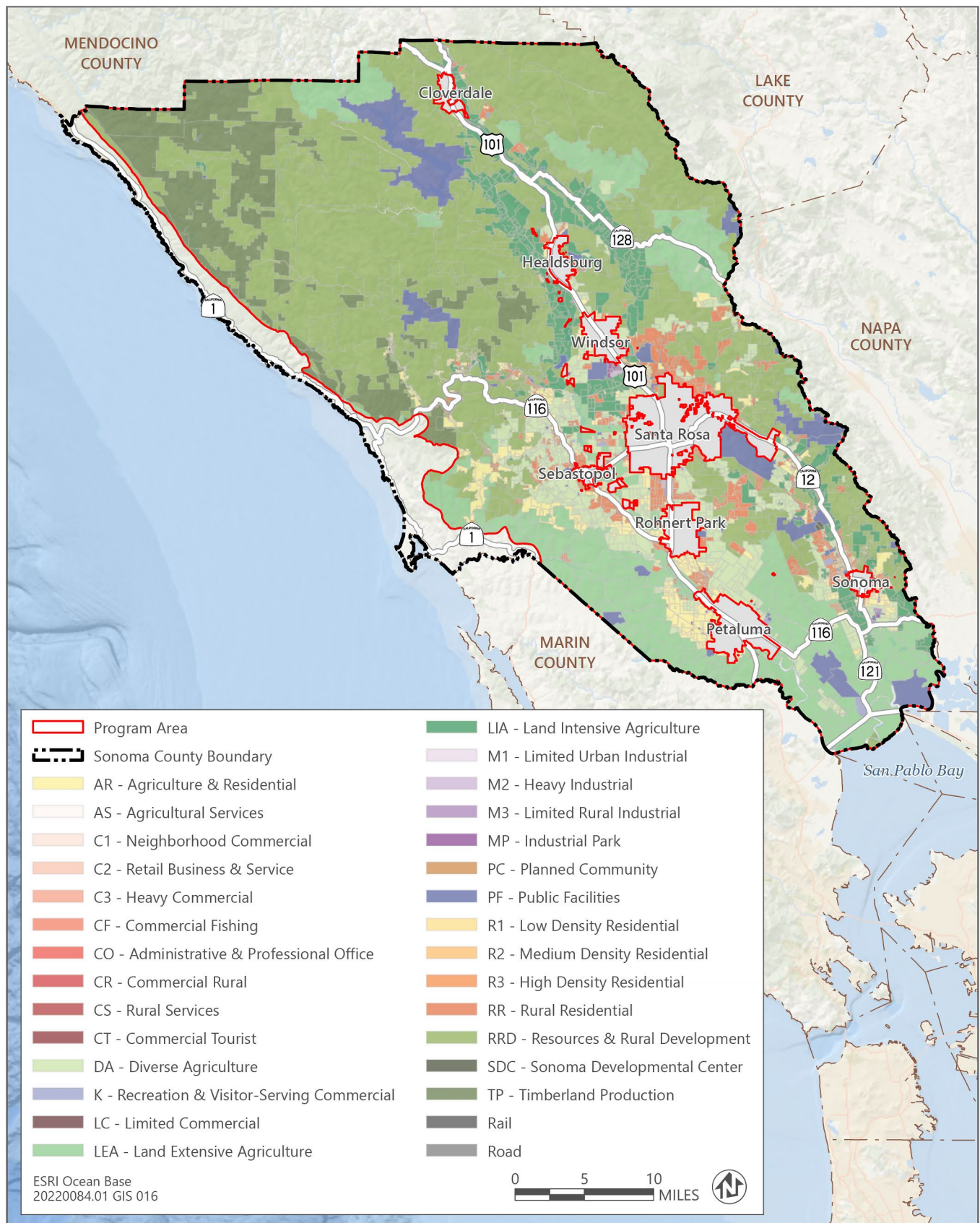
The Chapter 26, "Sonoma County Zoning Regulations," establishes 25 base districts within the unincorporated territory of the County and designates permitted uses, uses which may be approved with a ministerial zoning permit and uses that may be approved through the use permit process (Figure 3.11-2) (Sonoma County 2024). The reader is referred to Chapter 2, "Project Description," for a description of existing County regulations regarding cannabis.

3.11.2 Environmental Setting

Sonoma County, the most northernly of the nine counties in the San Francisco Bay Region, is located along the Pacific coastline about 40 miles north of San Francisco and the Golden Gate Bridge. Sonoma County is bounded by the Pacific Ocean to the west, Marin County and San Pablo Bay to the south, Solano, Napa, and Lake Counties to the east, and Mendocino County to the north. Incorporated cities within the County are Cloverdale, Healdsburg, Windsor, Santa Rosa, Sebastopol, Rohnert Park, Petaluma, and Sonoma. The County is approximately 1,500 square miles, making it the largest of the nine Bay Area counties.

Sonoma County contains diverse landforms, environments, and human settlements. The broad, flat Santa Rosa Plain, which lies between the Sonoma Mountains on the east and low coastal hills on the west, contains the cities of Santa Rosa, Rohnert Park, and Cotati. The rural western margin of the County, along the Pacific coastline, includes the redwood and mixed-conifer forests of the Mendocino Highlands in the north and oak woodlands, dairy farms, and coastal prairies in the south. The Mayacamas Range forms the eastern boundary of the County. Along with the Sonoma Mountain range, it encloses the Sonoma Valley or "Valley of the Moon," a scenic valley that extends from near Santa Rosa southeastward to the City of Sonoma and the marshlands of San Pablo Bay. In the north, the Mayacamas Range and Mendocino Highlands enclose the farming regions of Alexander and Dry Creek Valleys. In the far northeast, the remote interior of the Mayacamas Range contains the Geysers geothermal steam field (Sonoma County n.d.).

According to the Sonoma County 2020 General Plan, there are 12 land use categories designated throughout the unincorporated County (Figure 3.11-1). Unincorporated Sonoma County is also divided into nine planning areas; Sonoma Coast/Gualala Basin (Planning Area 1), Cloverdale/Northeast County (Planning Area 2), Healdsburg and Environs (Planning Area 3), Russian River Area (Planning Area 4), Santa Rosa and Environs (Planning Area 5), Sebastopol and Environs (Planning Area 6), Rohnert Park – Cotati and Environs (Planning Area 7), Petaluma and Environs (Planning Area 8), and Sonoma Valley (Planning Area 9) (Figure 3.11-3). Table 3.11-1 shows the acreages of the General Plan land use designations by each planning area. Unincorporated Sonoma County designates approximately 51 percent of its land use, or 492,658 acres, as Resources and Rural Development (RRD). Agricultural land uses account for approximately 34 percent, or 329,562 acres, of the unincorporated County; public land accounts for 6 percent, or 55,723 acres; and commercial and industrial land account for less than 1 percent of land use within unincorporated County (Sonoma County 2006).



Source: Data downloaded from Sonoma County in 2024; adapted by Ascent in 2024.

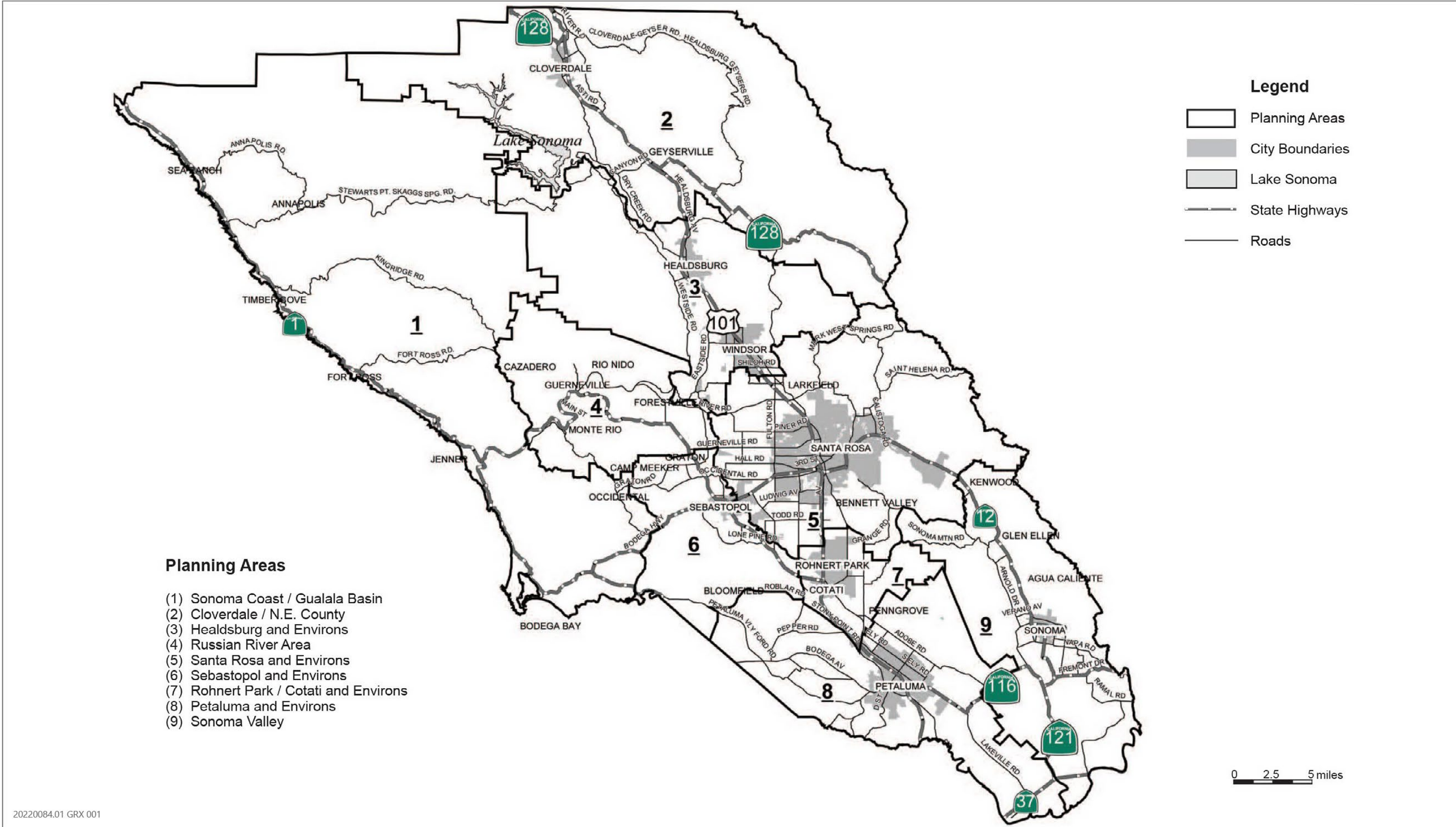
Figure 3.11-2 Sonoma County Zoning Districts

Table 3.11-1 Acreage of Land Use Designations by Planning Area

Land Use	Planning Area 1	Planning Area 2	Planning Area 3	Planning Area 4	Planning Area 5	Planning Area 6	Planning Area 7	Planning Area 8	Planning Area 9	County Total
Agricultural Land Uses										
Diverse Agriculture (DA)	1,349 ac	932 ac	6,034 ac	5,648 ac	14,481 ac	16,184 ac	4,448 ac	11,181 ac	8,588 ac	68,845 ac
Land Extensive Agriculture (LEA)	29,178 ac	40,113 ac	1,185 ac	709 ac	8,733 ac	14,570 ac	1,934 ac	63,995 ac	26,046 ac	186,462 ac
Land Intensive Agriculture (LIA)	233 ac	24,476 ac	23,169 ac	3,481 ac	6,213 ac	448 ac	0 ac	246 ac	15,988 ac	74,255 ac
Resources & Rural Development Land Use										
Resources & Rural Development (RRD)	222,752 ac	110,898 ac	63,313 ac	38,026 ac	31,510 ac	2,066 ac	3,624 ac	291 ac	20,179 ac	492,658 ac
Residential Land Uses										
Rural Residential (RR)	10,398 ac	2,081 ac	3,696 ac	6,077 ac	19,660 ac	10,295 ac	5,758 ac	7,465 ac	10,157 ac	75,588 ac
Urban Residential (UR)	130 ac	76 ac	48 ac	1,146 ac	2,362 ac	202 ac	315 ac	2 ac	2,028 ac	6,307 ac
Commercial Land Uses										
Recreation & Visitor-Serving Commercial (RVSC)	353 ac	268 ac	15 ac	339 ac	184 ac	23 ac	0 ac	1,067 ac	281 ac	2,530 ac
General Commercial (GC)	8 ac	4 ac	0 ac	0 ac	134 ac	3 ac	11 ac	61 ac	20 ac	241 ac
Limited Commercial (LC)	184 ac	46 ac	15 ac	213 ac	148 ac	165 ac	45 ac	138 ac	214 ac	1,167 ac
Industrial Land Uses										
General Industrial (GI)	0 ac	0 ac	1 ac	0 ac	557 ac	23 ac	0 ac	83 ac	0 ac	663 ac
Limited Industrial (LI)	37 ac	604 ac	47 ac	32 ac	876 ac	20 ac	50 ac	24 ac	359 ac	2,049 ac
Public/Quasi Public Land Use										
Public/Quasi Public (PQP)	12,193 ac	17,679 ac	453 ac	5,030 ac	11,640 ac	222 ac	382 ac	1,703 ac	6,420 ac	55,723 ac

Note: ac= acres.

Source: Sonoma County 2006.



20220084.01 GRX 001

Source: Sonoma County 2016: Figure 3.0-1.

Figure 3.11-3 Sonoma County's Nine Planning Areas

3.11.3 Environmental Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, "Project Description," and Section 3.0, "Approach to the Environmental Analysis," regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

Evaluation of potential land use impacts of the Cannabis Program Update is based on review of County's planning documents pertaining to the project area, including the General Plan Development Element and specific area plans. For the purpose of this impact discussion, the analysis focuses on the potential impacts across the unincorporated County associated with the Cannabis Program Update.

The following proposed Code amendments apply to land use and planning:

Section 26-04-020: Definitions

Section 1: The following definitions shall be modified to read as follows:

- ▶ **Agricultural Crop.** Any cultivated crop grown and harvested for commercial purposes including cannabis.
- ▶ **Cannabis.** All parts of the plant *Cannabis sativa* Linnaeus, *Cannabis indica*, or *Cannabis ruderalis*, or any other strain or varietal of the genus *Cannabis* whether growing or not; "Cannabis" does not include "industrial hemp" as defined by Section 81000 of the California Food and Agricultural Code.
- ▶ **Cannabis Cultivation.** Planting, growing, developing, propagating, or harvesting of cannabis.
- ▶ **Cannabis Cultivation - Indoor.** Cannabis cultivation in a structure using exclusively artificial lighting.
- ▶ **Cannabis Cultivation - Mixed-Light.** Cannabis cultivation in a greenhouse or other similar structure any combination of natural and supplemental artificial lighting.
- ▶ **Cannabis Cultivation - Outdoor.** Cannabis cultivation using no artificial lighting conducted in the ground or in containers outdoors.
- ▶ **Cannabis Manufacturing.** Includes cannabis extraction process and cannabis infusion.
- ▶ **Cannabis Product.** Cannabis that has undergone extraction, infusion, packaging, labeling or a combination of these.
- ▶ **Manufactured Cannabis.** Raw cannabis that has undergone a process whereby the raw agricultural product has been transformed into a concentrate, an edible product, or a topical product.
- ▶ **Nonmanufactured Cannabis.** Flower, shake, kief, leaf, and pre-rolls.
- ▶ **Nonvolatile Solvent.** Any solvent used in the extraction process that is not a volatile solvent.
- ▶ **Volatile Solvent.** Volatile solvents may include but is not limited to: (1) explosive gases, such as Butane, Propane, Xylene, Styrene, Gasoline, Kerosene, O₂ or H₂; and (2) dangerous poisons, toxins, or carcinogens, such as Methanol, Methylene Chloride, Acetone, Benzene, Toluene, and Tri-chloro-ethylene as determined by the fire marshal.

Section 2: The following definitions are added in their alphabetical order to read as follows:

- ▶ **Cannabis Cultivation – Personal Use.** Cannabis cultivation exempt from permitting.
- ▶ **Cannabis Extraction.** Process by which cannabinoids are separated from cannabis plant material through chemical or physical means.
- ▶ **Cannabis Infusion.** Process by which cannabis extract or cannabis plant material is combined with other ingredients to make a cannabis product.
- ▶ **Cannabis Non-Storefront Retail.** A facility that sells cannabis or cannabis products to a customer exclusively by delivery.
- ▶ **Cannabis Premises.** The entire land area, including structures used for a cannabis operation, provided that driveways may be excluded.
- ▶ **Cannabis Processing.** Drying, curing, grading, trimming, rolling, and storing, of non-manufactured cannabis. Processing of cannabis grown off-site (i.e., centralized processing) is considered an agricultural support service.
- ▶ **Cannabis Propagation.** Cultivation of propagative plant material, including live plants, seeds, seedlings, clones, cuttings, transplants, or other propagules used to establish plants for planting.
- ▶ **Cannabis Research and Development.** Cannabis cultivation for the research or development of cannabis, cannabis strains, or cultivars.
- ▶ **Cannabis Storefront Retail (Dispensary).** A facility that sells and delivers cannabis or cannabis products to customers.
- ▶ **Nursery Wholesale, Cannabis.** An establishment that engages in the commercial production of cannabis clones, immature plants, or seeds for wholesale distribution to cannabis operations.

Cannabis Land Use Table

Table 2-3 (included in Chapter 2, “Project Description”) provides a summary of the proposed allowed cannabis uses within each County Zoning District (refer to Appendix B for the text to the Cannabis Program Update).

THRESHOLDS OF SIGNIFICANCE

A land use impact is considered significant if implementation of the Cannabis Program Update would do any of the following:

- ▶ physically divide an established community; or
- ▶ cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

ISSUES NOT DISCUSSED FURTHER

Personal Cultivation

The proposed Cannabis Program Update does not include changes to personal cultivation standards that would be substantially different from existing requirements such that physical changes to the environment could occur that would create significant impacts related to land use and planning. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

Physically Divide an Established Community

Implementation of the Cannabis Program Update would not result in or require any change in land use designations. Commercial cannabis uses would be contained within their parcels and may include fencing along the perimeter of

the operations for security purposes. These features would not create new barriers or physical features that could physically divide an established community because construction and operation would be contained on parcels permitted for cannabis uses. In addition, operation of commercial cannabis sites within the unincorporated County would not introduce any major infrastructure (e.g., new freeways, bridges, train routes, etc.) or other uses that would result in the physical division of established communities because the proposed zoning requirements and allowable land use would generally maintain a similar level of development compared to the existing conditions in the County (e.g., farms with accessory uses in agricultural and resources districts) and therefore there would not substantially increase the density of developed uses in a way that would require substantial changes to the County's infrastructure. Therefore, this issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.11-1: Cause a Significant Environmental Impact Due to a Conflict with any Land Use Plan, Policy, or Regulation Adopted for the Purpose of Avoiding or Mitigating an Environmental Effect

Adoption of the Cannabis Program Update would amend the General Plan and County Code to allow proposed cannabis cultivation and supply chain uses beyond what the current County regulations allow, which could result in an expansion of cultivation and supply chain uses. Adoption and implementation of the Cannabis Program Update would be consistent with General Plan policies related to land use and would incorporate performance standards that implement environmental protections identified in the General Plan policies and Sonoma County Code. As a result, conflicts with applicable land use plans, policies, or regulations would be minimized. This impact would be **less than significant**.

The proposed Cannabis Program Update would amend the General Plan and County Code, specifically the Sonoma County Cannabis Ordinance, to allow proposed cannabis cultivation and supply chain uses beyond what the current County regulations allow. Cannabis uses would be allowed in the following zoning districts: Land Intensive Agriculture (LIA), Land Extensive Agriculture (LEA), Diverse Agriculture (DA), Resources and Rural Development (RRD), Neighborhood Commercial District (C1), Retail Business and Service District (C2), General Commercial District (C3), Limited Commercial District (LC), Industrial Park (MP), Limited Urban Industrial (M1), Heavy Industrial (M2) and Limited Rural Industrial (M3). The proposed Cannabis Program Update would not change zoning districts or create new zoning districts.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

As described in Section 2.3.3, "Summary of the Cannabis Program Update," under the subheading "General Plan Amendment," amendments to the General Plan are proposed to acknowledge cannabis as a controlled agricultural crop in a manner similar to other agricultural uses in the county, such as vineyards and associated supporting uses. As stated in the proposed Code requirements, "As a controlled agricultural crop, policies are needed to allow cannabis production on agricultural lands in a way that conserves agricultural soils and protects agrarian character while also protecting public health and safety." The proposed Cannabis Program Update would not alter or conflict with General Plan policy provisions that promote and protect agricultural land uses. Implementation of the proposed Cannabis Program Update would support the growth of an emerging market and promote activities related to agricultural products consistent with General Plan, specific plan, and area plan policies (see Section 3.11.1, "Regulatory

Setting,” under the subheading “Sonoma County General Plan”). The reader is referred to Section 3.2, “Agricultural and Forestry Resources,” for discussion of the policies.

Cannabis facilities would be required to conform to the General Plan, any applicable specific plans and area plans, master plans, and design requirements, as well as comply with all applicable zoning and regulatory standards and state regulations. The proposed Cannabis Program Update includes performance standards that incorporate environmental protection measures that are based on General Plan policies and Sonoma County Code requirements. These include but are not limited to the following referenced sections. The reader is referred to each technical section of the Draft EIR (Sections 3.1 through 3.17) for a further analysis of the proposed Cannabis Program Update’s consistency with County policies and regulations.

Section 26-18-115(C)(1) of the proposed Cannabis Ordinance provides performance standards for all cannabis cultivation facilities:

- a. Odor control. A structure containing cannabis must be equipped with a filtration and ventilation system to control odors, humidity, and mold, provided that structures containing only packaged cannabis products may be excluded from this requirement. (Refer to Section 3.3, “Air Quality,” for additional discussion.)
- b. Lighting. All lighting is to be fully shielded and downward casting so that it does not spill over onto neighboring properties. For operations cultivating within structures, all light is to be fully contained so that little to no light escapes at a level that is visible from neighboring parcels. (Refer to Section 3.1, “Aesthetics”).
- c. Accessory Uses. Cannabis cultivation may include accessory uses that directly support the on-site cannabis cultivation, such as: propagation, research and development, processing, manufacturing, packaging and labeling, distribution, and other similar support uses as determined by the Director.
- d. Generators. Generator use is prohibited, except in the case of an emergency.
- e. Propagation, Research and Development. Propagative and research and development plant material that is not located within the cannabis canopy cannot be distributed, manufactured or sold.
- 4.d Best Management Practices. Outdoor cultivation must comply with best management practices for cannabis cultivation issued by the agricultural commissioner for erosion and sediment control and management of wastes, water, fertilizers, and pesticides. (Refer to Section 3.4, “Biological Resources,” Section 3.7, “Geology, Soils, and Mineral Resources,” and Section 3.10, “Hydrology and Water Quality.”)

As demonstrated above, adoption and implementation of the proposed Cannabis Program Update would implement County policy provisions for environmental issues. Therefore, potential conflicts with applicable land use plans, policies, or regulations would be minimized. This impact would be less than significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. As described above for agricultural and resources districts, cultivation meeting the definition of a crop swap would be required to meet performance standards that incorporate environmental protection measures that are based on General Plan policies and Sonoma County Code requirements. These include but are not limited to the following referenced sections.

Section 26-18-115(C)(4)(h) of the proposed Cannabis Ordinance provides performance standards for cultivation meeting the definition of a crop swap:

4. Soil Protection.
 - a. Grading which requires a permit under Chapter 11 or Chapter 36 of the Sonoma County Code is prohibited.

- b. Deep ripping during crop removal is prohibited. Deep ripping is the mechanical manipulation of the soil at depths greater than sixteen inches to break up or pierce of highly compacted, impermeable, or slowly permeable subsurface soil layer or other similar kinds of restrictive soil layers. (Refer to Section 3.4, "Biological Resources," for additional discussion.)
5. Tribal Monitor. A tribal monitor is required for the removal of the existing crop. (Refer to Section 3.5, "Cultural Resources," for additional discussion.)
6. Trip Generation. (Refer to Section 3.14, "Transportation," for additional discussion.)
 - a. Additional employees are limited to two.
 - b. Total additional trip generation is limited to 10 average daily trips.
7. Focused Species Assessment in Critical Habitat. Unless state and federal permits, approvals, or authorizations to incidentally take listed species have been obtained, if the cannabis premises is within a federally designated critical habitat area, a focused species assessment is required that finds it is not reasonably foreseeable that the use will result in the take of listed species. Applicants must incorporate and implement the recommendations and avoidance measures in the focused species assessment, including any subsequent surveys recommended. A use permit is required if the focused species assessment finds that take is reasonably foreseeable or that compensatory mitigation is required to address a potential impact. (Refer to Section 3.4, "Biological Resources," for additional discussion.)
8. Water source. The on-site water supply must be adequate to support the new use as demonstrated by consistency with the following for each water source proposed. Trucked water is only allowed in the event of an emergency as determined by the director.
 - a. Municipal Water or Recycled Water. Municipal water and municipal recycled water require proof of availability.
 - b. Groundwater Well. A study prepared by a qualified professional must be submitted to demonstrate no net increase in groundwater use for all agricultural operations on the parcel.
 - c. Surface Water. A surface water diversion to a tank or an existing reservoir requires an appropriative water right and a Lake and Streambed Alteration (LSA) Agreement. A maximum of 100,000 gallons of new tank storage is allowed. Riparian water rights are prohibited.
 - d. Rainwater and sheet flow. A rainwater catchment system or an existing reservoir that collects sheet flow, requires a water supply assessment prepared by a qualified professional. A maximum of 100,000 gallons of new tank storage is allowed. (Refer to Section 3.10, "Hydrology and Water Quality," and Section 3.16, "Utilities and Service System," for additional discussion.)

No new or expanded development would be allowed for cultivation meeting the definition of a crop swap. As described above, cannabis cultivation would be subject to County standards related to land use and zoning. These standards incorporate environmental protection measures that are based on General Plan policies and Sonoma County Code requirements. Therefore, potential conflicts with applicable land use plans, policies, or regulations would be minimized. This impact would be less than significant.

Construction of Event Facilities and Event Operations

Construction and operation of event facilities would be subject to County standards related to land use and zoning, as described above. These standards incorporate environmental protection measures that are based on General Plan policies and Sonoma County Code requirements. Thus, potential conflicts with applicable land use plans, policies, or regulations would be minimized. This impact would be less than significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses.

Cannabis facilities would be required to conform to the General Plan, any applicable specific plans and area plans, master plans, and design requirements, as well as comply with all applicable zoning and regulatory standards and state regulations. The proposed Cannabis Program Update includes performance standards that incorporate environmental protection measures that are based on General Plan policies and Sonoma County Code requirements. These include but are not limited to the following referenced sections. The reader is referred to each technical section of the Draft EIR (Sections 3.1 through 3.17) for a further analysis of the proposed Cannabis Program Update's consistency with County policies and regulations. Thus, potential conflicts with applicable land use plans, policies, or regulations would be minimized. This impact would be less than significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on unique paleontological resources. Periodic event operations would continue to be subject to existing County standards related to land use and zoning, as described above. These standards incorporate environmental protection measures that are based on General Plan policies and Sonoma County Code requirements. This impact would be less than significant.

Conclusion

As discussed above, implementation of the proposed Cannabis Program Update would allow proposed cannabis cultivation and supply chain uses beyond what the current County regulations allow, which could result in an expansion of cultivation and supply chain uses. The proposed Cannabis Program Update would be consistent with General Plan policies related to land use as well as the Sonoma County Code requirements that provide environmental protections. The reader is referred to each technical section of the Draft EIR (Sections 3.1 through 3.17) for a further analysis of the proposed Cannabis Program Update's consistency with County policies and regulations. As a result, conflicts with applicable land use plans, policies, or regulations would be minimized. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

Impact 3.11-1, above, addresses the potential for the proposed Cannabis Program Update to conflict with land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating environmental effects. As described above, the proposed Cannabis Program Update would not change County policies related to land use and planning and would be consistent with Sonoma County General Plan policies (see Section 3.11.1, "Regulatory Setting," under the subheading "Sonoma County General Plan"), which establish land use standards, as well as the Sonoma County Code requirements that provide environmental protections. Also, see Sections 3.1 through 3.17, which discuss the proposed Cannabis Program Update's consistency with General Plan policies specific to each environmental resource. The Cannabis Program Update is also consistent with the land use provisions of the Sonoma County Airport Industrial Area Specific Plan, Bennett Valley Area Plan, Franz Valley Area Plan, Penngrove Area Plan, Petaluma Dairy Belt Area Plan, Sonoma Mountain Area Plan, and West Petaluma Area Plan.

3.12 NOISE AND VIBRATION

This section includes a summary of applicable regulations related to noise and vibration, a description of ambient-noise conditions, and an analysis of potential short-term construction and long-term operations-source noise impacts associated with the adoption and implementation of the proposed Cannabis Program Update. Mitigation measures are recommended as necessary to reduce significant noise and vibration impacts. Additional data is provided in Appendix D, "Noise Measurement Data and Noise Modeling Calculations."

Comments received during the notice of preparation (NOP) identified concerns regarding the potential for the Cannabis Program Update to result in increased operational noise, requests for a buffer of 1,000 feet from an exclusion zone to minimize potential impacts of noise, and requests to analyze noise from weapons. These issues are addressed in this section, as appropriate. All comments received in response to the NOP are presented in Appendix A of this EIR.

3.12.1 Common Terminology

Noise in the daily environment fluctuates over time. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors used throughout this Draft EIR.

- ▶ **Equivalent continuous sound level (L_{eq}):** L_{eq} represents an average of the sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound level that occurs during the same period (Caltrans 2013: 2-48). For instance, the 1-hour equivalent sound level, also referred to as the hourly L_{eq} , is the energy average of sound levels occurring during a 1-hour period and is the basis for noise abatement criteria used by the California Department of Transportation (Caltrans) and the Federal Transit Administration (FTA) (Caltrans 2013: 2-47; FTA 2018).
- ▶ **Percentile-exceeded sound level (L_x):** L_x represents the sound level exceeded for a given percentage of a specified period (e.g., L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent of the time) (Caltrans 2013).
- ▶ **Maximum sound level (L_{max}):** L_{max} is the highest instantaneous sound level measured during a specified period (Caltrans 2013: 2-48; FTA 2018).
- ▶ **Day-night level (L_{dn}):** L_{dn} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-decibel (dB) "penalty" applied to sound levels occurring during nighttime hours between 10 p.m. and 7 a.m. (Caltrans 2013: 2-48; FTA 2018).
- ▶ **Community noise equivalent level (CNEL):** CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to sound levels occurring during the nighttime hours between 10:00 p.m. and 7:00 a.m. and a 5-dB penalty applied to the sound levels occurring during evening hours between 7:00 p.m. and 10:00 p.m. (Caltrans 2013: 2-48).
- ▶ **Vibration decibels (VdB):** VdB is the vibration velocity level in the decibel scale (FTA 2018: Table 5-1).
- ▶ **Peak particle velocity (PPV):** PPV is the peak signal value of an oscillating vibration waveform. Usually expressed in inches per second (in/sec) (FTA 2018: Table 5-1).

3.12.2 Regulatory Setting

FEDERAL

US Environmental Protection Agency Office of Noise Abatement and Control

The US Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. In 1981, EPA administrators determined that subjective issues, such as

noise, would be better addressed at more local levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to state and local governments. However, documents and research completed by the EPA Office of Noise Abatement and Control continue to provide value in the analysis of noise effects.

Federal Transit Administration

To address the human response to ground vibration, the Federal Transit Administration (FTA) has set forth guidelines for maximum-acceptable vibration criteria for different types of land, use as well as for screening distances from transit for vibration assessments. These guidelines are presented in Table 3.12-1.

Table 3.12-1 Groundborne Vibration Impact Criteria for General Assessment

Land Use Category	GBV Impact Levels (VdB re 1 micro-inch/second) - Frequent Events ¹	GBV Impact Levels (VdB re 1 micro-inch/second) - Occasional Events ²	GBV Impact Levels (VdB re 1 micro-inch/second) - Infrequent Events ³
<i>Category 1:</i> Buildings where vibration would interfere with interior operations.	65 ⁴	65 ⁴	65 ⁴
<i>Category 2:</i> Residences and buildings where people normally sleep.	72	75	80
<i>Category 3:</i> Institutional land uses with primarily daytime uses.	75	78	83

Notes: VdB referenced to 1 micro-inch/second and based on the root mean square (RMS) velocity amplitude.

¹ "Frequent Events" is defined as more than 70 vibration events of the same source per day.

² "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.

³ "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.

⁴ This criterion is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research would require detailed evaluation to define acceptable vibration levels.

Source: FTA 2018.

The FTA has also established construction vibration damage criteria for different categories of buildings/structures (Table 3.12-2).

Table 3.12-2 Construction Vibration Damage Criteria

Building/Structural Category	PPV, in/sec	Approximate L _v ¹
I. Reinforced-concrete, steel, or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Nonengineered timber and masonry buildings.	0.2	94
IV. Buildings extremely susceptible to vibration damage.	0.12	90

Notes: PPV = peak particle velocity; in/sec = inches per second.

¹ VdB referenced to 1 micro-inch/second and based on the RMS velocity amplitude.

Source: FTA 2018.

In addition to vibration criteria, the FTA has also established construction noise criteria based on the land use type affected by noise and depending on whether construction noise would occur during the daytime or nighttime. The FTA criteria are as follows (FTA 2018):

- ▶ Residential: 90 A-weighted decibels (dBA) L_{eq} (day) and 80 dBA L_{eq} (night).
- ▶ Commercial/Industrial: 100 dBA L_{eq} (day and night).

STATE

California Building Code Sound Transmission Standards

Noise within habitable units that is attributable to external sources is regulated by the California Building Standards codified in CCR Title 24, Part 2, Section 1207. These standards are enforceable at the time of construction or during occupancy and apply to habitable units with common interior walls, partitions, and ceilings or those adjacent to public areas, such as halls, corridors, stairways, and service areas. Under these standards, the interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metrics used to measure these levels can be L_{dn} or CNEL, consistent with the local general plan. Under California Public Resources Code (PRC) Section 25402.1(g), all cities and counties in the state are required to enforce the adopted California Building Code, including these standards for noise in interior environments.

LOCAL

Sonoma County General Plan

The Sonoma County General Plan Noise Element establishes standards and policies that address noise and vibration impacts (Sonoma County 2012). The following policies are relevant to the Cannabis Program Update:

- ▶ **Policy NE-1a:** Designate areas within Sonoma County as noise impacted if they are exposed to existing or projected exterior noise levels exceeding 60 dB L_{dn} , 60 dB CNEL, or the performance standards of Table NE-2 (See Table 3.12-3 in this Draft EIR).
- ▶ **Policy NE-1c:** Control non-transportation-related noise from new projects. The total noise level resulting from new sources shall not exceed the standards in Table NE-2 (Table 3.12-3 in this Draft EIR) as measured at the exterior property line of any adjacent noise-sensitive land use. Limit exceptions to the following:
 - (1) If the ambient noise level exceeds the standard in Table NE-2 [Table 3.12-3 in this Draft EIR], adjust the standard to equal the ambient level, up to a maximum of 5 dB above the standard, provided that no measurable increase (i.e. +/- 1.5 dB) shall be allowed.
 - (2) Reduce the applicable standards in Table NE-2 [Table 3.12-3 in this Draft EIR] by 5 dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises, such as pile drivers and dog barking at kennels.
 - (3) Reduce the applicable standards in Table NE-2 [Table 3.12-3 in this Draft EIR] by 5 dB if the proposed use exceeds the ambient level by 10 or more dB.
 - (4) For short-term noise sources which are permitted to operate no more than 6 days per year, such as concerts or race events, the allowable noise exposures shown in Table NE-2 [Table 3.12-3 in this Draft EIR] may be increased by 5 dB. These events shall be subject to a noise management plan including provisions for maximum noise level limits, noise monitoring, complaint response and allowable hours of operation. The plan shall address potential cumulative noise impacts from all events in the area.
 - (5) Noise levels may be measured at the location of the outdoor activity area of the noise sensitive land use, instead of the exterior property line of the adjacent noise sensitive land use where:
 - a. the property on which the noise-sensitive use is located has already been substantially developed pursuant to its existing zoning, and
 - b. there is available open land on those noise-sensitive lands for noise attenuation.

This exception may not be used on vacant properties which are zoned to allow noise-sensitive uses.

Table 3.12-3 Maximum Allowable Exterior Noise Exposures for Non-Transportation Noise Sources

Hourly Noise Metric ¹ , dBA	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
L ₅₀ (30 minutes in any hour)	50	45
L ₂₅ (15 minutes in any hour)	55	50
L ₀₈ (4 minutes 48 seconds in any hour)	60	55
L ₀₂ (72 seconds in any hour)	65	60

Notes: dBA = A-weighted decibels.

¹ The sound level exceeded n% of the time in any hour. For example, the L₅₀ is the value exceeded 50% of the time or 30 minutes in any 1 hour; this is the median noise level.

Source: Sonoma County 2012.

- **Policy AT-1a:** Proposed development within a noise environment in excess of 55 dBA CNEL shall comply with the Sonoma County Comprehensive Airport Land Use Plan (County CALUP). For all public use airports, the CALUP forecast of future noise exposures shown in Figures AT-4 through AT-9 shall be used for this purpose.

Sonoma County Guidelines for the Preparation of Noise Analysis

The County Guidelines for the Preparation of Noise Analysis (Noise Analysis Guidelines) serve as a tool to implement the General Plan Noise Element policies by establishing criteria to determine when a noise analysis is required; minimum qualifications for persons preparing a noise analysis; and requirements for a noise analysis including standards and thresholds of significance (Sonoma County 2019).

Sonoma County Comprehensive Airport Land Use Plan

Noise compatibility and land use considerations are addressed in the County CALUP, which was adopted in 2001 and applies to all six airports in the County. The County CALUP is used as a guide in determining what types of land uses and development are appropriate in the vicinity of airports to protect the safety of people, property, and aircraft on the ground and in the air. It includes policies that address noise compatibility issues associated with airports and their respective airport influence areas. The following policies are relevant to the analysis (Sonoma County 2013).

1. Airport noise/land use compatibility shall be evaluated in terms of the CNEL. The maximum CNEL considered normally acceptable for residential uses and other noise-sensitive institutions in the vicinity of airports covered by the plan is 55 dB CNEL.
4. Uses designated as "acceptable" in Table 8A [Table 3.12-4 in this Draft EIR] shall be subject only to the referral area policies of Section 8.2.2.
6. The noise contours which shall be used for purposes of noise compatibility at each airport (the "regulatory noise contours") are shown in Exhibits 8A through 8F [of the CALUP].

Table 3.12-4 depicts the land use compatibility standards established in the County CALUP.

Table 3.12-4 Sonoma County Comprehensive Airport Land Use Plan Noise Compatibility Standards for Commercial and Industrial Uses and Agricultural and Recreational Land Use

Land Use Category	Less than 55 CNEL	55–60 CNEL	60–65 CNEL	67–70 CNEL	More Than 70 CNEL
Hotels and motels	acceptable	acceptable	conditionally acceptable +3 ¹	conditionally acceptable +4 ²	unacceptable
Offices, retail trade	acceptable	acceptable	conditionally acceptable +3 ¹	conditionally acceptable +4 ²	unacceptable
Service commercial, wholesale trade, warehousing, light industrial	acceptable	acceptable	acceptable	conditionally acceptable +3 ¹	conditionally acceptable +4 ²
General manufacturing, utilities, extractive industry	acceptable	acceptable	acceptable	acceptable	acceptable

Land Use Category	Less than 55 CNEL	55–60 CNEL	60–65 CNEL	67–70 CNEL	More Than 70 CNEL
Cropland	acceptable	acceptable	acceptable	acceptable	acceptable
Livestock breeding, zoos	acceptable	acceptable	acceptable	acceptable	unacceptable
Parks and playgrounds	acceptable	acceptable	acceptable	acceptable	conditionally acceptable +3 ¹
Golf courses, riding stables, water recreation	acceptable	acceptable	acceptable	acceptable	conditionally acceptable +3 ¹
Outdoor spectator sports	acceptable	acceptable	acceptable	conditionally acceptable +5 ³	unacceptable
Amphitheaters	acceptable	unacceptable	unacceptable	unacceptable	unacceptable

Notes: CNEL = community noise equivalent level.

¹ Measures to achieve an outdoor-to-indoor noise level reduction of at least 25 decibels (a-weighted decibels assuming doors and windows are closed) shall be incorporated into the design and construction of portions of these buildings where the public is received, office areas, or sleeping areas.

² Measures to achieve an outdoor-to-indoor noise level reduction of at least 30 decibels (a-weighted decibels assuming doors and windows are closed) shall be incorporated into the design and construction of portions of these buildings where the public is received, office areas, or sleeping areas.

³ Sound reinforcement system is required.

Source: Sonoma County 2013

Sonoma County Airport Industrial Area Specific Plan

The Sonoma County Airport Industrial Area Specific Plan constitutes the master program for development of the 770-acre specific plan area located between the Sonoma County Airport and US 101. The plan designates specific land uses that include heavy industrial, industrial park, commercial, residential, and agriculture/open space. The Sonoma County Airport Industrial Area Specific Plan contains the following provisions related to noise:

4. Special Yard Requirements

d. In those areas where a heavy industrial area adjoins or is across the street from an industrial park area, the mix of heavy industrial uses with industrial park uses can result in noise conflicts. Heavy industrial developers along this sensitive boundary shall be responsible for controlling their noise emission so that levels measured at the property line shall not exceed 70 dBA for more than thirty minutes in any hour.

Petaluma Dairy Belt Area Plan

The Petaluma Dairy Belt Area Plan was initially adopted by the County in 1985 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan, and its primary priority shall be to preserve and enhance the agricultural resources and protect the agricultural industry. The Petaluma Dairy Belt Area Plan contains the following noise policies:

Noise

- (1) Require noise standards and conditions on all use permits issued for projects which have a potential for excessive sound levels.

3.12.3 Environmental Setting

ACOUSTIC FUNDAMENTALS

Prior to discussing the noise setting for the Cannabis Program Update, background information about sound, noise, vibration, and common noise descriptors is needed to provide context and a better understanding of the technical terms referenced throughout this section.

Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a human ear. Noise is defined as loud, unexpected, annoying, or unwanted sound. In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz, or thousands of hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred billionth (0.0000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this large range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of dB.

Addition of Decibels

Because decibels are logarithmic units, SPLs cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness at the same time, the resulting sound level at a given distance would be 3 dB higher than if only one of the sound sources was producing sound under the same conditions. For example, if one idling truck generates an SPL of 70 dB, two trucks idling simultaneously would not produce 140 dB; rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level approximately 5 dB louder than one source.

A-Weighted Decibels

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies, as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz and perceive sounds within this range better than sounds of the same amplitude with frequencies outside of this range. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an “A-weighted” sound level (expressed in units of A-weighted decibels) can be computed based on this information.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgment correlates well with the A-scale sound levels of those sounds. Thus, noise levels are typically reported in terms of A-weighted decibels. All sound levels discussed in this section are expressed in A-weighted decibels unless otherwise noted. Table 3.12-5 describes typical A-weighted noise levels for various noise sources.

Table 3.12-5 Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 feet	— 100 —	
Gas lawn mower at 3 feet	— 90 —	
Diesel truck at 50 feet at 50 miles per hour	— 80 —	Food blender at 3 feet, garbage disposal at 3 feet
Noisy urban area, daytime, gas lawn mower at 100 feet	— 70 —	Vacuum cleaner at 10 feet, normal speech at 3 feet
Commercial area, heavy traffic at 300 feet	— 60 —	
Quiet urban daytime	— 50 —	Large business office, dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime	— 30 —	Library, bedroom at night
Quiet rural nighttime	— 20 —	
	— 10 —	Broadcast/recording studio
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 2013: Table 2-5.

Human Response to Changes in Noise Levels

As described above, the doubling of sound energy results in a 3-dB increase in the sound level. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different from what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear can discern 1-dB changes in sound levels when exposed to steady, single-frequency (“pure-tone”) signals in the mid-frequency (1,000–8,000 Hz) range. In general, the healthy human ear is most sensitive to sounds between 1,000 and 5,000 Hz and perceives both higher and lower frequency sounds of the same magnitude with less intensity (Caltrans 2013: 2-18). In typical noisy environments, changes in noise of 1–2 dB are generally not perceptible. However, it is widely accepted that people can begin to detect sound level increases of 3 dB in typical noisy environments. A doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3-dB increase in sound would generally be perceived as barely detectable. Furthermore, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness (Caltrans 2013: 2-10).

Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which a noise level decreases with distance depends on the following factors.

Geometric Spreading

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Roads and highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources, thus propagating at a slower rate in comparison to a point source. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

Ground Absorption

The propagation path of noise from a source to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling provides additional attenuation associated with geometric spreading. Traditionally, this additional attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver, such as soft dirt, grass, or scattered bushes and trees), an additional ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the attenuation rate associated with cylindrical spreading, the additional ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance. This would apply to point sources, resulting in an overall drop-off rate of up to 7.5 dB per doubling of distance.

Atmospheric Effects

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels, as the wind can carry sound. Sound levels can be increased over large distances (e.g., more than 500 feet) from the source because of atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors, such as air temperature, humidity, and turbulence, can also affect sound attenuation.

Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receiver attenuates noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction (Caltrans 2013: 2-41; FTA 2018: 15, 16). Barriers higher than the line of sight provide increased noise reduction (FTA 2018: 16). Vegetation between the source and receiver is rarely effective in reducing noise because it does not create a solid barrier unless there are multiple rows of vegetation (FTA 2018: 15, 104, 106).

Vibration

Vibration is the periodic oscillation of a medium or object for a given reference point. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery) or transient (e.g., explosions). Vibration levels can be depicted in terms of amplitude and frequency relative to displacement, velocity, or acceleration.

Vibration amplitudes are commonly expressed in PPV or root mean square (RMS) vibration velocity. PPV and RMS vibration velocity are normally described in inches per second (in/sec) or in millimeters per second. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well with the stresses experienced by buildings (FTA 2018: 110; Caltrans 2020: 6).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a 1-second period. As with airborne sound, the RMS velocity is often expressed in decibel notation as VdB, which serves to compress the range of numbers required to describe vibration (FTA 2018: 110; Caltrans 2020: 7). This is based on a reference value of 1 micro inch per second.

The typical background vibration-velocity level in residential areas is approximately 50 VdB. Ground vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FTA 2018: 120; Caltrans 2020: 27).

Typical outdoor sources of perceptible ground vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur to fragile buildings. Construction activities can generate sufficient ground vibrations to pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants (FTA 2018: 113).

Vibrations generated by construction activity can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations are generated by vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment. Table 3.12-6 summarizes the general human response to different ground vibration-velocity levels.

Table 3.12-6 Human Response to Different Levels of Ground Noise and Vibration

Vibration-Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Notes: VdB = vibration decibels referenced to 1 μ inch/second and based on the root mean square (RMS) velocity amplitude.

Source: FTA 2018: 120.

EXISTING NOISE ENVIRONMENT

Existing Noise- and Vibration-Sensitive Land Uses

The Sonoma County Noise Guidelines defines noise-sensitive receptors as follows:

- ▶ Residences (including single family homes, multi-family apartments, condominiums, and mobile homes, and other permitted structures being used as residential uses). Note that previous staff comments had suggested not including individual residences in commercial/industrial zoning, but we are walking that back and think all residences should be included as sensitive receptors
- ▶ Schools, both public and private, and day care facilities
- ▶ Hospitals, nursing homes and long term medical or mental care facilities
- ▶ Churches, synagogues and other places of worship
- ▶ Libraries and museums
- ▶ Transient lodging
- ▶ Office building interior

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels and because of the potential for nighttime noise to result in sleep disruption. These land use types are also considered vibration-sensitive land uses in addition to commercial and industrial buildings where vibration would interfere with operations within the building, including levels that may be below those associated with human annoyance. However, commercial and industrial buildings are not considered noise-sensitive. All of the aforementioned types of land-uses are present within the unincorporated County.

Existing Noise Sources and Ambient Levels

Sonoma County is characterized as a primarily rural environment with low-density development. Community noise measurements were conducted in July 2002 and indicated that typical community noise levels in noise-sensitive areas range between 45 and 55 dB L_{dn} (Sonoma County 2012: NO-8). Major sources of noise include transportation and non-transportation-related activities, as discussed below. The location of significant noise sources and noise monitoring sites are shown in Figure 3.12-1.

Transportation Noise Generators

The most common source of noise in rural and semirural environments is related to transportation. Transportation noise generators within the unincorporated County include roadways, airports, railroads, and the Sonoma Raceway. A discussion of each of these noise sources is provided below.

Roadways

Traffic on roadways is the most substantial and common source of noise in the unincorporated County. There are several key factors associated with roadway or traffic noise, including traffic volumes; the speed of the traffic; the type or "mix" of vehicles using a particular roadway; and pavement conditions. Roadway noise also varies by time of day. Certain roadways are heavily traveled by commuters during the morning and late afternoon peak hours but are relatively vacant during nonpeak commuting hours. The roadway network in the unincorporated County consists of state highways, interstate highways, regional arterials, local public roads, and private roads. The highways that traverse the County include United States (US) 101, US 1, State Route (SR) 12, SR 116, and SR 128.

Airports

Sonoma County is served by six airports: Cloverdale Airport, Healdsburg Airport, Charles M. Schulz Sonoma County Airport, Petaluma Airport, Sonoma Valley Airport, and Sonoma Skypark. As detailed in Section 3.12-2, "Regulatory Setting," in January 2001, the Sonoma County Airport Land Use Commission adopted the County CALUP, which establishes airport influence areas, noise standards, land use compatibility standards, and safety zones for each airport.

Railroads

The Northwest Pacific Railroad roughly parallels US 101 and traverses the entire length of Sonoma County as shown in Figure 3.12-1 (Sonoma County 2012: NO-9). Railroad operations in the County have consisted of sporadic through freight and local switching operations by the Northwest Pacific Railroad. The County General Plan estimates that maximum noise levels due to passing trains could be as loud as 88 dB at 100 feet without the use of warning horns and 101 dB with the use of a warning horn (Sonoma County 2012: NO-9).

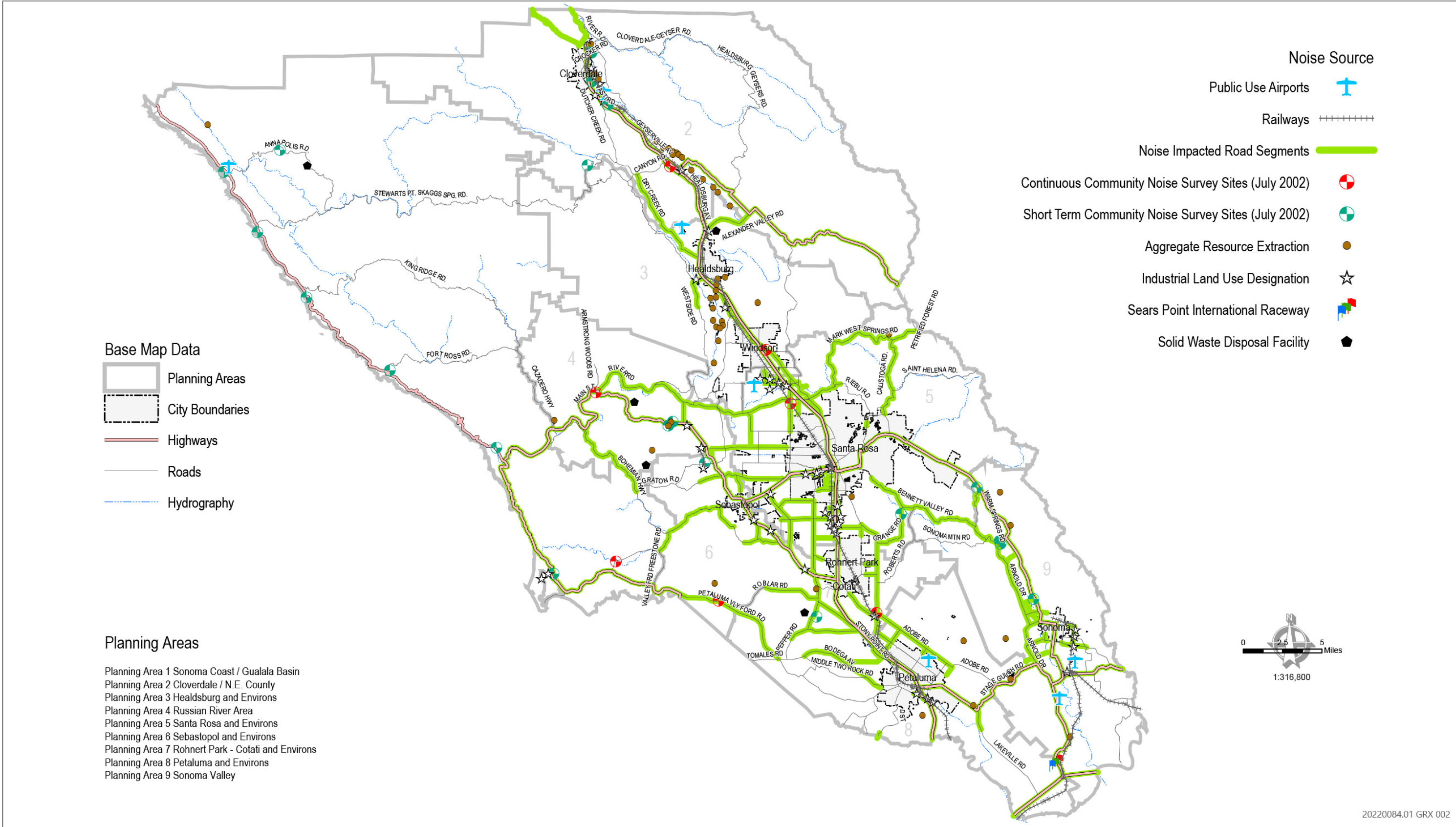
Raceway

The Sonoma Raceway (formerly known as Infineon [Sears Point] International Raceway) is located along SR 121, north of the intersection of SR 37 and SR 121. Raceway activity includes a variety of professional and amateur road races, motorcycle races, go-cart races, and drag races (Sonoma County 2012: NO-10). Noise generated from raceway activity is controlled by the conditions of approval for the current land use permit (Sonoma County 2012: NO-12).

Non-Transportation Noise Generators

Industrial, Commercial, Extractive, and Agricultural Sources

Non-transportation-related noise are often referred to as "stationary," "fixed," "area," or "point" sources of noise. Industrial processing; mechanical equipment; pump stations; and heating, ventilating, and air conditioning (HVAC) equipment are examples of non-transportation noise generators within the unincorporated County. In addition, some non-transportation sources, such as agricultural field machinery and truck deliveries, are not stationary but are typically assessed as such due to the limited area in which they operate.



*Source: Image produced and provided by Sonoma County PRMD in 2024, adapted by Ascent in 2024.

Figure 3.12-1 Significant County Noise Sources and Locations of Noise Monitoring Sites

Noise generated by industrial and commercial operations, maintenance, manufacturing, truck traffic (loading docks), and warehousing noise can affect surrounding noise-sensitive land uses. Noise perceived as disruptive by residents in proximity to existing agricultural operations has the potential to result from the operation of agricultural machinery in the evening or early morning hours when many residents desire a quiet environment. In addition, the operation of exterior exhaust and cooling system equipment typically used in greenhouse operations can be a source of noise that can potentially affect surrounding land uses.

Special Events

The Sonoma County General Plan provides noise exposure information pertaining to special events, which is relevant to the proposed Cannabis Program Update, as the Program Update would allow for special events. Special events, both single and ongoing, include such activities as festivals and concerts, which may include the use of amplified sound systems. Often located at wineries, these activities can produce unacceptable noise levels, especially during evening hours, and the associated traffic may heighten public concerns about the noise producing activity. Given the potential conflicts due to noise associated with events, concerts, and other such activities, noise will continue to be considered in the review process for proposals that allow special events (Sonoma County 2012: NO-13).

3.12.4 Environmental Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, "Project Description," and Section 3.0, "Approach to the Environmental Analysis," regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

Although the Cannabis Program Update does not propose new physical development, it would allow for an increase in acreage of cannabis cultivation and supply chain uses and construction and operation of associated infrastructure necessary to support future cannabis operations. Impacts related to noise and vibration are analyzed based on a review of the Cannabis Program Update and its potential to result in physical changes to the environment if it is approved and implemented. Thus, Sonoma County Guidelines for the Preparation of Noise Analysis were not used in the preparation of this analysis because no specific cannabis project is proposed. However, where applicable, noise impact thresholds and mitigation measures were designed to be consistent with the Guidelines for the Preparation of Noise Analysis.

Each issue area is analyzed in the context of existing regulations, as well as policies adopted in the General Plan and the extent to which these existing regulations and policies adequately address and minimize the potential for impacts associated with implementation of the Cannabis Program Update.

The environmental analysis in this Draft EIR is programmatic and does not evaluate noise impacts of specific cannabis site construction and operation. Instead, the analysis focuses on the worst-case noise-related impacts that could occur from the implementation of the Cannabis Program Update. Therefore, attention is given to the limitations and restrictions imposed by the existing requirements outlined in local regulations regarding the types, locations, and intensity of noise-generating activity.

The following proposed changes to the Sonoma County Code are applicable to noise and vibration:

Section 26-18-115 Cannabis Cultivation

C. Standards

1. Applicable to all zone districts:

- d. Generators. Generator use is prohibited, except in the case of an emergency.

4. LIA, LEA, DA, RRD zones:

c. Setbacks

1. Property line setback. The cannabis premises must be setback at least 100 feet from each property line.
 2. Residential Land Use setback. The cannabis premises must be setback at least 600 feet from all properties within Residential Zoning Districts including Low, Medium, and High Density Residential (R1, R2 & R3), Rural Residential (RR), Agriculture and Residential (AR) and Planned Community (PC).
 3. Incorporated City boundaries. The cannabis premises must be setback at least 600 feet from incorporated city boundaries.
 4. Sensitive Use setback.
 - a. Distance. The cannabis premises must be setback at least 1,000 feet from each property line of a parcel with a sensitive use that exists at the time the application to initiate the cannabis use is deemed complete.
 - b. Definition of Sensitive Use. Sensitive uses are K-12 schools, public parks, day care centers, and alcohol or drug treatment facilities. In this section, a public park means existing Federal Recreation Areas, State Parks, Regional Parks, Community Parks, Neighborhood Parks, and Class I Bikeways as designated in the Sonoma County General Plan, but not proposed public parks that have not yet been constructed.
 5. Existing Permits and Applications. Existing Permits and Applications. The following setbacks apply to an application that was approved or deemed complete prior to the effective date of this Ordinance and any amendment to such permit or application;
 - a. Property Line Setback. New structures, the reuse of existing structures not currently used for the cannabis operation, outdoor event areas, and outdoor canopy must be setback at least 100 feet from each property line.
 - b. Offsite Residential Setback. Outdoor canopy, mixed-light cultivation structures, and outdoor event areas must be setback at least 300 feet from offsite residences on residentially zoned parcels.
 - c. Sensitive Use Setback. Approved permits and any amendments thereto are only subject to the sensitive use setbacks that were applied to the original approval.
 - h. A crop swap is the replacement of active cultivation of perennial or row crops with outdoor cannabis cultivation or the reuse of an existing nonresidential structure for an accessory cannabis use or indoor or mixed-light cannabis cultivation, involving no or negligible expansion of use. The application must conform to all standards in Secs. 26-18-115(C)(1), (3) and (4) and the following:
- #### **6. Trip Generation.**
- a. Additional employees are limited to two.
 - b. Total additional trip generation is limited to 10 average daily trips.

Section 26-18-270 Cannabis Events

- B. Applicable Zones. This section applies to parcels zoned LIA - Land Intensive Agriculture, LEA-Land Extensive Agriculture, DA -Diverse Agriculture, and RRD -Resources and Rural Development.
- D. Operating Standards.
 - 1. Number and size of events.
 - a. Small-scale events.
 - 1. Attendees: 25 or fewer. But the number of attendees may be increased to a maximum of 50 attendees, if attendees are shuttled from an offsite location as specified in the use permit.
 - 2. Annual small-scale events allowed: up to 104 event days.
 - b. Large-scale events.
 - 1. Attendees: Any number greater than 25.
 - 2. Annual large-scale events allowed: up to 2 events with up to 2 event days each.
 - 2. Hours of Operation. The maximum hours of operation for a cannabis event are 10:00 a.m. to 10:00 p.m., unless further limited by the use permit.
 - 6. Noise. Cannabis events must not exceed the general plan noise standards Table NE-2, measured in accordance with the Sonoma County noise guidelines.

Section 26-20-025. Centralized Cannabis Processing

- C. Standards.
 - 1. LEA, LIA, DA zones: centralized processing must conform to the minimum parcel size setbacks and odor control required for cannabis cultivation (Sec. 26-18-115)

Construction Noise

Construction source noise levels generated by the Cannabis Program Update were determined based on methodologies, reference emission levels, and usage factors from the *FTA Guide on Transit Noise and Vibration Impact Assessment* methodology (FTA 2018) and the *FHWA Roadway Construction Noise Model User's Guide* (FHWA 2006). Reference levels for noise and vibration emissions for specific equipment and activity types are well documented, and the usage thereof is common practice in the field of acoustics.

Construction noise can be characterized based on the type of activity and associated equipment needed. A detailed construction equipment list is not currently available. Although precise construction noise impacts cannot be determined without specific project and property information, the analysis does assess the potential for construction noise impacts under scenarios likely to represent actual conditions. Although some cannabis facilities associated with the Cannabis Program Update would be located on existing sites and within existing structures, for a conservative analysis, it is assumed that construction of new facilities would be required in agricultural, commercial, and industrial zones.

To evaluate potential construction noise impacts, reference noise levels associated with common construction equipment were used to model the worst-case construction noise levels. Construction equipment associated with cannabis facilities may include bulldozers and grading equipment, as well as hand tools (hammers, drills) for activities such as fence installation and buildings/structures siding and roofs. To remain conservative, daytime construction noise was modeled for the construction phase that typically uses the loudest single piece of equipment (e.g., site preparation). The site preparation phase typically generates the most substantial noise levels because on-site equipment associated with grading, compacting, and excavation is the noisiest. Site preparation equipment and activities include backhoes, bulldozers, loaders, and excavation equipment (e.g., graders and scrapers). As provided in Table 3-1, site development would involve a generally small area of land (e.g., 0.5 acres of construction activity to support a 6,500 sf for centralized processing facility, 2,700 sf for a manufacturing facility, 2,800 sf for a testing facility and 3,000 sf for a distribution facility). While it is reasonable to assume that only one piece of equipment would run

at a time to develop a small 0.5-acre parcel, this analysis provides a conservative approach and models noise levels for simultaneous daytime construction of three pieces of heavy equipment (i.e., bulldozer, excavator, and grader) and does not account for any existing intervening topography; thus, it represents the worst-case noise level generation when all equipment at each location is in operation. The County Code, General Plan, and Noise Analysis Guidelines do not specify construction noise limits during daytime hours and do not exempt noise associated with daytime construction activities. The County typically analyzes daytime construction noise qualitatively; however, due to the programmatic nature of the Cannabis Program Update, the precise locations, construction techniques, extent of individual site development, and project timelines are currently unknown. Therefore, to more conservatively assess the potential noise impacts associated with implementation of the Cannabis Program Update, the FTA recommended daytime construction noise criteria of 90 dBA L_{eq} for residential uses are used as thresholds of significance to evaluate the daytime construction noise impacts of the Cannabis Program Update.

Although construction activities are expected to occur primarily during daytime hours (i.e., 7:00 a.m. to 10:00 p.m.), nighttime construction may be required. Nighttime construction noise conservatively assumes the operation of three pieces of equipment and does not account for any existing intervening topography; thus, it represents the worst-case noise level generation when all equipment at each location is in operation. The Guidelines for the Preparation of Noise Analysis recommend that the County General Plan stationary noise standards (Table 3.12-3) are applied to construction activity that occurs between 10:00 p.m. and 7:00 a.m. and thus, are used as thresholds of significance to evaluate the nighttime construction noise impacts of the Cannabis Program Update. These noise levels have been adjusted according to the cumulative duration of the intrusive sound. For example, if the cumulative period is 30 minutes per hour, no adjustments are made, and the standard is 45 dB during the nighttime, functionally similar to the average hourly noise level or L_{eq} . The analysis herein evaluates whether short-term noise associated with the nighttime construction of permitted cannabis facilities would exceed the County nighttime construction noise standards of 45 dBA L_{eq} between 10:00 p.m. and 7:00 a.m. at noise-sensitive land uses.

Construction Vibration

Construction activities could potentially expose nearby buildings to ground vibration levels that result in structural damage or negative human response. Construction activities that may expose people to excessive vibration, resulting in sleep disturbance or prolonged disruption to daily activities/work, are more likely to occur during construction activities that involve impact equipment (e.g., pile drivers, blasting). Blasting equipment is typically required to remove rock, and pile drivers are typically required for building large structures, such as bridges and multistory buildings. Therefore, the use of blasting and pile driving equipment is not anticipated under the Cannabis Program.

Construction of cannabis sites associated with the Cannabis Program Update would not involve the use of ground vibration-intensive activities, such as pile driving, as this equipment is typically required to build large structures, such as bridges and multi-story buildings. Construction of individual projects would involve grading, site preparation, and construction activities. No demolition is anticipated to support new cannabis uses. Within agricultural and resource districts, where more grading may be necessary, it is reasonably foreseeable that the greatest vibration-inducing piece of equipment would be a large bulldozer due to the topography of these areas (i.e., rural rolling hills). In contrast, lot sizes associated with industrial and commercial districts tend to be smaller and generally flat in topography, thereby limiting reasonably foreseeable vibration-inducing construction equipment to a small bulldozer.

Construction vibration levels were determined based on methodologies, reference emission levels, and usage factors from the methodology in FTA's *Guide on Transit Noise and Vibration Impact Assessment* (FTA 2018). Construction vibration levels and contour distances were calculated based on reference vibration levels for construction equipment that could be used and would generate the greatest levels of ground vibration (i.e., large bulldozer within agricultural and resources districts and small bulldozer within industrial and commercial districts where lot sizes tend to be smaller and of flatter topography). Reference levels for vibration emissions for specific equipment types are well documented, and the usage thereof is common practice in the field of acoustics.

Operations Noise and Vibration

Stationary Noise

Concerning non-transportation noise sources (e.g., stationary noise sources) associated with the operation of new cannabis facilities, the assessment of long-term (operations-related) impacts was based on reference noise emission levels, measured noise levels for activities and equipment typically associated with the operation of cannabis facilities (e.g., HVAC units, mechanical equipment) and temporary cannabis events, and standard attenuation rates and modeling techniques. As noted above, it is not possible to estimate the extent of accessory uses on cannabis sites that may occur in the future under the Cannabis Program Update. Thus, the analysis programmatically addresses the potential for accessory uses.

Transportation Noise

Operational vehicle traffic would vary depending on the site and the various daily trip rates for each cannabis permit type. Vehicular trips would be attributed to permitted cannabis facilities and associated activities, including retail, cultivation, manufacturing, distribution, testing, and microbusinesses, and have the potential to introduce new vehicle (e.g., automobile and light/medium trucks) trips to County roadways, which may result in increased noise levels. The exact locations of individual future permitted cannabis facilities and the extent of potential accessory uses within the unincorporated County are currently unknown. Thus, the roadways upon which individual facility-generated trips would travel cannot be known. Therefore, potential long-term (operation-related) noise impacts attributable to increases in traffic are assessed qualitatively.

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the State CEQA Guidelines, FTA vibration and noise standards, adopted General Plan policies, the Guidelines for the Preparation of Noise Analysis, and the County Code, the Cannabis Program Update would have a significant noise or vibration impact if it would result in:

Short-Term Construction Noise

- ▶ Daytime construction-generated noise levels exceeding the FTA daytime criterion of 90 dBA L_{eq} for at the exterior property line of sensitive receptors between the hours of 7:00 a.m. and 10:00 p.m.
- ▶ Nighttime construction-generated noise levels exceeding the County nighttime criterion of 45 dBA L_{eq} for sensitive receptors between the hours of 10:00 p.m. and 7:00 a.m.
- ▶ An increase of 10 dBA or more above existing noise levels.

Vibration

- ▶ Generation of excessive groundborne vibration or groundborne noise levels that exceed the following thresholds at the closest structure on an adjacent parcel:
 - Structural damage: 0.20 inches per second PPV for nonengineered timber and masonry buildings (Table 3.12-2).
 - Human response: 80 VdB (Table 3.12-1).

Operations Traffic Noise

- ▶ A substantial increase in long-term transportation noise, defined as a perceptible increase in noise (i.e., 3 dBA or more).

Operations Stationary Noise

- ▶ Long-term noise levels generated by stationary sources that exceed 50 dBA L_{50} between 7:00 a.m. and 10:00 p.m. or 45 dBA L_{50} between 10:00 p.m. and 7:00 a.m. at the exterior property line of an adjacent noise-sensitive land use (Table 3.12-3).

- ▶ Thresholds are modified from the stationary source levels as follows:
 - ▶ If the ambient noise level exceeds the standard in Table NE-2 [Table 3.12-3 in this Draft EIR], adjust the standard to equal the ambient level, up to a maximum of 5 dB above the standard, provided that no measurable increase (i.e. +/- 1.5 dB) shall be allowed.
 - ▶ Reduce the applicable standards in Table NE-2 [Table 3.12-3 in this Draft EIR] by 5 dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises, such as pile drivers and dog barking at kennels.
 - ▶ Reduce the applicable standards in Table NE-2 [Table 3.12-3 in this Draft EIR] by 5 dB if the proposed use exceeds the ambient level by 10 or more dB.

Airport Noise and Compatibility

- ▶ For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, the exposure of people residing or working in the project area to excessive noise levels.

ISSUES NOT DISCUSSED FURTHER

Personal Cultivation

The proposed Cannabis Program Update does not include changes to personal cultivation standards that would be substantially different from existing requirements such that physical changes to the environment could occur that would create significant impacts related to noise. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

Long-Term Operational Vibration

Implementation of the Cannabis Program Update would not introduce any major sources of long-term or permanent ground vibration, such as commercial railways or passenger rail transit lines. Therefore, the Cannabis Program Update would not result in long-term operations activities associated with permanent or substantial levels of ground vibration. This issue is not discussed further.

Airport Noise

Implementation of the Cannabis Program Update would not result in the development of new residences or other noise-sensitive land uses near private airstrips or public, commercial airports in the County. In addition, existing permitted cannabis facilities have already been sited and subject to the CALUP. Although the Cannabis Program Update would no longer include a requirement to comply with the CALUP in the zoning code, new commercial cannabis facilities within a noise environment that exceeds 55 dBA CNEL would be required to comply with applicable CALUP policies and criteria in accordance with Policy AT-1a of the County General Plan and the County Noise Analysis Guidelines. The CALUP establishes standards for noise compatibility for the public use airports in the County with which future cannabis facilities would be required to comply. Compliance with these policies would allow for future cannabis facilities to occur only in proper zoning areas and ensure that people working within a CALUP area would not be exposed to excessive airport noise. Therefore, the Cannabis Program Update would not expose people to excessive noise levels from airports. This issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.12-1: Result in Excessive Short-Term Construction Noise Impacts

Implementation of the Cannabis Program Update could result in construction of new cannabis facilities in the unincorporated County. It is possible that construction activity could generate excessive short-term noise levels at existing sensitive receptors that could result in adverse health effects (e.g., sleep disturbance). Therefore, this impact would be **significant**.

The Cannabis Program Update includes amendments to the Sonoma County General Plan and changes to the County Code to further address proposed cannabis cultivation and supply chain uses. Although the Cannabis Program Update does not propose new physical development, it would allow for an increase in acreage of cannabis cultivation and supply chain uses and construction and operation of associated infrastructure necessary to support future cannabis operations. Future cannabis uses associated with the Cannabis Program Update would be allowed in the following zoning districts: Neighborhood Commercial (C1), Retail and Business Service (C2), General Commercial (C3), Limited Commercial (LC), Land Intensive Agriculture (LIA), Land Extensive Agriculture (LEA), Diverse Agriculture (DA), Resources and Rural Development (RRD), Industrial Park (MP), Limited Urban Industrial (M1), Heavy Industrial (M2), and Limited Rural Industrial (M3).

For a conservative worst-case analysis, this analysis assumes that construction of new facilities would be required in agricultural, commercial, and industrial zones. Construction of new cannabis facilities would be intermittent and temporary and would fluctuate over the years as new facilities are constructed from implementation of the Cannabis Program Update. Construction of new cannabis facilities could involve the use of off-road construction equipment for vegetation removal, breaking ground, initial plowing, or grading to establish a foundation, and lifting supplies and building materials. Although the extent of construction activity would vary depending on the site location and existing site conditions (e.g., if there are existing buildings on the site that can be used to support the cannabis facility), generally, the intensity of construction activity for new cannabis sites in both agricultural/resource districts and industrial/commercial districts would be like that of agricultural development, residential renovation, or a building addition project. As detailed under Section 3.12.4 under the subheading "Methodology," for a conservative analysis, the FTA daytime construction noise standards and the County nighttime construction noise standards are used in this analysis to quantitatively assess construction noise impacts. FTA has daytime construction noise standards of 90 dBA L_{eq} for residential uses (FTA 2018) and the County recommends a noise level of 45 dBA L_{50} (applied in this analysis as an hourly average) be applied to nighttime (i.e., 10:00 p.m. – 7:00 a.m.) construction noise.

Modeling for on-site construction noise conservatively assumes the simultaneous operation of three pieces of heavy equipment (i.e., bulldozer, excavator, and grader) and does not account for any existing intervening topography; thus, it represents the worst-case noise level generation when all equipment at each location is in operation. Simultaneous operation of the three pieces of equipment would generate a combined hourly average noise level of approximately 83.8 dBA L_{eq} at 50 feet and a maximum noise level of approximately 87.8 dBA L_{max} at 50 feet (see Appendix D for noise modeling). The FTA daytime construction noise standard of 90 dBA L_{eq} for residential uses would be exceeded within 25 feet of construction activity. In addition, if nighttime construction activity were to occur within 3,931 feet of residential or other noise-sensitive uses, the applicable County nighttime construction noise standard of 45 dBA L_{eq} would be exceeded. Therefore, if construction activity were to take place within these distances, noise levels would exceed the applicable noise standards.

Proposed Allowable Uses in Agricultural and Resource Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from

each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Under the Cannabis Program Update, cannabis cultivation facilities and centralized processing facilities within agricultural zones LIA, LEA, DA, and zoning district RRD would include a minimum setback of 100 feet from each property line, 600 feet from residential zoning districts and incorporated city boundaries, and 1,000 feet from sensitive uses (i.e., K-12 schools, public parks, day care centers, and alcohol or drug treatment facilities). The setback from the cannabis premises includes all part of a cannabis operation, including any potential accessory uses. At 100 feet, daytime construction noise levels would attenuate to 77.8 dBA L_{eq} . Daytime construction noise levels would be even lower with increased distance from construction activity. Therefore, with adherence to the setbacks required under the Cannabis Program Update, construction activity within agricultural and resource zones are not expected to exceed the FTA daytime construction noise standards.

As described above, nighttime construction activity would exceed the County nighttime construction noise threshold for residential uses (i.e., 45 dBA L_{eq}) within 3,931 feet of activity. Cannabis cultivation facilities and centralized processing facilities would be required to adhere to a 100-foot setback from each property line, a minimum 600-foot setback from residential zoning districts, and 1,000 feet from sensitive uses. At 600 feet, nighttime construction noise levels would attenuate to 61.3 dBA L_{eq} and at 1,000 feet would attenuate to 56.9 dBA L_{eq} . Therefore, even with adherence to the setbacks required under the Cannabis Program Update, nighttime construction activity associated with cannabis facilities within these zones may exceed the County nighttime construction noise standard.

As detailed under "Existing Noise Environment," typical community noise levels within the County range between 45 and 55 dB (Sonoma County 2012). The specific details of construction activities associated with the Cannabis Program Update—such as the location of future cannabis sites and their distances to sensitive receptors—are currently unknown. Depending on the existing ambient noise levels of the proposed cannabis site and duration of construction, construction noise within agricultural and resource districts could result in a substantial temporary noise increase (i.e., +10 dBA) in the vicinity of the proposed cannabis facility. This impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap would replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor or mixed-light cannabis cultivation. No new or expanded development would be allowed. While minor modifications or on-going maintenance may occur at these sites, there would be no new construction activity that would require heavy-duty equipment, and thus no substantial construction noise associated with implementation of a cannabis cultivation site under crop swap conditions. This impact would be less than significant.

Construction of Event Facilities and Event Operations

Noise associated with the construction of event facilities would occur in combination with the construction activities as addressed above under "Proposed Allowable Uses in Agricultural and Resource Districts." Thus, construction noise could result in a substantial temporary noise increase (i.e., +10 dBA) in the vicinity of the proposed cannabis facility. This impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses as well as accessory uses. While new cannabis uses could be located within existing buildings that require interior renovations, new structures may be developed within the County. In addition, accessory uses to cultivation would be allowed, which may involve development of new structures associated with indoor and mixed-light cultivation.

The Cannabis Program Update does not propose special setback requirements for cannabis facilities in industrial and commercial zoning districts MP, M1, M2, or M3 or zones C1, C2, C3, or LC, which would all allow supply chain uses. However, cannabis facilities located within these zones would be required to comply with setback requirements of the base zoning district. In accordance with Sections 26-12-040(E) and (G) of the County Code, in the MP zone, a minimum 100-foot setback is required from a property line that fronts, sides, or backs upon a residential zone. Within

the M1, M2, and M3 zones, a 10-foot setback is required from the side or rear property line that abuts a residential zone, if any portion of the front property line is opposite a residential zone, the minimum front setback is required to be the same as the residential zone. With adherence to the minimum 100-foot setback from residential uses, construction activity within the MP zone would not exceed the applicable FTA daytime construction noise standard (i.e., 90 dBA L_{eq}) at nearby residential zones. However, because there is no required setback from other noise-sensitive uses as defined by the General Plan (e.g., libraries, places of public worship), construction activity within MP zones could result in an exceedance of the FTA standard at these land uses. In zones M1, M2, M3, C1, C3, and LC, the minimum required setback from residential zones is 10 feet. At this distance, construction noise levels at nearby sensitive receptors could reach up to approximately 97.8 dBA L_{eq} and thus could exceed the FTA daytime construction noise standards of 90 dBA L_{eq} . In addition, in Zone C2, the minimum required setback from residential zones is 5 feet. At this distance, construction noise levels at nearby sensitive receptors could reach up to approximately 103 dBA L_{eq} and therefore could also exceed the FTA daytime noise threshold of 90 dBA L_{eq} .

New cannabis uses may also be located within existing buildings that would require minor construction activities such as an interior renovation that would not require the operation of heavy equipment. All buildings provide some exterior-to-interior noise reduction. A standard enclosed building would be expected to achieve a 20-dBA reduction in noise (Caltrans 2013: 7-17). Assuming a 20-dBA reduction in noise and conservatively applying a construction noise level of 63.8 dBA L_{eq} at 50 feet, noise associated with interior renovations would exceed the FTA daytime noise standard of 90 dBA L_{eq} within 3 feet. As detailed above, the minimum required setback from residential zones is 5 feet. Thus, interior construction activity associated with cannabis facilities in industrial and commercial districts would not exceed applicable FTA exterior residential thresholds.

As discussed above, nighttime construction activity may be required for certain cannabis sites and would exceed the County nighttime construction noise threshold (i.e., 45 dBA L_{eq}) within 3,931 feet of activity. Because the specific details of construction activities associated with the Cannabis Program Update are currently unknown and because the Cannabis Program Update does not propose special setback requirements for cannabis facilities within industrial and commercial zoning districts, construction could take place within 3,931 feet of sensitive receptors; and thus, could exceed the County nighttime construction noise thresholds. In addition, depending on the existing ambient noise levels of the proposed cannabis site and duration of construction activity, construction noise within industrial and commercial districts could result in a substantial temporary noise increase (i.e., +10 dBA) in the vicinity of the proposed cannabis facility. This impact would be potentially significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial construction-related noise effects.

Conclusion

As discussed above, implementation of the Cannabis Program Update would result in the construction of new cannabis facilities within agricultural and resource districts as well as commercial and industrial districts. The specific details of individual future cannabis facilities associated with the Cannabis Program Update—such as the location of future cannabis sites, their distances to sensitive receptors, and the need for nighttime construction—are currently unknown. Therefore, it cannot be guaranteed that construction would not take place within 25 feet or 3,931 feet of sensitive receptors (i.e., the distances within which the FTA daytime and County nighttime construction noise thresholds would be exceeded, respectively). In addition, depending on the existing ambient noise levels of the proposed cannabis site and duration of construction activity, construction noise could result in a substantial temporary noise increase (i.e., +10 dBA) in the vicinity of the proposed cannabis facility. Furthermore, if construction

were to occur during nighttime hours (i.e., between 10:00 p.m. and 7:00 a.m.), construction activity could result in adverse health effects (e.g., sleep disruption). For these reasons, this impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.12-1a (DRH or UPC): Incorporate Noise Reduction Measures into Construction Specifications

Sonoma County shall require the following mitigation measures for cannabis project applications subject to issuance of a use permit or design review with hearing.

To minimize noise levels during construction activities, the development of cannabis uses shall comply with the following measures during construction work.

- ▶ Noise-generating construction activities should be restricted to between the hours of 7:00 a.m. to 7:00 p.m. Monday through Saturday. No construction activities should occur on weekends or holidays. If work is necessary outside of these hours, the County should require the contractor to implement a construction noise monitoring program and, if feasible, provide additional mitigation as necessary (in the form of noise control blankets or other temporary noise barriers, etc.) for affected receptors. A sign(s) shall be posted on the site regarding allowable hours of construction.
- ▶ All construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturer recommendations. Equipment shrouds shall be closed during equipment operation.
- ▶ Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. Equipment shall be properly maintained and turned off when not in use.
- ▶ Unnecessary idling of internal combustion engines should be strictly prohibited.
- ▶ Locate stationary noise-generating equipment, such as air compressors or portable power generators, as far as possible from sensitive receptors as feasible. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used. Any enclosure openings or venting shall face away from sensitive receptors.
- ▶ Utilize "quiet" air compressors and other stationary noise sources where technology exists.
- ▶ Construction maintenance, storage and staging areas for construction equipment shall avoid proximity to residential areas to the maximum extent practicable. Stationary construction equipment, such as compressors, mixers, etc., shall be placed away from residential areas and/or provided with acoustical shielding. Quiet construction equipment shall be used when possible.
- ▶ Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.
- ▶ Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.

Mitigation Measure 3.12-1b (UPC or DRH): Prepare Noise Analysis for Ongoing Construction Projects Anticipated to Last One Year or More

Sonoma County shall require the following mitigation measure for cannabis project applications subject to issuance of a use permit or design review with hearing.

- Sonoma County shall require the cannabis permit applicants to submit a noise analysis prepared in accordance with the County Guidelines for the Preparation of Noise Analysis. The noise analysis shall demonstrate compliance with the required County noise thresholds through the use of noise reduction measures (such as those identified in Mitigation Measure 3.12-1a) and will be subject to review by Permit Sonoma. This measure shall be incorporated into project-specific approvals.

Significance after Mitigation

The proposed Cannabis Program Update with Mitigation Measure 3.12-1a contains requirements that would regulate the overall construction noise associated with cannabis facilities, including establishing permissible construction noise hours; ensuring proper equipment use; notifying nearby land uses of upcoming construction; locating equipment away from sensitive land uses; and requiring the use of temporary acoustic barriers (e.g., noise curtains). Mitigation Measure 3.12-1b consists of Sonoma County review and required approval of a noise analysis for construction projects anticipated to last longer than one year. There are no other known feasible measures for reducing construction impacts that are not already include in the Cannabis Program Update.

Notwithstanding implementation of these measures and other identified existing and proposed regulations, the potential for construction impacts to occur is identified as significant and unavoidable because reductions of the appropriate magnitude may not be achieved under all circumstances with implementation of Mitigation Measures 3.12-1a and 3.12-1b. Specifically, because the exact construction activity required, location of future cannabis sites, and their distances to sensitive receptors are currently unknown and because noise curtains may not be feasible in all locations, daytime construction activity within industrial and commercial districts could exceed the applicable noise standard of 90 dBA L_{eq} and construction activity within all districts could result in a substantial temporary noise increase (i.e., 10+ dBA) at nearby sensitive receptors. Therefore, because it cannot be assured that the applicable noise standards can be met, this impact is considered **significant and unavoidable**.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to noise and would be consistent with Sonoma County General Plan Policies NE-1a, and NE-1c, which establish noise standards. Compliance with these policies would minimize impacts related to noise.

Impact 3.12-2: Expose Sensitive Receptors to Excessive Short-Term Vibration

Construction activity associated with implementation of the Cannabis Program Update would not require the use of ground vibration-intensive activities, such as pile driving or blasting. While bulldozers may be used to prepare sites for development, the associated vibration would not adversely affect nearby buildings or receptors. This impact would be **less than significant**.

Construction activities generate varying degrees of temporary ground vibration, depending on the specific construction equipment used and activities involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increased distance. The effects of ground vibration from construction activity may be imperceptible at the lowest levels, result in a detectable low rumbling sound and detectable vibrations at moderate levels, and at the highest levels, can cause annoyance, sleep disturbance, and damage to nearby structures. Construction of cannabis sites associated with the Cannabis Program Update would not involve the use of ground vibration-intensive activities, such as pile driving or blasting, as this equipment is typically required to remove rock and build large structures, such as bridges and multi-story buildings. Construction of individual project would involve grading, site preparation, and construction activities. No demolition is anticipated to support new cannabis uses. Within agricultural and resource districts, where more grading may potentially be necessary, a large bulldozer may be necessary; however, lots associated with industrial and commercial districts tend to be smaller, located in developed subdivisions where mass grading has already occurred, and thus a small bulldozer would be reasonably foreseeable.

Table 3.12-7 provides a list of vibration levels for pieces of equipment that could be used during typical construction of cannabis sites associated with the Cannabis Program Update.

Table 3.12-7 Vibration Reference Levels for Construction Equipment

Equipment	PPV at 25 feet (in/sec)	Approximate L _v ¹ at 25 feet
Large Bulldozer (Agricultural and Resources Districts)	0.089	87
Small Bulldozer (Industrial and Commercial Districts)	0.003	58

Notes: PPV = peak particle velocity; in/sec = inches per second.

¹ RMS velocity in decibels, referenced to 1 μ inch/second.

Source: FTA 2018: 184.

The specific construction activities, proximity of equipment to existing structures and sensitive land uses, and specific duration of potential construction activities are unknown at this time; therefore, this analysis evaluates the potential for impacts to occur at a programmatic level based on typical construction equipment that could be used for building construction. Based on the types of facilities associated with the allowable uses under the Cannabis Program Update, minimal earth-moving activities would be necessary. While some grading may be necessary within the agricultural and resources districts, minimal would be expected to occur within. According to the reference vibration levels for typical construction equipment shown in Table 3.12-7, a large bulldozer would generate the highest vibration levels during construction activity and is therefore of greatest concern when evaluating construction-related vibration impacts (FTA 2018: 184).

Because not all construction activity associated with the Cannabis Program Update would involve the use of a large bulldozer, this analysis also evaluates vibration levels resulting from use of other construction equipment shown in Table 3.12-7. Based on the reference vibration levels for typical construction equipment included in Table 3.12-7, the vibration thresholds within which the threshold of significance for structural damage (i.e., 0.20 inches per second PPV within 15 feet and the threshold for human response (i.e., 80 VdB) within 43 feet were calculated (see Appendix D for modeling details). Other equipment not modeled are not pieces of equipment that would produce high enough vibrations to result in significant impacts. The modeling results are depicted in Table 3.12-8.

Table 3.12-8 Modeled Construction Vibration Levels

Equipment	Distance (feet) within Threshold for Structural Damage (0.20 in/sec PPV)	Distance (feet) within Threshold for Human Response (80 VdB)
Large Bulldozer (Agricultural and Resources Districts)	15	43
Small Bulldozer (Industrial and Commercial Districts)	2	4

Notes: in/sec PPV = inches per second peak particle velocity; VdB = vibration decibels

Source: Modeling conducted by Ascent in 2025.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

The proposed Cannabis Program Update would change setback requirements associated with the existing cannabis program and would require a minimum setback of 100 feet from each property line; a setback of 600 feet from all residential zones (i.e., RR, AR, R1, R2, R3, PC); and a setback of 1,000 feet from sensitive uses. This setback applies to the cannabis premises, which would include any accessory uses. As shown in Table 3.12-8, the operation of a large bulldozer, the most vibration-intensive piece of equipment anticipated to be used during construction, would exceed the FTA vibration thresholds for structural damage (i.e., 0.20 in/sec PPV) and human response (i.e., 80 VdB) within 15 feet and 43 feet, respectively. With adherence to the setbacks required under the proposed Cannabis Program

Update, construction activity within agricultural and resource districts would not result in the exceedance of applicable thresholds for structural damage or human response. This impact would be less than significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap would replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. Because there would be no changes to the existing conditions, there would be no increase in risk of structural damage or negative human response from construction vibration associated with the implementation of a cannabis cultivation site under crop swap conditions. This impact would be less than significant.

Construction of Event Facilities and Event Operations

Development of structures to support events would also be subject to the setback requirements of 100 feet from each property line; 600 feet from all residential zones; and 1,000 feet from sensitive uses. With adherence to the setbacks required under the proposed Cannabis Program Update, vibration activity associated with the construction of event facilities and operations would not result in the exceedance of applicable thresholds for structural damage or human response. No equipment that could cause substantial vibration is associated with operation of cannabis events. This impact would be less than significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. As shown in Table 3.12-8, the operation of a small bulldozer, the most vibration-intensive piece of equipment anticipated to be used during construction (large bulldozer use is not expected given that these sites typically consist of existing mass graded lots within commercial and industrial subdivisions), would exceed the FTA vibration thresholds for structural damage (i.e., 0.20 in/sec PPV) and human response (i.e., 80 VdB) within 2 feet and 4 feet, respectively. While there are no minimum setback standards for uses in the allowable industrial and commercial districts, a setback of 2 feet from another building or 4 feet from a residential use would be reasonably expected and typical for industrial and commercial districts (i.e., buildings tend to be separated rather than connected). Thus, this impact would be less than significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects related to short-term vibration.

Conclusion

As detailed above, cannabis project would not require the use of ground vibration-intensive activities, such as pile driving or blasting. However, there may be circumstances where large or small bulldozer are used for earthmoving for new development. As demonstrated above, construction-related vibration would not result in significant environmental effects (i.e., structural damage or human response). This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are necessary.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The Sonoma County General Plan contains no policies related to vibration. Thus, no consistency determination can be made.

Impact 3.12-3: Expose Existing Receptors to Excessive Traffic Noise Levels

Implementation of the Cannabis Program Update could result in new cannabis sites that would generate new vehicle trips. These trips could result in an increase in traffic noise levels on the roadway network surrounding the cannabis facility. Because cannabis facilities within the unincorporated County would produce a lower or similar average daily trip rate to surrounding land uses, a doubling of traffic volumes along County roadways that would result in a substantial increase in traffic noise (i.e., 3+ dB) is not anticipated. This impact would be **less than significant**.

The proposed Cannabis Program Update would result in new cannabis facilities that would generate new vehicle trips. These trips could result in an increase in average daily traffic volumes on the surrounding roadway network and an associated increase in traffic noise levels. In addition, new cannabis facilities could generate noise associated with parking lot activities (e.g., opening and closing of vehicle doors, car alarms). Vehicular and human activity in parking lots would be intermittent in nature and would vary considerably depending on the specific characteristics of the cannabis facility. This activity also tends not to be of a level of frequency that would disturb existing sensitive receptors and would mostly occur during the daytime, when receptors are least sensitive. Therefore, this analysis focuses on noise associated with new vehicle trips. As detailed in Section 3.12.3, it is widely accepted that people can begin to detect sound level increases of 3 dB in typical noise environments corresponding to a doubling of sound energy. Thus, regarding traffic noise specifically, a noticeable increase in traffic noise could occur with a doubling in the volume of traffic on a roadway. The proposed Cannabis Program Update does not propose to change any land use designations or zoning districts in the County. Rather, it allows for cannabis facilities to operate on land zoned for agricultural, commercial, and industrial uses.

The Institute of Transportation Engineers (ITE) *Trip Generation 11th Edition* (Trip Generation Manual) provides trip generation rates for a variety of land uses, including cannabis uses. The ITE Trip Generation Manual provides one-hour weekday daytime (i.e., between 7:00 a.m. and 9:00 a.m.) and evening (i.e., between 4:00 p.m. and 6:00 p.m.) peak hour trip generation rates for marijuana cultivation and processing facilities defined as “a free-standing facility where marijuana is propagated, planted, grown, harvested, dried, cured, graded, labeled, tagged for tracking, or trimmed” (ITE 2021). The Trip Generation Manual also includes trip generation rates for marijuana dispensaries, defined as, “a stand-alone facility where cannabis is sold to patients or retail consumers in a legal manner” (ITE 2021). Table 3.12-9 shows the trip generation rate associated with cannabis cultivation and processing facilities and dispensaries alongside land uses (i.e., general light industrial, manufacturing, and wine tasting room) that are assumed to generate similar trip generation rates.

Table 3.12-9 Trip Generation Rates by Land Use

Land Use Group	Land Use	Land Use Code	Peak A.M. Trip Generation Rate ¹	Peak P.M. Trip Generation Rate ²	Independent Variable
Industrial	General Light Industrial	110	0.74	0.65	1,000 sf GFA
Industrial	Manufacturing	140	0.68	0.74	1,000 sf GFA
Industrial	Cannabis Cultivation, Nursery, and Processing Facility	190	0.69	0.64	1,000 sf GFA
Retail	Marijuana Dispensary	882	10.54	18.92	1,000 sf GFA

Notes: sf = square feet; GFA = gross floor area.

¹ Trip generation rate for weekday peak hour of adjacent street traffic, 1 hour between 7:00 a.m. and 9:00 a.m.

² Trip generation rate for weekday peak hour of adjacent street traffic, 1 hour between 4:00 p.m. and 6:00 p.m.

Source: ITE 2021.

Proposed Allowable Uses in Agricultural and Resource Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as

manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

As shown in Table 3.12-9, cannabis uses in agricultural and resource districts (e.g., cultivation, nursery, processing) would likely generate a peak a.m. trip rate of 0.69 per 1,000 square feet (sf) gross floor area (GFA) and a peak p.m. trip rate of 0.64 per 1,000 sf GFA. Applying the development assumptions, implementation of the Cannabis Program Update could result in 4,367,428 sf of cultivation building area, 164,000 sf of nursery building area, and 58,500 sf of centralized processing building area. Applying the trip generation rates as shown in Table 3.12-9, cannabis cultivation, nursery, and processing facilities are anticipated to generate 3,167 daily peak a.m. trips and 2,937 daily peak p.m. trips. Accessory uses (e.g., manufacturing, retail, processing) could also occur on sites and create additional vehicle trips, but may also result in trip reductions from what is shown in Table 3.12-9 from the combining of cultivation and supply chain uses on a single site that creates operational efficiencies. These trips within agricultural and resource districts would be widely spread across the county-wide roadway network such that they are not anticipated to result in a doubling of traffic volumes on any single roadway that would create a significant traffic noise increase or impact. This impact would be less than significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap would replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. As detailed in Chapter 2, "Project Description," a crop swap operation would allow for up to two additional employees and a total of 10 additional average daily trips. It is likely that the additional 10 average daily trips would not double the traffic volumes along the roadway network surrounding a crop swap site; and thus, would not result in a substantial (i.e., 3+ dB) increase in traffic noise. This impact would be less than significant.

Construction of Event Facilities and Event Operations

Under the Cannabis Program Update, small-scale cannabis events would be limited to a total of 25 attendees. In circumstances where shuttle services are provided, the maximum number of attendees may be increased to 50 with a use permit. Up to two large-scale events and up to 104 small-scale event days per year would be permitted. Vehicle trips associated with temporary cannabis events would include trips generated by employees (e.g., security) and event attendees. These trips would result in an increase in average daily traffic volumes and an associated increase in traffic noise levels along roadway segments that would be used to travel to and from events. However, the increase in traffic volumes along roadway segments would be temporary and are not expected to result in a doubling of traffic along affected roadways (i.e., trips would be limited by the maximum number of attendees). In addition, as detailed in Chapter 2, "Project Description," cannabis events would be allowed to operate between 10:00 a.m. and 10:00 p.m., any day of the week unless further restricted in the use permit. Therefore, increased trips associated with temporary cannabis events would not result in long-term increased traffic noise levels along affected roadways during sensitive nighttime hours (i.e., between 10:00 p.m. and 7:00 a.m.). Therefore, traffic noise associated with temporary cannabis events would be unlikely to affect nearby sensitive land uses at sensitive times. This impact would be less than significant.

Proposed Allowable Uses in Industrial and Commercial Districts

As discussed under Impact 3.12.4, while it remains reasonably foreseeable that permittees could seek to develop new structures to support new cannabis facilities and accessory uses, most cannabis uses within industrial and commercial districts would likely be located within existing developed sites and buildings based on the current 9 percent vacancy rate for available retail space and 7 percent for industrial space county-wide (incorporated and unincorporated) as identified in Table 3-1. That is, future cannabis facilities would generally replace other industrial and commercial businesses.

As shown in Table 3.12-9, based on ITE trip generation rates, general light industrial land uses generate a peak a.m. trip generation rate of 0.74 and a peak p.m. trip generation rate of 0.65 per 1,000 sf GFA, and manufacturing land uses generate a peak a.m. trip rate of 0.68 per 1,000 sf GFA and a peak p.m. trip rate of 0.74 per 1,000 sf GFA (ITE

2021). Cannabis cultivation and processing facilities that would be located within industrial and commercial districts generate a peak a.m. trip rate of 0.69 per 1,000 sf GFA and a peak p.m. trip rate of 0.64 per 1,000 sf GFA. Thus, such facilities would generate reduced trip generation rates compared to general light industrial land uses and would generate comparable trip generation rates to industrial manufacturing land uses.

Applying the development assumptions listed in Table 3-1, implementation of the Cannabis Program Update could result in 99,900 sf of manufacturing building area, 25,200 sf of testing building area, 252,000 sf of distribution building area, and 134,400 sf of retail building area. In addition, mixed-light and indoor cannabis cultivation could occur within these zones. Table 3-1, estimates that these cultivation uses could involve in 1,987,724 sf of operation. Applying the trip generation rates as shown in Table 3.12-9, cannabis manufacturing facilities could result in approximately 68 daily peak a.m. trips and 74 peak p.m. trips; cannabis testing facilities could result in approximately 25 daily peak a.m. trips and 16 daily peak p.m. trips; and cannabis distribution facilities could result in approximately 252 daily peak a.m. trips and 164 daily peak p.m. trips. Cannabis retail facilities could result in approximately 1,417 daily peak a.m. trips and 2,543 daily peak p.m. trips. Mixed-light and indoor cannabis cultivation uses (if located entirely within these zones) could result in approximately 1,372 daily peak a.m. trips and 1,272 daily peak p.m. trips. Accessory uses could also occur on sites and create additional vehicle trips, but may also result in trip reductions from what is shown in Table 3.12-9 from the combining of cultivation and supply chain uses on a single site that creates operational efficiencies.

These trips generated by cannabis facilities within industrial and commercial districts would be widely spread across the county roadway network such that they are not anticipated to result in a doubling of traffic volumes that would create a significant traffic noise increase or impact. In addition, because cannabis facilities within commercial and industrial zones would generally be located within existing developed buildings and would produce a lower or similar average daily trip rate than typical uses within these zones, a doubling of traffic volumes along county-wide roadways that would result in a substantial increase in traffic noise (i.e., 3+ dB) is not anticipated.

The cannabis facilities that could have the potential to generate substantial increases in traffic volumes (doubling of trips such that noise increases by 3 or more dB) would be those that involve delivery and distribution activities (e.g., cannabis non-storefront retail; cannabis distribution). These facilities would be permitted in industrial and commercial zones, which generally carry relatively high traffic volumes due to existing industrial and commercial operations (e.g., deliveries) and thus would be unlikely to experience a doubling in traffic volumes due to new cannabis facilities. Therefore, because commercial and industrial cannabis facilities would generally be located within existing buildings, traffic volume from operational trips, including employee commutes, are not expected to result in excessive long-term increase in traffic noise along individual roadway segments throughout the unincorporated County. This impact would be less than significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects related to excessive long-term increases in traffic noise along individual roadway segments.

Conclusion

Implementation of the Cannabis Program Update would allow for cannabis facilities and temporary events to operate in agricultural and resource districts and industrial and commercial districts. The areas in which cannabis facilities would be permitted is extensive; thus, the daily trips generated by operation of such facilities are anticipated to be widely spread across the County roadway network such that they are not anticipated to result in a doubling of traffic volumes that would create a significant traffic noise increase or impact. Therefore, because implementation of the Cannabis Program Update would not induce a substantial increase in vehicular trips in the County, it would not result in increased transportation-related ambient noise levels. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to noise and would be consistent with Sonoma County General Plan Policies NE-1a, NE-1c, which establish noise standards. Compliance with these policies would minimize impacts related to noise.

Impact 3.12-4: Cause Excessive Long-Term Operational Stationary Noise Levels

Implementation of the Cannabis Program Update could result in the long-term operation of new noise-generating stationary equipment (e.g., mechanical trimmers) and activities (e.g., special events). Specific building footprints, layouts, and the locations of stationary equipment are currently unknown; thus, it is possible that noise associated with mechanical equipment, cannabis events, and cannabis lounges could be located within distances that expose existing sensitive receptors to noise levels that exceed County noise standards and result in public health effects (e.g., sleep disturbance) at nearby sensitive receptors. Therefore, this impact would be **significant**.

The operation of cannabis facilities associated with implementation of the Cannabis Program Update could result in long-term increases in stationary noise from the use of mechanical trimmers, generators, refrigerated storage containers, greenhouse fans, and special events. This analysis addresses the potential exposure of sensitive receptors to noise generated by stationary components of cannabis facilities permitted under the Cannabis Program Update.

The County has established standards for acceptable noise levels in Table NE-2 of the County General Plan (Table 3.12-3 in this Draft EIR). These noise levels have been adjusted according to the cumulative duration of the intrusive sound. For example, if the cumulative period is approximately 5 minutes per hour, then the standard is adjusted by 10 dB to 60 dB during daytime hours and 55 dB during nighttime hours. If the cumulative period is 30 minutes per hour, no adjustments are made, and the standard is 50 dB during the daytime and 45 dB during the nighttime, functionally similar to the average hourly noise level or L_{eq} . The analysis herein evaluates whether long-term operational stationary noise sources associated with permitted cannabis facilities would exceed the County noise standards of 50 dBA L_{eq} between 7:00 a.m. and 10:00 p.m. and 45 dBA L_{eq} between 10:00 p.m. and 7:00 a.m. at noise-sensitive land uses.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and retail. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

The primary stationary noise sources from allowable cannabis uses within agricultural and resources districts would consist of the maintenance and harvest of cannabis at outdoor cultivation sites. Mixed-light and indoor cultivation and supply chain uses are generally operated within buildings that substantially attenuate noise levels. The potential impacts of major stationary noise sources are discussed below.

Mechanical Equipment

Although it is anticipated that most trimming would be conducted by hand, motorized trimmers for trimming cannabis plants could be used during processing activities. An industrial trimmer is similar in design to a domestic clothes dryer – that is, it uses a drum that spins slowly to mechanically trim dried cannabis flower. Because the materials within the trimmer are all plant-based, the noise level is low (i.e., the sound is limited to the motor spinning rather than heavy or hard materials). For reference, a typical clothes dryer has a noise level of 60 to 63 dBA at 3.3 feet (Alliance Laundry 2019). These trimmers would be located inside buildings, which would be expected to achieve at

least a 20-dBA reduction in noise (Caltrans 2013: 7-17). Thus, the maximum noise level of a trimmer operating within a building would be less than 45 dBA and would therefore not exceed the County daytime or nighttime standards and would not create a substantial increase in existing ambient noise conditions offsite given setback requirements identified above.

Noise sources associated with cannabis sites within agricultural and resources districts could include the use of refrigerated storage units with externally mounted air conditioning units and dehumidifiers to store fresh frozen commercial cannabis after harvest as well as HVAC equipment for typical building operations. Dehumidifiers and refrigerated noise sources would generate similar noise levels to HVAC equipment. Noise levels from HVAC equipment vary substantially depending on unit efficiency, size, and location but generally range from 60 to 70 dBA L_{eq} at 3 feet (Carrier 2022). Conservatively assuming HVAC equipment operates at a reference level of 70 dBA L_{eq} at 3 feet, noise from HVAC units would exceed County daytime noise standards (i.e., 50 dBA L_{eq}) and nighttime noise standards (i.e., 45 dBA L_{eq}) for noise-sensitive uses within 30 feet and 54 feet, respectively. Based on attenuation rates, and in hard ground conditions (i.e., conservative analysis), a 70 dBA, at 3 feet, HVAC system would decrease to 39.5 dBA at 100 feet. Noise levels of 40 dBA and lower are essentially inaudible, due to existing background (ambient) noise; thus there would not be a discernable increase above ambient noise levels 100 feet from an HVAC system.

As detailed above, proposed amendments to the County Code would require that cannabis cultivation sites within agricultural zones LIA, LEA, and DA be subject to a 100-foot property line setback, 600-foot residential zoning setback, and 1,000-foot setback for sensitive uses. In addition, nursery and processing cannabis uses within agricultural and resources districts, as well as accessory uses, would also be subject to a 100-foot property line setback. Therefore, with the minimum required setback (i.e., 100-foot setback), noise from HVAC equipment, dehumidifiers, and refrigerated storage in agricultural and resource zoning districts would not exceed applicable County noise standards at nearby noise-sensitive land uses. This impact would be less than significant.

Event Facilities and Operations

The Cannabis Program Update would allow for cannabis events to be held on parcels within agricultural and resource districts between 10:00 a.m. and 10:00 p.m., unless further limited by the use permit. Noise associated with cannabis events could include elevated voices, parking lot activity, and amplified music or sound. Potential noise levels associated with these events are provided in Table 3.12-10.

Table 3.12-10 Typical Noise Source Levels for Special Events

Event Activity	Typical Noise Level (L_{50} dBA) at 50 feet
Amplified music	72
Amplified speech	70
Non-amplified (acoustic) music	67
300 guests in raised conversation with background music	71
200 guests in raised conversation with background music	68
100 guests in raised conversation with background music	60
Films—voices/music	64

Notes: dBA = A-weighted decibels.

Source: Provided by Ascent in 2023.

As shown in Table 3.12-10, noise associated with cannabis events could range from 60 dB L_{50} and 72 dBA L_{50} at 50 feet. Section 26-18-270 of the proposed Cannabis Program Update Code amendments includes the following standards for cannabis events that are relevant to this analysis:

- ▶ **D.2: Hours of Operation.** The maximum hours of operation for a cannabis event are 10:00 a.m. to 10:00 p.m., unless further limited by the use permit.
- ▶ **D.6: Noise.** Cannabis events must not exceed the general plan noise standards Table NE-2 (see Table 3.12-3), measured in accordance with the Sonoma County noise guidelines.

Section 26-18-270(D) would require that cannabis events begin no earlier than 10:00 a.m. and end no later than 10:00 p.m. Therefore, such events would not generate noise levels that would exceed County nighttime noise standards (see Table 3.12-3) or result in a substantial noise increase during more sensitive times of day (i.e., between 10:00 p.m. and 7:00 a.m.) that could result in public health effects (e.g., sleep disturbance) at nearby sensitive receptors. However, activities associated with cannabis events may exceed the County daytime noise standards depending on their proximity to nearby sensitive land uses. Specifically, events with amplified music would exceed the County daytime noise threshold within 350 feet, and events with non-amplified music would exceed the threshold within 230 feet (see Appendix D for noise modeling inputs). In addition, depending on the size of the event (i.e., small-scale or large-scale), the County noise thresholds could be exceeded within 315 feet of event activities. As previously discussed, because the specific locations of cannabis facilities associated with the Cannabis Program Update and their proximity to nearby sensitive land uses are currently unknown, it cannot be guaranteed that event facilities and operations would not take place within these distances and thus, could exceed the County daytime exterior noise thresholds as well as result in a noticeable increase in ambient noise conditions. This impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. The major stationary noise sources from allowable cannabis uses within industrial and commercial districts consist of the maintenance and harvest of cannabis at indoor cultivation and supply chain uses (e.g., nursery, processing); parking lot noise associated with retail; HVAC equipment; and temporary cannabis events. It is important to note that cannabis operations within industrial and commercial districts generally occur within buildings that substantially attenuate noise levels. The potential impacts of major stationary noise sources are discussed below.

Mechanical Equipment

As discussed above under “Proposed Allowable Uses in Agricultural and Resources District,” mechanical trimmers could be used to process dried cannabis. However, operation of trimmers would occur indoor and would not exceed County noise standards.

Noise sources associated with cannabis facilities within industrial and commercial districts could include the use of HVAC equipment for typical building operations. As detailed above, noise from HVAC units would exceed County daytime noise standards (i.e., 50 dBA L_{eq}) and nighttime noise standards (i.e., 45 dBA L_{eq}) for noise-sensitive uses within 30 feet and 54 feet, respectively. As discussed above under “Proposed Allowable Uses in Agricultural and Resources District,” based on attenuation rates, and in hard ground conditions (i.e., conservative analysis), a 70 dBA, at 3 feet, HVAC system would decrease to 39.5 dBA at 100 feet. Noise levels of 40 dBA and lower are essentially inaudible, due to existing background (ambient) noise.

Because the required setbacks and locations of HVAC equipment are not currently known, it cannot be guaranteed that noise from HVAC units at cannabis uses within industrial and commercial districts would not exceed applicable County noise standards at nearby residential zones. In addition, there is no required setback for other sensitive land uses defined in the County General Plan (e.g., long-term medical care facilities, including hospitals, nursing homes; places of public worship; and libraries). For these reasons, the County daytime noise standards (i.e., 50 dBA L_{eq}) and nighttime noise standards (i.e., 45 dBA L_{eq}) for noise-sensitive uses could be exceeded as well as result in a noticeable increase in ambient noise conditions. This impact would be potentially significant.

Cannabis Dispensaries and Lounges

With implementation of the Cannabis Program Update, cannabis dispensaries and consumption lounges would be permitted within commercial districts. Noise associated with such facilities would likely include people talking, laughing, and coughing. Noise levels associated with speech can vary depending on the nature of the communication but in an environment that requires raised voices for audibility, are typically 66 dBA at 3 feet. Noise associated with people talking would likely not be unique, dissimilar, or louder than existing ambient noise levels associated with commercial environments (e.g., roadway traffic, people talking, manufacturing equipment). Noise associated with outdoor cannabis consumption lounges would attenuate to the County daytime exterior noise

standards (i.e., 50 dBA L_{eq}) and nighttime noise standards (i.e., 45 dBA L_{eq}) within 20 feet and 35 feet, respectively. Similarly to a café or tap room, applicants may choose to have live music at lounges. While background amplified music would be low enough to allow for conversation, live amplified music could be very loud. Depending on the level of noise and the surrounding land uses (i.e., noise sensitive uses), noise associated with outdoor cannabis consumption lounges could exceed the County exterior daytime noise standards (i.e., 50 dBA L_{eq}) and nighttime noise standards (i.e., 45 dBA L_{eq}) for noise-sensitive uses as well as result in a noticeable increase in ambient noise conditions. This impact would be potentially significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects related to long-term operational noise.

Conclusion

As discussed above, implementation of the Cannabis Program Update could result in the development of cannabis facilities, which could include new noise-generating stationary equipment (e.g., HVAC units) and activities (e.g., special events). Specific building footprints, layouts, and the locations of stationary equipment are currently unknown; thus, it is possible that noise associated with mechanical equipment, cannabis events, and cannabis lounges could be located within distances that expose existing sensitive receptors to noise levels that exceed County noise standards and result in public health effects (e.g., sleep disturbance) at nearby sensitive receptors. Therefore, this impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.12-4a: Outdoor Amplified Live Music Requires a Use Permit at Storefront Retailers

The proposed Code Section 26-26-025 shall be modified to include the following standard.

- ▶ Amplified live music at a storefront retailer is prohibited without a use permit.

Mitigation Measure 3.12-4b (UPC): Noise Reduction Measures for Outdoor Amplified Live Music at Cannabis Events or at Storefront Retailers

The following mitigation measure would be implemented through the Use Permit for individual projects.

- ▶ Applicants must demonstrate compliance with the County Noise Standards presented in General Plan Policy NE-1c and Table NE-2. If outdoor amplified live music is proposed, compliance with the County Noise Standards shall be demonstrated through a project-specific noise study prepared in accordance with the County Guidelines for the Preparation of Noise Analysis. Compliance with these requirements may be met through development design considerations such as;
 - Locating performance areas away from noise sensitive land uses.
 - Locating live music indoors.
 - Positioning speaker at locations where noise barriers such as buildings can serve to reduce noise at off-site sensitive receptor locations.
 - Prohibit amplified music or sound after 10:00 p.m.

- During the sound testing of the amplified sound system prior to each event multiple sound level measurements shall be conducted along the property line of the most affected residential land uses. Volume settings shall be adjusted to ensure that the applicable county noise standards will not be exceeded at the residences during the event

Mitigation Measure 3.12-4c (DRH): Implement Noise Reduction Measures to Reduce Operational Noise Impacts in Industrial and Commercial Districts

The following mitigation measures would be implemented through the design review with hearing (DRH) for individual projects.

- ▶ Demonstrate compliance with the County Noise Standards presented in Policy NE-1c (TABLE NE-2). Compliance with these requirements may be met through development design considerations such as those listed below.
 - Selection of HVAC with low decibel rating.
 - Locate HVAC units within equipment rooms or enclosures that incorporate noise reduction features, such as acoustical louvers. Equipment enclosures shall be oriented so that major openings (i.e., intake louvers, exhaust) are directed away from nearby noise-sensitive receptors.
 - Set back all HVAC units as much as possible from off-site noise-sensitive receptors, including residential land uses.
 - Position HVAC units on the opposite side of an on-site buildings from off-site sensitive receptors so that the buildings serve as an intervening noise barrier.

Significance After Mitigation

Implementation of Mitigation Measure 3.12-4a would prohibit outdoor amplified music at lounges without a use permit, subject to compliance with County Noise Standard. Mitigation Measure 3.12-4b requires applicants who chose to provide live amplified music as entertainment for events or other uses that require a use permit to limit noise levels to be in compliance with General Plan Policy NE-1c and Table NE-2. General Plan Policy NE-1c and Table NE-2 contain standards for ambient noise increases and maximum allowable noise Mitigation Measure 3.12-4c would reduce significant impacts on nearby sensitive land uses because it would require the preparation of a noise analysis prior to operation of a cannabis facility in an industrial or commercial districts. Adoption and implementation of these mitigation measures would ensure that noise levels associated with cannabis facilities are in compliance with General Plan Policy NE-1c and Table NE-2. These requirements were developed by the County to protect the peace of the community and avoid noise-related health effects, such as loss of sleep. Therefore, operational noise impacts from cannabis facilities allowed under the Cannabis Program Update would be reduced impacts to a **less-than-significant** level.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update and the noise mitigation measures identified above would not change County policies related to noise and would be consistent with Sonoma County General Plan Policies NE-1a, NE-1c, which establish noise standards. Compliance with these policies would minimize impacts related to noise. It would also be consistent with the noise provisions of the Sonoma County Airport Industrial Area Specific Plan and the Petaluma Dairy Belt Area Plan.

This page is intentionally left blank.

3.13 PUBLIC SERVICES AND RECREATION

This section describes the applicable federal, state, and local regulations and policies related to public services and recreation; provides an overview of public services and recreational resources in Sonoma County; and analyzes the potential impacts on public services and recreation from implementation of the Cannabis Program Update. Utility impacts are addressed in Section 3.16, "Utilities and Service Systems." Wildfire impacts are addressed in Section 3.17, "Wildfire."

Several public services or recreation-related comments were received in response to the notice of preparation (NOP). These comments expressed concerns related to fire risk associated with indoor and outdoor cultivation, response times for public services, compliance with fire regulations, and an increase in crime activity in the County. The reader is referred to Section 3.17, "Wildfire," for analysis of wildfire risks. All comments received in response to the NOP are presented in Appendix A of this EIR.

3.13.1 Regulatory Setting

FEDERAL

Because cannabis use and cultivation remain illegal under federal law, several federal agencies investigate and prosecute cannabis use, cultivation, and distribution on federally managed lands. There are no federal regulations applicable to legal cannabis operations.

STATE

Mitigation Fee Act

Government Code Sections 66000–66025 (commonly referred to Assembly Bill [AB] 1600) allow local agencies to enact a development impact fee in connection with the approval of a development project, for the purpose of defraying all or a portion of the cost of public facilities related to the development project. A development impact fee must be reasonably related to the cost of service provided by the local agency and is not considered a tax or special assessment. Local agencies use development impact fees under this provision for facilities and equipment necessary to provide services to development; such facilities and equipment may include vehicles or fire and law enforcement stations.

California Health and Safety Code

State fire regulations are set forth in Section 13000 et seq. of the Health and Safety Code. The Health and Safety Code includes requirements related to fire protection and notification systems; fire protection devices, such as extinguishers and smoke alarms; and fire suppression training.

California Division of Occupational Safety and Health

In accordance with CCR, Title 8, Section 1270 (Fire Prevention) and CCR, Title 8, Section 6773 (Fire Protection and Fire Equipment), the California Division of Occupational Safety and Health (Cal/OSHA) has established minimum standards for fire suppression and emergency medical service (EMS). The standards include guidelines on the handling of highly combustible materials; fire hose sizing requirements; restrictions on the use of compressed air; access roads; and the testing, maintenance, and use of all firefighting and emergency medical equipment.

California Building Code

The California Building Code (CBC) contains general building design and construction requirements relating to fire and life safety, structural safety, and access compliance. CBC provisions provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all buildings and structures and certain equipment.

Within the 2022 California Building Code, Title 24, Part 2, section 701A.3 ("Application") requires that new buildings located in any Fire Hazard Severity Zone within SRAs, any local agency Very-High Fire Hazard Severity Zone VHFHSZ, or any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted, shall comply with all the requirements of Chapter 7A. Standards for new development, addressed in Chapter 7A, include conditions of ignition-resistant construction materials as well as specifications, including those pertaining to roofing, vents, exterior covering, exterior windows, skylight, doors, and decking. Additionally, Chapter 7A requires local buildings officials to certify that a new building complies with all applicable building standards. As part of final approval of building permits, properties with new development must demonstrate compliance with the vegetation management requirements prescribed in California Fire Code Section 4906, including Public Resources Code 4291 or California Government Code Section 51182.

Exceptions to these standards apply to group U occupancy buildings (e.g., agricultural buildings, barns, sheds, private garages, greenhouses), certain conditions related to new accessory buildings and miscellaneous structures (per Section 710A of CBC), and additions to and remodels of buildings originally constructed prior to July 1, 2008.

California Fire Code

The 2022 California Fire Code (CFC) (CCR, title 24, Part 9) establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare for the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of this code apply to construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of buildings or structures or any appurtenances connected or attached to such building structures throughout California.

Chapter 49 of the CFC, contains requirements to reduce the likelihood of life and property loss due to a wildfire through the use of performance and prescription requirements for development and construction in Local Responsibility Areas (LRAs) designated as Very High Fire Hazard Severity Zones and areas designated by the Board of Forestry and Fire Protection as State Responsibility Areas (SRAs). Strategies included in Chapter 49 of the CFC include: development of fire protection plans, development of landscape plans and long-term vegetation management, and creation and maintenance of defensible space to protect structures and subdivision.

Office of the State Fire Marshal and California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) is dedicated to the fire protection and stewardship of over 31 million acres of the state's privately owned wildlands. PRC Sections 4125–4137 establish that CAL FIRE has the primary financial responsibility of preventing and suppressing fires in State Responsibility Areas (SRAs). PRC Section 4290 states that CAL FIRE also has responsibility for enforcement of State Minimum Fire Safe Regulations (Fire Safe Regulations), including road standards for fire equipment access and civilian evacuation; standards for signs identifying streets, roads, and buildings; minimum private water supply reserves for emergency fire use; fuel breaks; and greenbelts. PRC Section 4291 gives CAL FIRE the authority to enforce 100 feet of defensible space around all buildings and structures on SRA lands, or nonfederal forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material.

Additionally, CAL FIRE is also responsible for a broad range of programs that guide forest policy and planning within California and for implementing the Fire Resource and Assessment Program (FRAP). The FRAP assesses the amount and extent of California's forests and rangelands, analyzes their conditions, and identifies alternative management and policy guidelines. Fire Hazard Severity Zones for community planning are developed under FRAP and identify areas with very high fire hazards in both the SRA and local responsibility area.

New development located in SRAs and Very-High Fire Hazard Severity Zones (VHFHSZ) are subject to the following requirements:

- ▶ Determination that new subdivisions are consistent with regulations adopted by the State Board of Forestry and Fire Protection pursuant to PRC Sections 4290 and 4291 or are consistent with local ordinances certified by the State Board of Forestry and Fire Protection as meeting or exceeding the state regulations (California Code of Regulations [CCR], Title 14, Section 1266.01).
- ▶ Defensible space of 100 feet around all buildings and structures (PRC Section 4291; CCR, Title 14, Section 1299.03).
- ▶ Provision of adequate emergency access and egress (PRC Sections 4290 and 4291; CCR, Title 14, Sections 1273.01–1273.09).
- ▶ Emergency water requirements (CCR, Title 14, Sections 1275.01–1275.04).
- ▶ Building signing and number requirements (PRC Sections 4290 and 4291; CCR, Title 14, Sections 1274.01–1274.04).

Fire Safe Regulations

The Fire Safe Regulations apply to areas within the SRA and LRA VHFHSZ. They contain standards for design and construction of structures, subdivision and developments within these areas and lay out provisions for basic emergency access and perimeter wildfire protection measures. Standards apply to the following topics.

- ▶ Ingress and Egress
- ▶ Signing and Building Numbering
- ▶ Emergency Water Standards
- ▶ Building siting, Setbacks and Fuel Modifications

These standards apply to future development; they apply to new commercial and residential construction and expansions to existing commercial construction within the SRA and LRA VHFHSZ.

Public School Development Impact Fees

Government Code Section 65995 establishes the dollar amount school districts may impose on new development; however, this may not be sufficient to fund all required facilities. Funding from state grants is possible, but other sources would most likely still be required. Sources include Proposition 51 (2016 Public School Facility Bonds) funds, increased developer and local tax fees, and the local general obligation bond funds. New public-school facilities proposed by school districts must undergo site-specific CEQA and California Board of Education evaluation before construction to identify and lessen environment-related impacts.

Government Code Sections 65995(h) and 65996(b) require full and complete school facilities mitigation. Section 65995(h) of the Government Code states that the payment or satisfaction of a fee, charge, or other requirement levied or imposed pursuant to Section 17620 of the Education Code is deemed to be full and complete mitigation of the impacts for the planning, use, development, or provision of adequate school facilities. Section 65996(b) of the Government Code states that the provisions of the Government Code provide full and complete school facilities mitigation.

California Emergency Medical Services Authority

The Emergency Medical Services Authority provides statewide coordination and leadership for the planning, development, and implementation of local EMS systems. California has 34 local EMS systems, which provide EMS for California's 58 counties. Seven regional EMS systems comprised of 33 counties and 26 single-county agencies provide the services. Regional systems are usually composed of small, more rural, less-populated counties, and single-county systems generally exist in the larger and more urban counties (EMSA 2024).

Emergency Response/Evacuation Plans

The State of California passed legislation authorizing the Office of Emergency Services to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters (Government Code Section 8607 et seq.). Noncompliance with SEMS could result in the state withholding disaster relief from the noncomplying jurisdiction in the event of an emergency disaster. The preservation of life, property, and the environment is an inherent responsibility of local, state, and federal government.

Department of Cannabis Control

CCR, Title 4, Division 19 includes the following requirements regarding public services for commercial cannabis uses.

► Section 15011: Additional Information

- (a) A commercial cannabis business applying for a license to cultivate cannabis shall provide the following information:
 - (10) An attestation that the local fire department has been notified of the cultivation site if the application is for an indoor license type.

► Section 15036: Notification of Theft, Loss, and Criminal Activity

- (a) A licensee shall notify the Department and local law enforcement within 24 hours of discovery of any of the following situations:
 - (1) The licensee discovers a significant discrepancy, as defined in section 15034, in its inventory.
 - (2) The licensee discovers diversion, theft, loss, or any other criminal activity pertaining to the operations of the licensee.
 - (3) The licensee discovers diversion, theft, loss, or any other criminal activity by an agent or employee of the licensee pertaining to the operations of the licensee.
 - (4) The licensee discovers loss or unauthorized alteration of records related to cannabis or cannabis products, customers, or the licensee's employees or agents.
 - (5) The licensee discovers any other breach of security.
- (b) The notification to the Department pursuant to subsection (a) shall be submitted on the Licensee Notification and Request Form, Notifications and Requests Regarding Regulatory Compliance, DCC-LIC-028 (New 2/22), which is incorporated herein by reference, and shall include the date and time of occurrence of the theft, loss, or criminal activity, the name of the local law enforcement agency that was notified, and a description of the incident including, where applicable, the item(s) that were taken or lost.

► Section 15042: Premise Access Requirements

- (a) For a premises that is not open to the public, the licensee shall establish and implement an identification and sign-in/sign-out procedure for all persons accessing the premises, including authorized individuals, suppliers, and visitors.
- (b) Licensees shall ensure that only employees of the licensee and other authorized individuals access the licensed premises.
- (c) For the purpose of this section, "authorized individuals" include outside vendors, contractors, or other individuals conducting business that requires access to the licensed premises.
- (d) An individual who enters the licensed premises and is not employed by the licensee shall be escorted by an employee of the licensee at all times while within the licensed premises.

- (e) A licensee shall maintain a record of all authorized individuals who are not employees of the licensee who enter the licensed premises. The record shall include the name of the individual, the company the individual works for, the reason the individual entered the licensed premises, the date, and the times the individual entered and exited the licensed premises. These records shall be made available to the Department immediately upon request.
- (f) A licensee shall not receive consideration or compensation for permitting an individual to enter the licensed premises.

► **Section 15042.1. Security Plan for Licensed Manufacturers.**

A licensed manufacturer shall develop and implement a written security plan. At a minimum, the security plan shall include a description of the security measures to:

- (a) Prevent access to the manufacturing premises by unauthorized persons and protect the physical safety of employees. This includes, but is not limited to:
 - (1) Establishing physical barriers to secure perimeter access and all points of entry into a manufacturing premises (such as locking primary entrances with commercial-grade, nonresidential door locks, providing fencing around the grounds and driveway, and securing any secondary entrances including windows, roofs, and ventilation systems);
 - (2) Installing a security alarm system to notify and record incident(s) where physical barriers have been breached;
 - (3) Establishing an identification and sign-in/sign-out procedure for authorized personnel, individuals, suppliers, and visitors;
 - (4) Maintaining the premises such that visibility and security monitoring of the premises is possible; and
 - (5) Establishing procedures for the investigation of suspicious activities.
- (b) Deterring theft or loss of cannabis and cannabis products. This includes, but is not limited to:
 - (1) Establishing an inventory system to track cannabis and cannabis products and the personnel responsible for processing it throughout the manufacturing process;
 - (2) Limiting access of personnel within the premises to those areas necessary to complete job duties, and to those timeframes specifically scheduled for completion of job duties, including access by outside vendors, suppliers, contractors or other individuals conducting business with the licensee that requires access to the premises;
 - (3) Supervising tasks or processes with high potential for diversion, including the loading and unloading of cannabis and cannabis products from transportation vehicles; and
 - (4) Providing areas in which personnel may store and access personal items that are separate from the manufacturing areas.
- (c) Securing and backing up electronic records in a manner that prevents unauthorized access and ensures that the integrity of the records is maintained.

► **Section 15043. Licensee Employee Badge Requirement.**

All agents, officers, or other persons acting for or employed by a licensee conducting retail sales or participating in a temporary cannabis event shall display a laminated or plastic-coated identification badge issued by the licensee at all times while engaging in commercial cannabis activity. The identification badge shall, at a minimum, include the licensee's "doing business as" name and license number, the employee's first name, an employee number exclusively assigned to that employee for identification purposes, and a color photograph of the employee that clearly shows the full front of the employee's face and that is at least 1 inch in width and 1.5 inches in height.

► **Section 15045. Security Personnel.**

- (a) A licensed retailer or licensed microbusiness authorized to engage in retail sales shall hire or contract for security personnel who are at least 21 years of age to provide onsite security services for the licensed retail premises during the hours of operation. All security personnel hired or contracted for by the licensee shall be licensed by the Bureau of Security and Investigative Services and shall comply with chapters 11.4 and 11.5 of division 3 of the Business and Professions Code.
- (b) Notwithstanding subsection (a), a licensed non-storefront retailer or licensed microbusiness who is not engaged in storefront retail sale is not required to hire or contract for security personnel.

► **Section 15046. Locks.**

A licensee shall ensure that all limited-access areas can be securely locked using commercial-grade, nonresidential door locks. A licensee shall also use commercial grade, nonresidential door locks on all points of entry and exit to the licensed premises. This requirement does not apply to a licensed premises authorized exclusively for cultivation activities or the cultivation area of a licensed microbusiness premises.

► **Section 15047. Alarm System.**

- (a) A licensee shall maintain an alarm system as defined in Business and Professions Code section 7590.1(c) at the licensed premises. This requirement does not apply to a licensed premises authorized exclusively for cultivation activities or the cultivation area of a licensed microbusiness premises.
- (b) A licensee shall ensure a licensed alarm company operator or one or more of its registered alarm agents installs, maintains, monitors, and responds to the alarm system.
- (c) Upon request, a licensee shall make available to the Department all information related to the alarm system, monitoring, and alarm activity.
- (d) If multiple licensed premises are contained within the same building or parcel of land, a single alarm system covering the entire building or parcel of land may be used by all of the licensees if all licensees have access to and are able to provide the information under subsection I. All licensees shall be held responsible and subject to discipline for any violations of the alarm system requirements.

► **Section 15601: Temporary Cannabis Event Requirements**

- (h) The licensed cannabis event organizer shall hire or contract for security personnel to provide security services at the licensed temporary cannabis event. All security personnel hired or contracted for by the licensee shall be at least 21 years of age, licensed by the Bureau of Security and Investigative Services, and comply with chapters 11.4 and 11.5 of division 3 of the Business and Professions Code. Security personnel shall be present on the licensed premises at all times cannabis goods are available for sale and/or cannabis goods consumption is allowed on the licensed premises.
- (l) The Department may require the event organizer and all participants to cease operations without delay if, in the opinion of the Department or local law enforcement, it is necessary to protect the immediate public health and safety of the people of the state. Upon notification from the Department that the event is to cease operations, the event organizer shall immediately stop the event and all participants shall be removed from the premises within the time frame provided by the Department.
- (m) Upon notification from the Department, the event organizer shall immediately expel from the event any person selling cannabis goods without a license from the Department that authorizes the participant to sell cannabis goods. The event organizer or their representative shall remain with the person being expelled from the premises at all times until he or she vacates the premises. If the person does not vacate the premises, the Department may inform the event organizer that the event must cease operations. Upon notification from the Department that the event is to cease operations, the event organizer shall immediately stop the event and all participants shall be removed from the premises within the time frame provided by the Department.

► **Section 17202.1: General Requirements for Extraction and Post-Extraction Processing**

- (a) A licensed manufacturer that uses a volatile solvent, a flammable liquid, or a solvent that creates an asphyxiant gas shall ensure that the solvent is used in accordance with the requirements of:
 - (1) Chapter 39 of the California Fire Code;
 - (2) Title 8, California Code of Regulations, sections 5416-5420, which includes ensuring adequate ventilation and controlling sources of ignition;
 - (3) All Division of Occupational Safety and Health (Cal/OSHA) regulations related to the processing, handling, and storage of the applicable solvent; and
 - (4) All fire, safety, and building code requirements related to the processing, handling, and storage of the applicable solvent or gas.
- (b) No volatile solvent extraction or post-extraction processing operations or other closed-loop system operations shall occur in an area zoned as residential.

► **Section 17205: Additional Requirements for Ethanol Operations**

A licensed manufacturer that uses ethanol in manufacturing operations for extractions or post-extraction processing shall receive approval for the facility and equipment from the local fire code official prior to commencing operations, if required by local ordinance.

LOCAL

Sonoma County General Plan

The following policies related to public services and recreation from the Sonoma County General Plan Public Facilities and Services Element and the Public Safety Element are applicable to the project (Sonoma County 2008):

- **Policy PF-2a:** Plan, design, and construct park and recreation, fire and emergency medical, public education, and solid waste services and public utilities in accordance with projected growth, except as provided in Policy LU-4d.
- **Policy PF-2b:** Work with the Cities to provide park and recreation, public education, fire and emergency medical, and solid waste services as well as public utilities. Use proposed annexations, redevelopment agreements, revenue sharing agreements, and the CEQA process as tools to ensure that incorporated development pay its fair share toward provision of these services.
- **Policy PF-2g:** Require dedication of land or in-lieu fees as a means of funding park and fire services and facilities.
- **Policy PF-2n:** Require prior to discretionary project approval written certification that fire and related services customarily provided to comparable uses are available or will be available prior to occupancy for projects within the service area of the applicable fire agency.
- **Policy PF-2o:** The Department of Fire Service shall review and comment on any proposed changes in the boundaries of areas of State and local responsibility for wildland fire protection and the service boundaries of local fire districts and volunteer companies.
- **Policy PS-3b:** Consider the severity of natural fire hazards, potential damage from wildland and structural fires, adequacy of fire protection and mitigation measures consistent with the Public Safety Element in the review of projects.
- **Policy PS-3d:** Refer projects and code revisions to the County Department of Fire and Emergency Services and responsible fire protection agencies for their review and comment.
- **Policy PS-3f:** Encourage strong enforcement of State requirements for fire safety by the California Department of Forestry and Fire Protection.

- **Policy PS-3k:** Work with the California Department of Forestry and Fire Protection (Cal Fire) to identify areas of high fire fuel loads and take advantage of opportunities to reduce those fuel loads, particularly in Very High or High Fire Hazard Severity Zones.

Sonoma County Airport Industrial Area Specific Plan

The Sonoma County Airport Industrial Area Specific Plan was initially adopted by the County in 1984 and constitutes the master program for development of the 770-acre specific plan area located between the Sonoma County Airport and US 101. The Sonoma County Airport Industrial Area Specific Plan contains the following provisions related to public services:

D. Sewer, Water, and Drainage Service Policies

3. The water supply system should be sized as necessary to meet the estimated ultimate fire flow and domestic pressure needs of project buildout. Water system “looping” should be provided wherever possible to ensure continuous service and maximum fireflow reliability in the event of a main disruption. The system should be located in streets wherever possible.

E. Fire Service

5. Fire Protection Policies
 - a. A mutual aid or contractual agreement with the Windsor Fire District for the services of an aerial truck should be negotiated. This would eliminate the need to purchase a truck solely for the planning area and to hire the personnel required to operate the truck.
 - b. Development approvals shall be conditioned to require the installation of sprinklers in all structures 5,000 square feet in area or larger. The sprinkler requirement shall be noted on all final subdivision maps and required as a condition of building permit issuance for all use permit and design review approvals. Building Department personnel shall check all plans and structures for compliance with the sprinkler regulation.
 - c. Fire district improvements shall be financed as described in the Financing and Implementation Element of this specific plan.

F. Financing Common Capital Improvement Costs

2. Policies
 - g. It is the policy of this specific plan to establish impact fees or developer charges for the improvements to the U.S. 101/Airport Boulevard interchange and offsite road improvements. Interim impact fees have been established for the improvement of Airport Boulevard and the required fire protection facilities and equipment pending formation of an assessment district.
 - h. It is the policy of this specific plan that fire equipment needed to protect planning area development be financed with a fire protection assessment district or development fees. The costs will be shared by all parcels authorized for industrial or commercial use. The County has agreed to allow use by the Rincon Valley Fire Protection District of the existing fire station at the airport.

H. Administration of Capital Improvements Construction and Maintenance

4. Policies
 - c. The County shall assume administrative authority for financing fire protection facilities, initially through development fees and ultimately through an assessment district.

Bennett Valley Area Plan

The Bennett Valley Area Plan was initially adopted by the County in 1979 and has been amended multiple times through 2011. It is guided by the policy provisions of the Sonoma County General Plan. The Bennett Valley Area Plan contains the following public service provisions:

I. Land Use

- (3) Development shall be coordinated with the public's ability to provide schools, fire, police and other needed services.

V. Public Safety

- (2) Understanding that fire could destroy the rural character of Bennett Valley and present hazard of life and property.
 - a. New dwellings should utilize fire-resistant materials.
 - b. Roof overhangs shall be designed for fire resistance.
 - d. Site landscaping shall be managed to limit fire hazard around structures.

Franz Valley Area Plan

The Franz Valley Area Plan was initially adopted by the County in 1979 and has been amended multiple times through 2012. It is guided by the policy provisions of the Sonoma County General Plan. The Franz Valley Area Plan contains the following public service provisions:

Constraints and Mitigation Measures

Fire Hazard.

- (1) Recognize the value of the fire protection services rendered by the volunteer fire departments in the area, and encourage continued dedication to training of volunteers and neighborhood fire prevention sessions.
- (3) Any construction should be to the standards prescribed by comprehensive Building Codes and Fire Prevention Codes which give special consideration as needed to mountain hazard areas.
- (4) Special attention should also be given to building siting to minimize fire hazards.

Penngrove Area Plan

The Penngrove Area Plan was initially adopted by the County in 1984 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan. The Penngrove Area Plan contains the following public service provisions:

III. Public Services

- (2) Require adequate water pressure and hydrants for fire protection purposes for all new development.

Constraints and Mitigation Measures

Fire Hazard.

- (2) Any construction should be to the standards prescribed by comprehensive Building Codes and Fire Protection Codes.
- (3) Special attention should be given to building siting and access to minimize exposure to fire hazards and to provide easy access to fire fighting vehicles.

Fire Services.

- (1) Continue the water connection moratorium until the Penngrove Water Company can meet fire flow standards.
- (4) Within the Penngrove Water Company service area, hydrants and fire flow requirements shall be specified by the Penngrove Fire District and made conditions of approval on all subdivision, use permit and design review applications.

Police Protection.

- (2) The Planning Department shall refer all development project applications to the Sheriff's Office for security input.

Fire Protection.

- (1) Access roads shall be all-weather and constructed to minimum County subdivision standards.
- (3) All bridges must be capable of supporting 20 tons.

Petaluma Dairy Belt Area Plan

The Petaluma Dairy Belt Area Plan was initially adopted by the County in 1985 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan, and its primary priority shall be to preserve and enhance the agricultural resources and protect the agricultural industry. The Petaluma Dairy Belt Area Plan contains the following public service provisions:

Policies

Public Services.

- (2) All development proposals requiring discretionary approvals by the Project Review Advisory Committee (PRAC), the Board of Zoning Adjustments or the Planning Commission will be deferred to the appropriate fire protection service for comment, and responses will be reviewed by these bodies and by the Board of Supervisors as required.

Fire Hazards.

- (1) Support land use regulations consistent with rural, low density and wildlife fire area regulations.
- (2) Support coordination and cooperation among all fire fighting agencies (state, city, district, volunteer).

Fire Protection.

- (1) The Board of Supervisors should oppose such a proposal unless it is shown that emergency services to residents and businesses in this area will not be diminished.
- (2) Recommendations of the county fire safety committee should be implemented carefully so as to protect and maintain the integrity and autonomy of the local volunteer units until such time as a local election changes the district's status.
- (3) Road standards and water supply standards set forth in the County Subdivision Ordinance shall be applied.
- (4) All development proposals requiring discretionary approvals by the Project Review Advisory Committee (PRAC), the Board of Zoning Adjustments or the Planning Commission will be referred to the appropriate fire protection service for comment, and responses will be reviewed by these bodies and by the Board of Supervisors as required.

Sonoma Mountain Area Plan

The Sonoma Mountain Area Plan was initially adopted by the County in 1978 and has been amended through 2012. It is guided by the policy provisions of the Sonoma County General Plan. The Sonoma Mountain Area Plan contains the following public service provisions:

Constraints and Mitigation Measures

Fire Services.

- (1) Strict adherence to sections 4291-4296 and 4371-4375 as amended of the State Public Resources Code should be maintained.

- (2) Refer all subdivision proposals to the Department of Forestry and Fire Protection and/or local fire department for design input and to alert the fire district of proposed new residential construction in their area.
- (3) Where water storage facilities such as tanks, pools, or ponds are to be constructed as part of new development proposals, consider requiring public access to these water storage facilities for firefighting use.

South Santa Rosa Area Plan

The South Santa Rosa Area Plan was initially adopted by the County in 1982 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan and consists of approximately 18,000 acres. The plan area is bisected by US Highway 101 and is located east of State Route 116 and south of State Route 12. The South Santa Rosa Area Plan contains the following public service provisions:

Policies

Public Service Assessments and Fees.

- (2) The Board of Supervisors should direct County Counsel to meet with appropriate representatives of the affected fire districts to determine what specific equipment is needed, its cost, and the method of establishing an appropriate benefit assessment to be applied to commercial and industrial developers.

Fire Hazards.

- (1) Discourage residential development in regions having high or very high potential for large wildland fires in the Public Safety Element of the General Plan.
- (2) Encourage coordination and cooperation among all fire fighting agencies (City-County district and CDF).

West Petaluma Area Plan

The West Petaluma Area Plan was initially adopted by the County in 1981 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan and consists of approximately 11,000 acres. The plan area is located west of US Highway 101 and the City of Petaluma. The West Petaluma Area Plan contains the following public service provisions:

Constraints and Mitigation Measures

Fire Hazard.

- (1) Recognize the value of the fire protection services rendered by the volunteer fire departments in the area, and encourage continued dedication to training of volunteers and neighborhood fire prevention sessions.
- (3) Any construction should be to the standards prescribed by comprehensive Building Codes and Fire Prevention Codes.
- (4) Special attention should also be given to building siting and access to minimize fire hazards.

Fire Protection.

- (1) Require fiscal analysis of overlapping fire jurisdictions and determine needs of each.
- (2) Explore the possibility of extending the Penngrove Fire Department jurisdiction by assessment or bond vote.
- (3) Other mitigation measures as addressed under FIRE HAZARD.

Sonoma County Community Wildfire Protection Plan

The County's Community Wildfire Protection Plan (CWPP) 2023 Update intends to increase collaboration between stakeholders from federal, state, and local agencies and community groups to solve Wildland/Urban Interface wildland fire issues (Sonoma County 2023). The CWPP identifies and prioritizes treatment areas, mitigation strategies,

and treatments, and recommends measures to reduce the ignitability of structures. Projects in the CWPP include programs or design concepts that improve the condition and health of fire-prone ecosystems, address fire-prone invasive plant species, and provide support and aid for fire agencies.

Sonoma County Multi-Jurisdictional Hazard Mitigation Plan

The Sonoma County Multi-Jurisdictional Hazard Mitigation Plan incorporates wildfire hazard mitigation principles and practices into the routine government activities and functions of the County. The plan recommends specific actions that are designed to protect people and community assets from losses to those hazards that pose the greatest risk. Some mitigation programs and activities identified in the plan include creating and maintaining defensible space around structures, using fire-resistant building materials, and clearing potential fuels on property, such as dry underbrush and diseased trees (Sonoma County 2021).

Sonoma County Hazard Mitigation Plan Update

Sonoma County prepared its Hazard Mitigation Plan Update in accordance with Federal Emergency Management Agency's Local Hazard Mitigation Plan Guidelines (Sonoma County 2017). The plan identifies and prioritizes pre-disaster hazard mitigation, prevention, and preparation actions. The plan also assesses the County's existing hazards, including seismic hazards, floods, wildland fires, and landslides. The plan sets forth specific mitigation actions for each jurisdiction to be implemented during the 2016–2021 cycle to reduce these potential hazards. Wildland fire mitigation actions described in the plan include the Sonoma County Fuel Reduction and Vegetation Management Program, which includes inspections of improved and unimproved properties in Sonoma County to identify high fire severity zones and reduce fire threats; the Sonoma County Roadside Chipper Program, which provides a free curbside chipper service to residents who reduce vegetation along access routes; and the CAL FIRE Fuels Reduction Program, which aims to reduce wildland fuel loadings that present a hazard to watershed resources and water quality.

Chapter 13 and 13A: Sonoma County Fire Safety Ordinance

Chapter 13 of the County Code contains the specific County fire safety ordinance requirements for construction standards, vegetation management, and other requirements for wildland urban interface (WUI) fire areas. Article IV, Section 13-17 outlines the California Fire Code, as adopted with local amendments, and Article V, Sections 13-21 through 13-63 establish minimum fire safe standards for development within the unincorporated County that is in the LRA outside the Very High Fire Hazard Severity Zone (VHFHSZ).

Chapter 13A of the County Code contains requirements for property owners regarding the removal of hazardous vegetation and combustible material situated in the unincorporated areas of the County to reduce the potential for fire and to promote the public health, safety and welfare of the community. The Chapter (Section 13A-4[c][2]) notes:

Cannabis cultivation operations are exempt. This exempts defensible space and vegetation management responsibilities for cannabis cultivation. It also exempts cannabis cultivation buildings approved by the fire code official. To protect residents, defensible space shall be required around habitable dwellings and residential accessory structures similar to, but not limited to, pool houses, art studios and private detached garages. Roads used solely for cannabis cultivation purposes also are exempt from this chapter.

3.13.2 Environmental Setting

FIRE PROTECTION

Local fire protection and emergency medical services serving the unincorporated areas of the County are provided by the Sonoma County Fire District (SCFD). The SCFD is comprised of Bennett Valley, Mountain Volunteer, Rincon Valley, Windsor, Russian River, Forestville, and the Bodega Bay Fire Protection Districts (SCFD 2024). The SCFD is headquartered at 8200 Old Redwood Highway in Windsor.

Sonoma County is in CAL FIRE's Sonoma-Lake-Napa Unit, one of 21 CAL FIRE administrative units statewide. This unit covers 2.1 million acres in Sonoma, Lake, Napa, Yolo, Colusa, and Solano Counties. It is served by three divisions and

10 field battalions. Sonoma County is the West Division, which contains four battalions and covers 793,793 acres. The 23 local fire agencies in Sonoma County include fire protection districts, community services districts, and municipal fire departments (Sonoma County 2021).

There are no known fires that were ignited at a permitted cannabis facility in the County.

LAW ENFORCEMENT

The Sonoma County Sheriff's Office (Sheriff's Office) provides law enforcement, coroner, court security, and detention services for unincorporated Sonoma County, the Town of Windsor, and the City of Sonoma. The Sheriff's Office is located at 2796 Ventura Avenue in Santa Rosa. As of 2023, there are 629 total allocated staff: 222 sworn deputy sheriff staff, six sworn correctional staff, and 69 civilian staff in Law Enforcement; one sworn deputy sheriff, 201 sworn correctional deputies, and 78 civilian staff in Detention; five civilian staff in Telecommunications; and 10 sworn deputy sheriff staff, three sworn correctional staff, and 34 civilian staff in Sheriff's Administration (Sonoma County Sheriff's Office 2023).

The California Highway Patrol (CHP) is responsible for traffic enforcement services on state highways and County roads. A CHP office is located in Rohnert Park. Police protection services in the County are provided by the County Sheriff's Department and the CHP. The primary responsibility of the CHP is to provide traffic safety, and the primary responsibility of the Sheriff's Department is to protect persons and property.

Between January 1, 2019 and December 31, 2024, a total of 41,897 incident reports were filed by the Sonoma County Sheriff, Sonoma Police Department, and Windsor Police Department. Of these reports, incidents related to cannabis involved one alcohol violation, two burglaries (i.e., entering a structure to commit a crime), one drug offence, one case of fraud, three larceny (stealing), and two non-criminal incidents. These incidents occurred in Penngrove, Santa Rosa, Sebastopol, Geyserville, and Sonoma, at dispensaries (burglary, fraud, larceny, non-criminal) and cultivation sites (drug offences, larceny, non-criminal). By comparison, non-cannabis related incident reports during this time period included 49 alcohol offences, 3,215 burglaries, 3,468 drug offenses, 2,083 cases of fraud, 3,697 cases of larceny, and 16,237 non-criminal incidents, (Sonoma County Sheriff's Office 2025).

3.13.3 Environmental Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, "Project Description," and Section 3.0, "Approach to the Environmental Analysis," regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

The evaluation of potential public service and recreation impacts is based on a review of documents and regulatory standards. Impacts on public services and recreation that would result from implementing the project were identified by comparing existing regulatory requirements to regulatory requirements associated with implementation of the Cannabis Program Update, with consideration of how cannabis uses contribute to the use of public services. It is not possible to estimate the extent of accessory uses on cannabis sites that may occur in the future under the Cannabis Program Update. Thus, the analysis programmatically addresses the potential for accessory uses. The reader is also referred to the impact analysis provided in Section 3.17, "Wildfire," regarding wildfire impacts. The following ordinance provisions of the proposed Cannabis Program Update are applicable to public services:

Section 26-18-115 Cannabis Cultivation

C. Standards

4. LIA, LEA, DA, RRD zones:

c. Setbacks

4. Sensitive Use Setbacks

- a. Distance. The cannabis premises must be setback at least 1,000 feet from each property line of a parcel with a sensitive use that exists at the time the application to initiate the cannabis use is deemed complete.
- b. Definition of Sensitive Use. Sensitive uses are K-12 schools, public parks, day care centers, and alcohol or drug treatment facilities. In this section, a public park means existing Federal Recreation Areas, State Parks, Regional Parks, Community Parks, Neighborhood Parks, and Class I Bikeways as designated in the Sonoma County General Plan, but not proposed public parks that have not yet been constructed.

g. Accessory Uses.

1. Accessory manufacturing is limited to chemical extraction using carbon dioxide, extraction by physical or mechanical means, and infusion of non-ingestible products from cannabis grown on-site.

Section 26-22-120 Periodic Special Events

B. Zoning Permit Required

5. All periodic special events may be subject to requirements of sheriff, public health, fire services, building inspection, public works, or other permitting agencies not specified in this article. Event hosts are responsible for securing approvals from applicable agencies.

Section 26-22-120 Periodic Special Events

C. Standards

1. Periodic special events subject to a zoning permit shall comply with the following requirements, in addition to the requirements of other applicable agencies.
 - a. The event shall comply with all local and state fire codes.

THRESHOLDS OF SIGNIFICANCE

A public services and recreation impact is considered significant if implementation of the Cannabis Program Update would do any of the following:

- ▶ result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:
 - fire,
 - police protection,
 - schools,
 - parks, and
 - other public facilities;

- ▶ 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; or
- ▶ include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

ISSUES NOT DISCUSSED FURTHER

Personal Cultivation

The proposed Cannabis Program Update does not include changes to personal cultivation standards that would be substantially different from existing requirements such that physical changes to the environment could occur that would create significant impacts related to public services. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

Schools, Libraries, and Other Public Facilities

New cannabis facilities under the Cannabis Program Update could result in increased job opportunities, thus resulting in increased County population. As discussed in Chapter 6, "Other CEQA Sections," implementation of the Cannabis Program Update would not substantially induce population growth in the unincorporated area of the County, such that additional or increased housing beyond existing housing/growth projections would be required. Furthermore, it is anticipated that newly created jobs could be filled by existing County residents, including the unemployed labor force, as well as those commuting from neighboring counties. For these reasons, implementing the Cannabis Program Update is not anticipated to result in a substantial increase in County population levels.

Because anticipated growth would not exceed existing housing/growth projections identified for the County, implementation of the Cannabis Program Update is not expected to result in an increased demand for schools, libraries, or other public facilities (e.g., general governmental services such as administration and public health) that would necessitate new or expanded facilities that could create physical environmental impacts. Therefore, no impacts related to schools, libraries, or other public facilities would occur and this issue is not discussed further.

Parks and Recreation

The Cannabis Program Update does not propose the development of new or expanded parks or recreational facilities, nor would it result in the loss or deterioration of existing parks or recreational facilities. As described above for schools, libraries, and other public facilities, anticipated growth resulting from implementation of the Cannabis Program would not exceed existing housing/growth projections identified for the County (Chapter 6, "Other CEQA Sections"). Therefore, implementation of the Cannabis Program Update is not expected to result in an increased demand for parks or recreational facilities. In addition, the proposed Cannabis Program Update (Section 26-18-115[C][4][c][4]) would require 1,000 setbacks between cannabis cultivation sites and public park that includes federal recreation areas, state parks, regional parks, community parks, neighborhood parks, and class I bikeways as designated in the Sonoma County General Plan, but not proposed public parks that have not yet been constructed. For these reasons, no impacts related to parks or recreational facilities would occur and this issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.13-1: Result in Substantial Adverse Physical Impacts Associated with the Need for New or Physically Altered Fire Protection Facilities

Implementation of the Cannabis Program Update would amend the Sonoma County Code to address proposed cannabis cultivation and supply chain uses beyond what the current County regulations allow, which could result in an expansion of cultivation and supply chain uses that could increase the demand for fire protection services. All existing and future permitted sites would be required to comply with state and local regulations (including the County Code, California Building Code, and California Fire Code regulations) to minimize fire risks. Compliance with these regulations would provide a sufficient level of fire protection and access such that fire protection services would not be substantially affected and would not necessitate the construction of new or expanded fire protection facilities that could result in physical impacts on the environment. This impact would be **less than significant**.

The Cannabis Program Update would allow for new cannabis cultivation and supply chain uses and associated structures, the operation of which may introduce new ignition sources that could increase wildfire hazards associated with electrical sources, storage and use of flammable materials (including volatiles in manufacturing), and related operation activities. This could increase service demands on local fire protection agencies and CAL FIRE.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Continued and future operation of cannabis cultivation sites and supply chain operations would be subject to compliance with PRC Sections 4290 and 4291, and CCR, Title 24, Section 701A.3 (additional building standards for new building construction located in any Fire Hazard Severity Zone within SRAs, any local agency Very-High Fire Hazard Severity Zone, or any Wildland-Urban Interface Fire Area), local fire protection agency requirements, and the California Fire Code to minimize fire hazards. Roadway standards for new development are required to be in compliance with Article V, Sections 13-21 to 13-63 of the Sonoma County Fire Ordinance within the LRA (outside of the VHFHSZ), and the Fire Safe Regulations inside the SRA and LRA VHFHSZ. Furthermore, the County Multi-Jurisdictional Hazard Mitigation Plan includes provisions for the maintenance of vegetation and evacuation routes. Cannabis cultivation sites would be required to comply with CCR Title 4, Division 19, Section 15011 regarding the notification of the cannabis use to the local fire department. Proposed County Code Section 26-18-115(C)(4)(g)(1) restricts accessory manufacturing uses to nonvolatile chemical extraction to avoid fire hazards from volatile chemical use. Compliance with these regulations would provide access, ignition protection measures, fuel management, and water sources that would address onsite fire protection needs. Compliance with these standards would reduce the potential and extent of fire emergencies and would not necessitate the construction of new or expanded fire protection facilities (e.g., fire stations) that could result in physical impacts on the environment. This impact would be less than significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. As described above, cannabis cultivation would be subject to state and local fire regulations and would not result in the construction of

new or expanded fire protection facilities that could result in physical impacts on the environment. This impact would be less than significant.

Construction of Event Facilities and Event Operations

Construction and operation of event facilities would be subject to state and County fire requirements, as described above. Compliance with these standards would reduce the potential and extent of fire emergencies and would not necessitate the construction of new or expanded fire protection facilities (e.g., fire stations) that could result in physical impacts on the environment. This impact would be less than significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. Development of new structures would be subject to state and County fire requirements, as discussed above within agricultural and resources zoning districts. Compliance with these regulations would provide access, ignition protection measures, fuel management, and water sources that would address onsite fire protection needs. Thus, the project would not necessitate the construction of new or expanded fire protection facilities (e.g., fire stations) that could result in physical impacts on the environment. This impact would be less than significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. In addition, these events would be subject to County Code Section 26-22-120, which requires compliance with local and state fire codes, as well as additional requirements of the local fire department. Thus, fire protection services would not be substantially affected and would not necessitate the construction of new or expanded fire protection facilities that could result in physical impacts on the environment. This impact would be less than significant.

Conclusion

Under the proposed Cannabis Program Update, state and local requirements for fire protection would continue to be applied to cannabis facilities. The program does not involve proposed annexations, redevelopment agreements, or revenue sharing agreement that could affect the existing provisions of fire services to the County. Because cannabis uses would be required to adhere to applicable state and local fire regulations, standards, and codes, implementation of the proposed Cannabis Program Update would not necessitate the construction of new or expanded fire protection facilities that could result in physical impacts on the environment. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to public services and would be consistent with Sonoma County General Plan Policies PF-2a, PF-2b, and PF-2n, which require the provision of adequate public services, including fire protection and law enforcement, are available to serve planned development in the County. Additionally, Policies PS-3b, PS-3d, and PS-3f require that the County considers potential fire hazards and the adequacy of fire protection and mitigation measures when reviewing projects and encourage enforcement of CAL FIRE requirements for fire safety. Compliance with these policies would minimize impacts related to protection services. Periodic cannabis events would be required to comply with local and state fire codes, as well as additional requirements of the local fire department under County Code Section 26-22-120. The Cannabis Program Update is also consistent with the fire provisions of the Sonoma County Airport Industrial Area Specific Plan, Bennett Valley

Area Plan, Frantz Valley Area Plan, Penngrove Area Plan, Petaluma Diary Belt Area Plan, Sonoma Mountain Area Plan, South Santa Rosa Area Plan, and West Petaluma Area Plan.

Impact 3.13-2: Result in Substantial Adverse Physical Impacts Associated with the Need for New or Physically Altered Law Enforcement Facilities

Under the proposed Cannabis Program Update, cannabis cultivation and supply chain uses would be subject to State access and security requirements under CCR Title 4, Division 19, Sections 15036, 15042, 15042.1, 15043, 15045, 15046, 15047, and 15601. Implementation of these standards would address security needs for cannabis uses and avoid the need for additional law enforcement services and facilities. This impact would be **less than significant**.

As discussed above in Section 3.13.2, “Environmental Setting,” incident reports between January 1, 2019 and December 31, 2024, filed by the Sonoma County Sheriff, Sonoma Police Department, and Winsor Police Department were related to cannabis cultivation and dispensary sites and involved a total of eight reported crimes: one alcohol violation, two burglaries (i.e., entering a structure to commit a crime), one drug offence, one case of fraud, three larceny (stealing), and two non-criminal incidents. These incidents occurred in Penngrove, Santa Rosa, Sebastopol, Geyserville, and Sonoma, at dispensaries (burglary, fraud, larceny, non-criminal) and cultivation sites (drug offences, larceny, non-criminal). Overall, these data indicate that there is crime associated with cannabis cultivation and product sales; however, the incidents reported are not substantial when considering crime rates across the county (i.e., from January 1, 2019 through December 31, 2024, cannabis incidents made up approximately 0.02 percent of all incident reports, 2.0 percent of all alcohol violations, 0.03 percent of drug offences, 0.06 percent of burglaries, 0.05 percent of fraud cases, and 0.08 percent of larceny (Sonoma County Sheriff’s Office 2025). These data show that crimes reported in the County that involve cannabis business (i.e., cultivation and dispensaries) represent a very small portion of the overall incidents.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval. As described in Section 3.13.1, “Regulatory Setting,” all cannabis uses must implement access restrictions (CCR Title 4, Division 19, Section 15042). While the DCC standards are open-ended in terms of access requirements for cultivation sites (i.e., there is no requirement for fence installation), to meet the requirements under CCR Title 4, Division 19, Section 15042 it is expected that fencing or other types of site-specific security measures would be implemented to ensure that no unauthorized individuals may enter the premises.

As noted above, crimes reported in the County that involve cannabis business (i.e., cultivation and dispensaries) represent a very small portion of the overall incidents (Sonoma County Sheriff’s Office 2025). In addition, for supply chain uses, CCR Title 4, Division 19, Section 15042.1 requires a security plan for permitted manufacturing facilities; Section 15043 requires licensee employee badges for retail sales or participants in temporary cannabis events; Section 15045 requires security personnel to provide onsite security services for permitted microbusinesses and retailers; and Sections 15046 and 15047 require commercial-grade locks and alarm systems, respectively, to be installed on all points of entry and exit for cannabis facilities, except for at cultivation activities and microbusinesses. In addition, specific security requirements would be required for temporary cannabis events under CCR Title 4, Division 19, Section 15601. Thus, law enforcement services would not be substantially affected and would not necessitate the construction of new or expanded sheriff facilities (e.g., sheriff stations) that could result in physical impacts on the environment. This impact would be less than significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. As described above, cannabis cultivation would be subject to State access and security requirements. Thus, law enforcement services would not be substantially affected and would not necessitate the construction of new or expanded sheriff facilities that could result in physical impacts on the environment. This impact would be less than significant.

Construction of Event Facilities and Event Operations

Construction and operation of event facilities would be subject to State access and security requirements, as described above for agricultural and resources zoning districts, that would address security needs. Thus, law enforcement services would not be substantially affected and would not necessitate the construction of new or expanded sheriff facilities that could result in physical impacts on the environment. This impact would be less than significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. Development of new structures would be subject to the same State access and security requirements described above for agricultural and resources zoning districts. Thus, law enforcement services would not be substantially affected and would not necessitate the construction of new or expanded sheriff facilities that could result in physical impacts on the environment. This impact would be less than significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial change to the need for law enforcement services (i.e., no new or expanded facilities would be necessary). This impact would be less than significant.

Conclusion

Compliance with the above requirements would ensure that on-site security measures are implemented and site access is restricted. Under the proposed Cannabis Program Update, state and local requirements for cannabis facility security would continue to be applied to permitted cannabis uses. The program does not involve proposed changes that could affect the provision of law enforcement services to the County. Furthermore, cannabis operations do not substantially contribute to crime rates in the County. Given these provisions and data, no substantial demands on local law enforcement would be expected and would not necessitate the construction of new or expanded sheriff facilities that could result in physical impacts on the environment. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to public services and would be consistent with the Sonoma County General Plan, which requires the provision of adequate public services, including fire protection and law enforcement, are available to serve existing and planned development in the County. Compliance with the Sonoma County General Plan policies would minimize impacts related to law enforcement services. Periodic cannabis events would be required to comply with any additional requirements of the sheriff department under County Code Section 26-22-120. The Cannabis Program Update is also consistent with the law enforcement provisions of the Bennett Valley Area Plan and Penngrove Area Plan.

This page is intentionally left blank.

3.14 TRANSPORTATION

This section describes the applicable federal, state, and local transportation regulations and policies; discusses the existing roadway network and transportation facilities in the vicinity of the Program area; and analyzes the potential transportation impacts from implementation of the Cannabis Program Update. Mitigation measures that would reduce impacts, where applicable, are also discussed.

Comments received related to transportation in response to the notice of preparation (NOP) expressed concerns about emergency access, transportation hazards (e.g., roadway design, dangerous curves, no turnouts for emergency vehicles), incompatible uses (e.g., heavy trucks on residential roadways), and additional vehicular traffic on roadways. Pursuant to Senate Bill (SB) 743, CEQA Section 21099, and State CEQA Guidelines Section 15064.3(a), generally, a project's effect on automobile delay is no longer considered when identifying impacts under CEQA, except as related to safety. Instead, vehicle miles traveled (VMT) has been identified as the most appropriate measure of transportation impacts. Because a project's effects on automobile delay no longer constitute a significant impact under CEQA, comments related to automobile delay (e.g., level of service, congestion) are not addressed in this EIR. All other comments are addressed in the analysis below. The reader is referred to Section 3.17, "Wildfire," for an analysis of impacts associated with emergency access and evacuation.

All comments received in response to the NOP are presented in Appendix A of this EIR.

3.14.1 Regulatory Setting

FEDERAL

Federal Highway Administration

The Federal Highway Administration (FHWA), an agency of the US Department of Transportation, provides stewardship over the construction and preservation of the nation's highways, bridges, and tunnels. FHWA also provides technical assistance to state and local agencies to improve safety, mobility, and livability and to encourage innovation in these areas. FHWA also provides regulation and guidance related to work zone safety, mobility, and temporary traffic control device implementation.

STATE

California Code of Regulations Section 15064.3

On December 28, 2018, State CEQA Guidelines Section 15064.3 was introduced to address the significance of transportation impacts. This amendment mandates that transportation analyses be based on VMT rather than congestion metrics, such as level of service. The shift in focus was a direct response to legislation, notably Senate Bill (SB) 743, passed in 2013, that required the Governor's Office of Planning and Research (OPR)¹ to develop new State CEQA guidelines that address traffic metrics under CEQA. Following approval by the Office of Administrative Law, the updated State CEQA Guidelines took effect statewide on July 1, 2020, implementing the provisions outlined in California Code of Regulations (CCR) Section 15064.3. As a result, VMT analysis has become a crucial component of project evaluations under CEQA. Therefore, VMT is considered in the analysis of this project.

California Department of Transportation

The California Department of Transportation (Caltrans) is the state agency responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as the segments of the Interstate

¹ On July 1, 2024, OPR was renamed the Governor's Office of Land Use and Climate Innovation. However, this section uses OPR as the Technical Advisory on Evaluating Transportation Impacts in CEQA was prepared under OPR's name.

Highway System within California. Caltrans District 4 is responsible for the operation and maintenance of highways in the Program area. Caltrans requires a transportation permit for any transport of heavy construction equipment or materials that necessitates the use of oversized vehicles on state highways and an encroachment permit for any work within Caltrans right-of-way.

California Manual on Uniform Traffic Control Devices, Part 6: Temporary Traffic Control

The *California Manual on Uniform Traffic Control Devices* (CA MUTCD), Part 6: Temporary Traffic Control, provides principles and guidance for the implementation of temporary traffic control to ensure the provision of reasonably safe and effective movement of all roadway users (e.g., motorists, bicyclists, pedestrians) through or around temporary traffic control zones while reasonably protecting road users, workers, responders to traffic incidents, and equipment. In addition, this document notes that temporary traffic control plans and devices shall be the responsibility of the public body or official having jurisdiction to guide road users (Caltrans 2024a: 1029).

Encroachment Permits Manual

The Caltrans *Encroachment Permits Manual* provides information on the permitting process, describes departmental policies, and maintains uniform methods and procedures related to the issuance of encroachment permits (Caltrans 2024b). Section TR-0045 of the *Encroachment Permits Manual* describes the general provisions of a Caltrans encroachment permit including standards of construction and requirements for public traffic control.

REGIONAL

Regional Transportation Plan/Sustainable Communities Strategy

The Metropolitan Transportation Commission (MTC) is the metropolitan planning organization governing the nine-county Bay Area region consisting of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties. The Association of Bay Area Governments (ABAG) is a regional planning agency that includes the nine-county Bay Area region. Together, the ABAG and MTC are jointly responsible for the preparation of, and updates to, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the regional Transportation Improvement Program (TIP). Plan Bay Area 2050, the current RTP/SCS adopted in October 2021, provides a vision for growth and investment in the Bay Area region through the year 2050. There are 12 transportation strategies under Plan Bay Area 2050 that fall into three themes (MTC 2021):

- ▶ Maintain and optimize the existing transportation system
 - T1. Restore, operate, and maintain the existing system
 - T2. Support community-led transportation enhancements in Equity Priority Communities
 - T3. Enable a seamless mobility experience
 - T4. Reform regional transit fare policy
 - T5. Implement per-mile tolling on congested freeways with transit alternatives
 - T6. Improve interchanges and address highway bottlenecks
 - T7. Advance other regional programs and local priorities
- ▶ Create healthy and safe streets
 - T8. Build a Complete Streets network
 - T9. Advance regional Vision Zero policy through street design and reduced speeds
- ▶ Build a next-generation transit network
 - T10. Enhance local transit frequency, capacity, and reliability
 - T11. Expand and modernize the regional rail network
 - T12. Build an integrated regional express lanes and express bus network

Transportation Improvement Program

As the federally designated metropolitan planning organization for the region, MTC prepares and adopts the regional TIP every 4 years. The TIP is a short-term listing of surface transportation projects that receive federal funds, are subject to a federally required action, or are regionally significant. MTC adopted the 2023-2026 TIP in September 2022. The 2023-2026 TIP covers 4 years of programming: federal fiscal years 2023-2026. The project listing in the TIP provides a detailed description for each individual project in the 2023-2026 TIP, including those in Sonoma County.

REGIONAL

Sonoma County Transportation Authority

The Sonoma County Transportation Authority (SCTA) is a collaborative agency of the cities and County of Sonoma that provides comprehensive countywide transportation planning and programming. The SCTA coordinates the activities of local jurisdictions with regional, state, and federal entities (SCTA 2024). SCTA develops the long-range County Comprehensive Transportation Plan and the SCTA Countywide Bicycle and Pedestrian Master Plan.

Sonoma County Comprehensive Transportation Plan

The County Comprehensive Transportation Plan, titled *Moving Forward 2050*, was developed by SCTA in collaboration with the Regional Climate Protection Authority (RCPA). The plan examines the existing transportation network in the County, establishes goals and objectives for improving mobility and reducing transportation impacts on the environment, and identifies transportation improvements for development over the next 25 years (SCTA 2021).

Countywide Bicycle and Pedestrian Master Plan

The SCTA *Countywide Bicycle and Pedestrian Master Plan* includes recommendations for physical improvements and programs to enhance and expand existing bicycle and pedestrian facilities, provide for greater local and regional connectivity, and increase the potential for walking and bicycling as transportation modes (SCTA 2014: 2). The plan includes recommendations for the nine incorporated communities in Sonoma County and the unincorporated area. It proposes a total of 289 bicycle and pedestrian projects in unincorporated Sonoma County, including approximately 770.22 miles of Class I, Class II, and Class III bicycle facilities (SCTA 2014: 50). The plan includes the following list of goals and objectives to develop and maintain a comprehensive countywide bicycle and pedestrian transportation system:

- ▶ **Objective 3.0: Multimodal Integration.** Develop and enhance opportunities for bicyclists and pedestrians to easily access other modes of transportation.
- ▶ **Objective 7.0: Land Use.** Encourage smart growth land use strategies by planning, designing, and constructing bicycle and pedestrian facilities in new development.
- ▶ **Objective 9.0: Maintenance.** Maintain and/or improve the quality, operation, and condition of bicycle and pedestrian infrastructure.

LOCAL

Sonoma County 2020 General Plan

The General Plan serves as a blueprint for development and associated improvements in the County. The Circulation and Transit Element includes goals, objectives, and policies affecting the mobility of future residents, businesses, and visitors (Sonoma County 2016: CT-6). The following General Plan Circulation and Transit Element objectives and policies are applicable to the Cannabis Program Update:

- ▶ **Objective CT-1.6:** Require that circulation and transit system improvements be done in a manner that, to the extent practice, is consistent with community and rural character, minimizes disturbance of the natural environment, minimizes air and noise pollution, and helps reduce greenhouse gas emissions.
 - **Policy CT-1k:** Encourage development that reduces VMT, decreases distances between jobs and housing, reduces traffic impacts, and improves housing affordability.

- **Policy CT-1m:** Require development projects contribute a fair share for development of alternative transportation mode facilities, including pedestrian and bicycle facilities along project frontages and links from these to nearby alternative mode facilities. Development near urban boundaries should provide safe access to the urban area.
- **Policy CT-1s:** Review all circulation and transit improvements for consistency with the applicable Specific or Area Plan.
- ▶ **Objective CT-2.1:** Increase ridership on public transit systems.
- ▶ **Objective CT-2.5:** Design, implement, and maintain a transit system that serves seniors, persons with disabilities, youth, and persons with limited incomes so that they may participate in a full range of activities.
 - **Policy CT-2d:** Require major traffic generating projects on existing or planned transit routes to provide fixed transit facilities, such as bus turnouts, passenger shelters, bike lockers, and seating needed to serve anticipated or potential transit demand from the project.
- ▶ **Objective CT-3.3:** Encourage pedestrian, bicycle, and transit-oriented development.
 - **Policy CT-3a:** Use the adopted Sonoma County Bicycle and Pedestrian Plan (Bikeways Plan) as the detailed planning document for existing and proposed bikeways and pedestrian facilities.
 - **Policy CT-3b:** Use the policies of the Bikeways Plan whenever reviewing development projects to ensure that projects are consistent with the Bikeways Plan and incorporate necessary bicycle and pedestrian improvements identified in the Bikeways Plan as a condition of project approval.
 - **Policy CT-3n:** Use the following criteria to determine consistency of public and private projects with the Bikeways Plan:
 - Development of lands traversed or adjoined by an existing or future Class I bikeway shall not preclude establishment of the bikeway, nor conflict with use and operation of the bikeway or adversely affect long term maintenance and safety of the facility.
 - Construction, widening, or maintenance of roads with designated bikeways meets the design and maintenance standards for the appropriate class of bikeway as specified by the Bikeways Plan.
 - **Policy CT-3v:** Where nexus exists, require private or public development to plan, design, and construct bicycle and pedestrian facilities to integrate with the existing and planned bicycle and pedestrian network.
 - **Policy CT-3x:** Require mitigation either through in-lieu fees, or development of alternative facilities that have been recommended by the Sonoma County Bicycle and Pedestrian Advisory Committee, when development projects or road improvements are anticipated to result in a loss of existing bicycle and pedestrian facilities or jeopardize development of future facilities identified in the Bikeways Plan.
 - **Policy CT-3bb:** Require dedication or purchase of right-of-way for Class I bikeways as part of open space requirements for development, when a nexus can be established between the proposed development and the need for bikeways in the affected area.
 - **Policy CT-3ff:** Provide adequate bicycle parking as part of all new school, public transit stops, public facilities, and commercial, industrial, and retail development following standards established in the adopted Bikeways Plan.
 - **Policy CT-3ww:** Require development projects in Urban Service Areas and unincorporated communities that conflict or interfere with development of future planned pedestrian facilities to provide development of equivalent facilities within the same area.
 - **Policy CT-6g:** Require that new development provide project area improvements necessary to accommodate vehicle and transit movement in the vicinity of the project, including capacity improvements, traffic calming, right-of-way acquisition, access to the applicable roadway, safety improvements, and other mitigation measures necessary to accommodate the development.

Sonoma County Airport Industrial Area Specific Plan

The Sonoma County Airport Industrial Area Specific Plan was initially adopted by the County in 1984 and constitutes the master program for development of the 770-acre specific plan area located between the Sonoma County Airport and US 101. The Sonoma County Airport Industrial Area Specific Plan contains the following transportation provisions:

Sonoma County Bicycle and Pedestrian Plan

The Sonoma County Bicycle and Pedestrian Plan (Bikeways Plan) is intended to establish goals, objectives, policies, and priority projects for the bicycle and pedestrian networks in the unincorporated County (Sonoma County 2010). The Bikeways Plan includes an overview of existing bicycle and pedestrian facilities in the County and proposes additional bicycle facilities to create a more robust transportation network. The following policies are relevant to the Program area:

- ▶ **Policy 1.02:** Use the policies of the Bikeways Plan whenever reviewing development projects to insure that projects are consistent with the Bikeways Plan and incorporate necessary bicycle and pedestrian improvements identified in the Bikeways Plan.
- ▶ **Policy 2.17:** Where nexus exists, require private or public development to plan, design, and construct bicycle and pedestrian facilities to integrate with the existing and planned bicycle and pedestrian network.
- ▶ **Policy 2.19:** Require mitigation either through in-lieu fees, or development of alternative facilities that have been recommended by the [Bicycle and Pedestrian Advisory Committee], when development projects or road improvements are anticipated to result in a loss of existing bicycle and pedestrian facilities or jeopardize development of future facilities identified in the Bikeways Plan.
- ▶ **Policy 2.27:** Provide adequate bicycle parking as part of all new school, public transit stops, public facilities, and commercial, industrial, and retail development. Retrofit of existing uses and facilities is recommended whenever feasible. Use the following standards for bicycle parking:
 - **Retail over 10,000 gross square feet (sf):** 8 bicycle rack spaces per 10,000 gross sf. Bicycle lockers may be substituted for bicycle rack spaces.
- ▶ **Policy 4.09:** Require development projects in Urban Service Areas and unincorporated communities that conflict or interfere with development of future planned pedestrian facilities to provide development of equivalent facilities within the same area.
- ▶ **Policy 4.10:** Design sidewalks and pedestrian paths to provide defensible space and adequate sight lines between adjoining development to insure safety and security. Sidewalks should feel comfortable and welcoming at all times of the day and night.

Sonoma County Transit FY 2023 Abbreviated Short-Range Transit Plan

Sonoma County Transit's short-range transit plan reviewed service challenges resulting from the COVID-19 pandemic and explored three scenarios for future operations due to the uncertainty of anticipated revenues. These scenarios were (1) Robust Recovery Scenario, (2) Revenue Recovery, with Fewer Riders, and (3) Some Progress. The plan considered the potential service impacts on staffing, future service levels, impacts on service for residents of Equity Priority Communities, and anticipated efforts to electrify the vehicle fleet.

Encroachment Permits

For activities that involve placing or constructing any structure, object, or improvement in the County right-of-way, such as roadways, driveways, and sidewalks, an encroachment permit is required. Examples of activities requiring permits include upgrades of driveway entrances, landscaping, repair/installation of utilities, posting signs, and conducting special events. Encroachment permits to be provided by the County are addressed in Chapter 15, Article III, Section 15-8 of the Sonoma County Code.

Construction Standards

Sonoma County has developed construction standards, that were approved by the director of Transportation and Public Works (now known as Sonoma Public Infrastructure), for roadways, sidewalks, drainage, streetlights, traffic signing, driveways, and roadway design. These standards were adopted by the County of Sonoma Board of Supervisors as County Ordinance 38-2020-0446.

3.14.2 Environmental Setting

This section describes the existing environmental setting, which is the baseline scenario upon which project-specific impacts are evaluated. The environmental setting for transportation includes descriptions of roadway, transit, bicycle, and pedestrian facilities.

The unincorporated County is approximately 1,500 square miles. The Program area consists of unincorporated Sonoma County, outside of the Coastal Zone. The Cannabis Ordinance Update would not result in the inclusion of cannabis land uses within the Coastal Zone.

ROADWAY SYSTEM

Major roadways that provide access through Sonoma County include several facilities that are part of the state highway system, as follows.

- ▶ **State Route (SR) 1**, also called Shoreline Highway, is a two-lane highway that serves as the primary north-south travel route through Sonoma County's coastal communities and connecting to coastal communities in Mendocino and Marin Counties. The speed limits vary from 35 miles per hour (mph) in more densely developed communities to 55 mph in rural areas.
- ▶ **SR 12** connects Sebastopol and points east, including Santa Rosa, Sonoma, and communities in Sonoma Valley, and extends farther east to Calaveras County. In the unincorporated areas, it is generally designed as a two-lane rural highway but includes curb, gutter, and sidewalks in more urbanized areas. In eastern Sonoma County, SR 12 overlaps with SR 121. Speed limits range from 30 to 55 mph.
- ▶ **SR 37** connects the US 101 corridor in Marin County with Solano County to the east, including a segment that passes through Sonoma County. SR 37 has two lanes of traffic in each direction between the Sonoma County/Marin County line and the intersection with SR 121 and one lane in each direction between SR 121 and Sonoma Creek. The four-lane section has a speed limit of 65 mph, while the two-lane section has a speed limit of 55 mph.
- ▶ **US Highway 101** (US 101) is Sonoma County's primary north-south highway, connecting to Marin County to the south and to Mendocino County in the north. It provides access to most of the County's incorporated communities, including Santa Rosa, Petaluma, Rohnert Park, Windsor, Cotati, Healdsburg, and Cloverdale. US 101 has two to three lanes in each direction of travel, with high occupancy vehicle lanes between the Marin County line and Windsor. US 101 also connects to other regional and local-serving roadways including SR 116, SR 12, SR 128, and Old Redwood Highway, providing connections to communities outside the US 101 corridor and the Sonoma Coast.
- ▶ **SR 116** generally runs east-west between SR 1 in Jenner and SR 121 south of the City of Sonoma, connecting through the communities of Guerneville, Sebastopol, and Cotati. The characteristics of SR 116 vary, as it serves both urban and rural areas. It is typically one lane in each direction, with speed limits varying from 25 mph in some urbanized locations to 55 mph in less-developed areas.
- ▶ **SR 121** connects the SR 37 corridor at Sears Point to Napa County, terminating at SR 128. It intersects with SR 116 and SR 12, with which it overlaps near Schellville. SR 121 generally has one lane in each direction with a 55 mph speed limit.
- ▶ **SR 128** connects the Mendocino Coast to the Sacramento Valley. In Sonoma County, SR 128 connects the Mendocino County line to the Napa County line, passing through communities including Cloverdale and Geyserville. Typically, with one lane in each direction, there is a freeway segment where SR 128 is jointly designated with US 101. Speed limits range from 25 mph through more densely developed communities to 55 mph in rural areas.

TRANSIT SYSTEM

Sonoma County Transit

Sonoma County Transit (SCT) provides local and intercity fixed-route and public transportation service throughout Sonoma County with a total of 19 routes. The schedule of fixed-route bus service varies depending on the specific route. All SCT buses are equipped with racks that can accommodate two or three bicycles.

Sonoma County Transit also manages paratransit service within the County for people with disabilities who are unable to use lift-equipped fixed-route buses. Sonoma County Paratransit is operated by Volunteer Wheels, primarily within three-quarters of a mile from regular SCT fixed-route service during the same days and hours as those routes. Reservations are required and can be made one to seven days in advance by calling Sonoma County Paratransit between 8:00 a.m. and 5:00 p.m. Monday through Friday and between 9:00 a.m. and 5:00 p.m. on weekends (SCT 2016: 5).

Sonoma-Marin Area Rail Transit

Sonoma-Marin Area Rail Transit (SMART) provides passenger rail service on a 45-mile rail corridor in Marin and Sonoma Counties; service currently operates between the Larkspur and Sonoma Airport stations, and service is scheduled to be extended to Windsor in 2025. The SMART passenger rail service schedule varies depending on the time of year, but generally operates seven days a week between approximately 4:30 a.m. and 8:30 p.m. with modified schedules implemented during observed holidays (SMART 2024a). The SMART system also includes a bicycle pedestrian pathway within and alongside the railroad right-of-way (SMART 2024b), of which 21 miles have been completed. Each two-car train has space for up to 24 bicycles.

Golden Gate Transit

Golden Gate Transit provides service primarily along the US-101 corridor to communities in Sonoma County, Marin County, and San Francisco. Service in Sonoma County includes Route 101, which provides local service between San Francisco and Santa Rosa with stops throughout Marin County along the US 101 corridor. Commuter service to San Francisco is provided by Route 164 from Petaluma and Routes 172 and 172X from Santa Rosa. Route 101 operates seven days a week, while the other routes operate only Monday through Friday, primarily during peak commute hours. Golden Gate Transit buses provide connections to routes offered by Marin Transit and SMART, as well as Muni and BART in San Francisco.

BICYCLE AND PEDESTRIAN NETWORK

The bicycle and pedestrian system in the County is composed of bikeways and paths. The Caltrans *Highway Design Manual* (Caltrans 2020) classifies bicycle facilities into the following categories:

- ▶ Class I Multi-Use Path: A completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- ▶ Class II Bike Lane: A striped and signed lane for one-way bike travel on a street or highway.
- ▶ Class III Bike Route: Signing only for shared use with motor vehicles within the same travel lane on a street or highway.
- ▶ Class IV Bikeway: Also known as a separated bikeway, a Class IV Bikeway is for the exclusive use of bicycles and includes a separation between the bikeway and the motor vehicle traffic lane. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

As of 2014, the 319-mile countywide bicycle network was comprised of 91 miles of bike paths (Class I), 167 miles of bike lanes (Class II), and 61 miles of bike routes (Class III). For unincorporated Sonoma County, the Bikeways Plan proposes pedestrian crossing enhancements and approximately 194 miles of Class I facilities, 389 miles of Class II facilities, and 187 miles of Class III facilities (SCTA 2014: 50).

3.14.3 Environmental Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, "Project Description," and Section 3.0, "Approach to the Environmental Analysis," regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

The following methodologies were used to evaluate potential impacts of the Cannabis Program Update based on Appendix G of the State CEQA Guidelines.

Bicycle and Pedestrian Analysis

The bicycle and pedestrian analysis is based on the potential for implementing the Cannabis Program Update to, either directly or indirectly, disrupt existing bicycle or pedestrian programs or facilities; interfere with walking or bicycling accessibility; interfere with the implementation of a planned bicycle or pedestrian facility; or create a physical or operational transportation outcome that conflicts with applicable bicycle or pedestrian system plans, guidelines, policies, or standards.

Transit Analysis

The transit analysis reflects whether the Cannabis Program Update would, directly or indirectly, disrupt existing transit services or facilities, substantially delay public transit, interfere with the implementation of a planned transit facility, or create physical or operational transportation outcomes that conflict with desired conditions expressed in transit policies adopted by the County.

Vehicle Miles Traveled Analysis

State CEQA Guidelines Section 15064.3 was added December 28, 2018, to address the significance of transportation impacts; the guidelines require that transportation impacts be assessed based on VMT instead of measures of traffic delay (such as level of service). The change in the focus of transportation analysis is the result of legislation (i.e., SB 743) and is intended to shift the emphasis from congestion to, among other things, reducing greenhouse gas emissions, promoting a diversity of land uses, and developing multimodal transportation networks. Pursuant to State CEQA Guidelines Section 15064.3(c), CEQA required VMT analyses beginning July 1, 2020. Therefore, VMT is considered in the analysis of this project.

In December 2018, the California Governor's Office of Planning and Research (OPR) published the most recent version of the Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory), which provides guidance for VMT analysis. The Technical Advisory recommends the use of screening criteria to help assess VMT impacts. Relevant elements of that guidance are as follows.

- ▶ Employment projects located within areas that have been mapped by jurisdictions as being low-VMT areas, as evidenced through quantified VMT data, are likely to exhibit similar characteristics in terms of project generated trips and would therefore be expected to be low VMT sites. Sites located in low VMT areas may be pre-screened from detailed VMT analysis. SCTA has developed screening maps for employment VMT throughout Sonoma County based on outputs from the Sonoma County Travel Model.
- ▶ Projects located within one-half mile of a major transit stop may be assumed to cause a less-than-significant transportation impact, absent substantial evidence indicating otherwise (OPR 2018). In accordance with Public Resources Code Section 21064.3, the Technical Advisory defines a major transit stop as "a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods" (OPR 2018: 11).

For projects that do not meet the screening criteria and therefore require a VMT analysis, OPR provides recommended thresholds of significance. For office uses or other employment sites, the Technical Advisory recommends a threshold of at least 15 percent below the regional average VMT per employee. This would include most of the uses to which the proposed Cannabis Program Update would apply, including cultivation, processing, manufacturing, and distribution.

Individual retail projects such as cannabis dispensaries are considered to have a potentially significant impact if they result in an increase in total VMT. However, retail uses that are less than 50,000 square feet in area are considered to be local-serving; rather than generating new trips, such projects provide additional retail opportunities in the area and typically result in a more efficient trip pattern, which may reduce total VMT. Such local-serving retail uses may be considered to have a less-than-significant impact.

Relevant to calculating trips is Section 15064.3(a), which states, "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks (OPR 2018). Heavy-duty truck VMT could be included for modeling convenience and ease of calculation (for example, where models or data provide combined auto and heavy truck VMT) but need not be. Therefore, larger on-road construction vehicles that do not fall within the categories of cars and light trucks do not need to be considered in calculations of trips or VMT.

Sonoma County has not adopted a VMT policy or thresholds of significance. Therefore, the guidance provided by the OPR Technical Advisory was used to programmatically assess the potential VMT increase associated with the implementation of the Cannabis Program Update.

As noted above, the transportation analysis in this Draft EIR is general in nature and does not evaluate transportation impacts of specific cannabis site construction, potential expansion of existing cultivation sites, and operation or the future extent of accessory uses on cannabis sites as it is not possible to estimate the locations configuration of future cannabis uses. Thus, the analysis programmatically addresses transportation impacts from the range of uses that may occur under implementation of the Cannabis Program Update

Transportation Hazards

The transportation hazards analysis was performed to programmatically evaluate whether implementation of the Cannabis Program Update would, directly or indirectly, substantially increase transportation hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or create potentially hazardous conditions for people walking, bicycling, driving, or for public transit operations from a cannabis use.

THRESHOLDS OF SIGNIFICANCE

The significance criteria used to evaluate the potential impacts of the Cannabis Program Update to transportation under CEQA are based on Appendix G of the State CEQA Guidelines. A transportation-related impact would be significant if implementation of the Cannabis Program Update would:

- ▶ conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
- ▶ conflict or be inconsistent with CEQA Guidelines Section 15064.3(b); or
- ▶ substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

The reader is referred to Section 3.17, "Wildfire," for the evaluation of emergency access and evacuation impacts of the Cannabis Program Update.

ISSUES NOT DISCUSSED FURTHER

Personal Cultivation

The proposed Cannabis Program Update does not include changes to personal cultivation standards that would be substantially different from existing requirements such that physical changes to the environment could occur that would create significant impacts related to transportation. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.14-1: Conflict with a Program, Plan, Ordinance, or Policy Addressing the Circulation System, Including Transit, Roadway, Bicycle, and Pedestrian Facilities

Adoption and implementation of the proposed Cannabis Program Update, including approval of subsequent commercial cannabis uses, would not conflict with the adopted policies of the Sonoma County General Plan regarding the circulation system. Therefore, this impact would be **less than significant**.

As described in Chapter 2, "Project Description," the proposed Cannabis Program Update would include amendments to the Sonoma County General Plan and changes to the County Zoning Ordinance in Chapter 26 of the County Code to further address proposed cannabis cultivation and supply chain (noncultivation) uses allowed by the state licensing program beyond the current County regulations. New and expanded cannabis facilities could affect roadway safety and other transportation uses (transit, bicycle, and pedestrians) on unincorporated county roadways due to increased vehicle and truck use. As further addressed below, the proposed Cannabis Program Update would not alter current General Plan transportation policies and County roadway standards and would not conflict with these standards.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Construction associated with cannabis facilities in agricultural and resources districts would be required to meet all applicable County requirements related to construction, including the County Construction Standards adopted as County Ordinance 38-2020-0446. The Construction Standards detail design standards for roadways including for sight distance, driveways, and minimum curb radii. An encroachment permit under Chapter 15, Article III, Section 15-8 of the County Code for construction activities would also be required for cannabis facilities to maintain safety during construction of subsequent facilities and associated roadway infrastructure. In addition, the subsequent projects associated with the Cannabis Program Update would be required to comply with applicable County General Plan policies. The policies in the Circulation and Transit Element of the Sonoma County General Plan are intended to provide for a multimodal transportation network, to efficiently manage the demand for transportation, and to require proposed development projects to contribute resources to fund transportation improvements that would address project-generated transportation demand. Policy CT-1m calls for development projects to contribute a fair share of the cost of infrastructure for project-related non-vehicle transportation. The need for bicycle and pedestrian improvements is also identified in Policy CT-3b and Policy CT-3n, which indicate that the Bikeways Plan policies and projects should be considered as part of the approval process and that conditions of approval should be developed to provide consistency with the Bikeways Plan. In addition, Policy CT-3v, Policy CT 3x, and Policy CT-3bb call for proposed projects to construct, contribute funding, or provide right-of-way for new pedestrian and bicycle

infrastructure where appropriate. Policy CT-3ww considers projects that could potentially conflict with the development of planned pedestrian facilities and calls for incoming projects to provide equivalent facilities in the vicinity of the project. Policy CT-6g identifies the need for potential vehicle- or transit-related improvements in the vicinity of proposed development projects and calls for new development to provide appropriate improvements to ensure adequate circulation and safety. Policy CT-2d focuses on the potential demand for transit services in the vicinity of projects, requiring infrastructure such as bus turnouts, shelters, and other facilities to be provided by major development projects expected to generate transit ridership. This impact would be less than significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation facilities that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed and a maximum of 10 additional average daily trips would be allowed; therefore, there would be no change to the surrounding roadway network or substantial increase in facility operations that would conflict with policies, plans, or programs regarding the circulation system. This impact would be less than significant.

Construction of Event Facilities and Event Operations

Under the Cannabis Program Update, cannabis events where people could sell and consume cannabis would be permitted within agricultural and resources districts. Events could be large-scale (i.e., more than 25 attendees) or small-scale (i.e., 25 or fewer attendees, or 50 with shuttle service). Event facilities would be required to comply with all applicable County requirements related to construction, as detailed above, under, "Proposed Allowable Uses in Agricultural and Resources Districts," as well as all General Plan policies. In addition, a traffic management and parking plan would be required to address the maximum number of attendees visiting during a cannabis event. For an event exceeding 100 attendees and for an event that would use overflow parking, the traffic management plan would need to include additional provisions (e.g., a plan for queuing of traffic). Consistency with these policies, and other applicable County transportation standards, as well as subsequent application review would ensure that the construction and operation of event facilities would not conflict with policies, plans, or programs regarding the circulation system. This impact would be less than significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. If new structures are developed, they would be required to comply with all applicable County design and safety transportation standards and General Plan policies as discussed above within agricultural and resources zoning districts. Compliance with these policies and standards as well as project-level review for development of new facilities would ensure that the construction and operation of these facilities would not conflict with policies, plans, or programs regarding the circulation system. This impact would be less than significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no conflicts with policies, plans, or programs regarding the circulation system are expected.

Summary

As discussed above, implementation of the proposed Cannabis Program Update would allow for the permitting and development of cannabis uses within agricultural and resources districts and industrial and commercial districts. If new cannabis facilities are developed, they would be required to comply with County General Plan policies and safety and design standards (e.g., Construction Standards) and would be subject to project-level review. Consistency with County General Plan policies, safety and design standards, and project-level review would ensure that subsequent

projects would not conflict with policies, plans, or programs regarding the circulation system. Therefore, the impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County General Plan policies related to transportation and would be required to comply with the County Construction Standards adopted as County Ordinance 38-2020-0446, Chapter 15, Article III, Section 15-8 of the County Code, and General Plan Policies CT-1m, CT-2d, CT-3b, CT-3n, CT-3v, CT 3x, CT-3bb, CT-3ww, and CT-6g as identified above and as applicable. The Cannabis Program Update is also consistent with the transportation provisions of the Sonoma County Airport Industrial Area Specific Plan, Bennett Valley Area Plan, Frantz Valley Area Plan, Penngrove Area Plan, Petaluma Diary Belt Area Plan, Sonoma Mountain Area Plan, and West Petaluma Area Plan.

Impact 3.14-2: Conflict or Be Inconsistent with CEQA Guidelines Section 15064.3(b) Regarding Vehicle Miles Traveled

Construction and operation of cannabis sites associated with adoption and implementation of the proposed Cannabis Program Update could potentially result in increased countywide VMT. It is anticipated that most new cannabis uses would screen out from a quantitative VMT analysis and therefore would have a less-than-significant impact. However, because individual cannabis projects are not yet defined, project-specific details are unknown and the conclusions of project review are speculative. Given this uncertainty, the Cannabis Program Update impacts on VMT would be **potentially significant**.

The proposed Cannabis Program Update would increase the types of cannabis uses (including accessory cannabis uses) allowed in various zoning districts by reducing the minimum parcel size for cultivation and allowing noncultivation uses beyond testing facilities in general commercial zones (C3). Under the proposed Cannabis Program Update, cannabis uses would be allowed in the following districts: Land Intensive Agriculture (LIA), Land Extensive Agriculture (LEA), Diverse Agriculture (DA), Resources and Rural Development (RRD), Industrial Park (MP), Limited Urban Industrial (M1), Heavy Industrial (M2), and Limited Rural Industrial (M3), Neighborhood Commercial (C1), Retail and Business Service (C2), General Commercial (C3), and Limited Commercial (LC). Table 3.14-1 presents the estimated number of acres and sites for the various types of cannabis operations in Sonoma County over the next 20 years with implementation of the Program (see Chapter 2, "Project Description," for additional details).

Table 3.14-1 Assumed Cannabis Facilities (Existing and New) by 2044

Cannabis Activity	Quantity
Outdoor cultivation	188 acres
Indoor cultivation	13 acres
Mixed-light cultivation	7 acres
Nursery	40 sites
Centralized processing	9 sites
Distribution	84 sites
Retail (storefront and delivery)	56 sites
Testing/laboratories	9 sites
Manufacturing	37 sites

Source: See Table 3-1 of this Draft EIR.

The scale and scope of future cannabis operations can be generally estimated. It should also be noted that while there is not a maximum parcel size and total acreage for any one outdoor cultivation site is not limited, the canopy area can be no more than 10 percent of the parcel size and building size is limited by the underlying zoning district. Further, accessory cannabis uses in the agricultural zones must be secondary and incidental to the outdoor cultivation. The proposed Cannabis Program Update also removes prohibitions on supply chain uses, including allowance of volatile solvents in industrial zoning, and removal of caps on centralized processing facilities in agricultural zoning districts; in addition, it allows storefront retail in all commercial zones and eliminates the cap and sensitive use setbacks. For these reasons, it can be assumed that cannabis uses would be located in more locations throughout the county (i.e., become more geographically spread out compared to the existing conditions).

The potential VMT impacts associated with each cannabis use varies considerably based on the type of use and size of the facility. The trip generation rate of each use was considered using standard Institute of Transportation Engineers (ITE) trip generation rates (*Trip Generation Manual*, 11th edition) as well as local trip generation rates developed based on data collected at several sites throughout the County of Sonoma to estimate the number of trips per thousand square feet of cannabis uses. Since ITE does not provide trip rates for outdoor cannabis cultivation operations, trip generation estimates for outdoor cultivation projects were developed based on previously submitted Sonoma County projects. For other cultivation project types, trip rates developed for the Santa Barbara County Cannabis Ordinance EIR were applied. The trip generation rates for each use are shown in Table 3.14-2.

Table 3.14-2 Estimated Cannabis Use Trip Generation

Cannabis Activity	Daily Trip Generation Rate
Cultivation	
Outdoor cultivation	28.0 trips/cannabis canopy acre*
Indoor cultivation	67.3 trips/cannabis canopy acre**
Mixed-light cultivation	11.7 trips/cannabis canopy acre**
Nursery	67.3 trips/cannabis canopy acre**
Supply Chain	
Centralized processing	4.9 trips/1 ksf***
Distribution	1.7 trips/1 ksf***
Testing/laboratories	11.1 trips/1 ksf***
Manufacturing	3.8 trips/1 ksf***
Retail (storefront and delivery)	95.4 trips/1 ksf****

Note: ksf = 1,000 square feet; * = rate based on previously submitted applications for Sonoma County projects; ** = trip rate obtained from Santa Barbara DEIR; *** = *Trip Generation*, 11th edition, ITE; **** = rate based on data collected at existing dispensaries in Sonoma County; ***** = local serving retail threshold per OPR Technical Advisory.

Source: Data provided by W-Trans 2024.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Allowing multiple cannabis uses within a single operation could result in decreased VMT by reducing trips associated with project operations. For example, with implementation of the Cannabis Program Update, a cultivation site that previously needed to package and label its products on another site could include such activity on the cultivation site; thereby reducing the number of trips associated with project operation.

As shown on the SCTA VMT screening map (Figure 3.14-1), large portions of the unincorporated County are located in areas that experience at least 15 percent below the countywide average for VMT per employee, which is a typical metric applied to employment projects to establish a less-than-significant impact determination. However, as noted above, the proposed Cannabis Program Update does not place upper limits on the size of individual cannabis facilities, and due to the programmatic nature of the project it cannot be guaranteed at this time that all individual cannabis projects implemented under the proposed Cannabis Program Update would meet one of the screening criteria. Thus, this impact would be potentially significant.

Applications Meeting Crop Swap Requirements

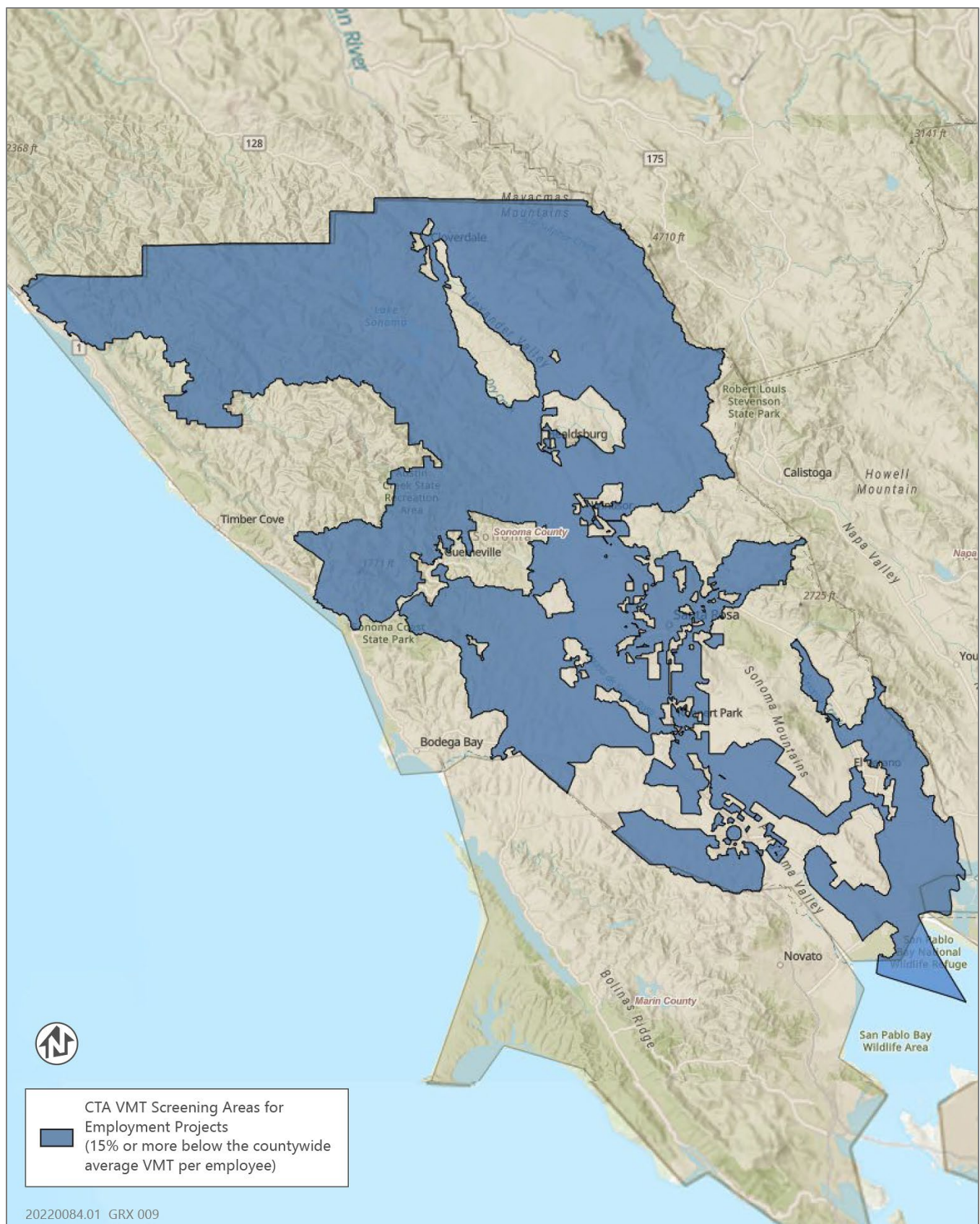
Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. Given that these projects are replacing an existing agricultural operation, it is not expected that they would substantially increase the existing VMT generated on the site by current agricultural operations because the operations would be similar in nature and would be limited to an increase of no more than 10 average daily trips. Thus, this impact would be less than significant.

Construction of Events Facilities and Event Operations

Under the Cannabis Program Update, cannabis events where people could sell and consume cannabis would be permitted within agricultural and resources districts. Events could be large-scale (i.e., more than 25 attendees) or small-scale (i.e., 25 or fewer attendees, or 50 with shuttle service). Up to two large-scale events and up to 104 small-scale event days per year would be permitted. Vehicle trips associated with cannabis events would include trips generated by employees (e.g., security) and event attendees. In accordance with Section 26-18-270 "Cannabis Events" of the Cannabis Program Update, a traffic management and parking plan would be required to address the maximum number of attendees visiting during a cannabis event. However, given the lack of certainty regarding the size of future cannabis events, and the potential for a greater number of event attendees than employees who travel to a site, such events within agricultural and resources districts could result in a substantial increase in VMT. This impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for cultivation and supply chain uses, as well as accessory uses. While new cannabis uses could be located within existing buildings, new facilities may be developed within the County. As shown on the SCTA VMT screening map (Figure 3.14-1), large portions of the unincorporated County are located in areas that experience at least 15 percent below the countywide average for VMT per employee, which is a typical metric applied to employment projects to establish a less-than-significant impact determination. However, as noted above, the proposed Cannabis Program Update does not place upper limits on the size of individual cannabis facilities, and due to the programmatic nature of the project it cannot be guaranteed at this time that all individual cannabis projects implemented under the proposed Cannabis Program Update would meet one of the screening criteria.



Source: Adapted by Ascent in 2024.

Figure 3.14-1 Sonoma County Transportation Authority VMT Screening Map

While it appears likely that any future dispensary projects in unincorporated Sonoma County would be well below the 50,000 square-foot size and would therefore be local-serving, the cannabis industry is still in the early phases of development and there remains the possibility that larger projects could emerge as the industry evolves. In the case of cannabis dispensaries (storefront retail), the Cannabis Program Update would allow on-site consumption in addition to retail sales. To assess the potential impact of the on-site consumption use on VMT, ITE trip generation rates for retail uses were considered. The ITE generation rates for retail estimates 821 trips for shopping plazas that are 40,000 to 150,000 square feet in size; for such projects that do not include a supermarket, the trip generation rate is 67.52 trips per thousand square feet. Applied to a 50,000-square-foot project, this equates to 3,376 trips per day. Assuming an average dispensary size of 2,400 square feet in the project area (see Table 3-1), a cannabis dispensary could be expected to generate approximately 230 trips per day. In addition, dispensaries would be located in commercial zones are the generally located in or near urban and semi-urban areas as shown in Figure 3.11-2. Therefore, it is reasonable to conclude that even if on-site consumption is permitted at dispensaries, the additional trips associated with the allowance of on-site consumption would likely remain substantially below the VMT significance threshold for retail projects.

Given the lack of certainty regarding the size of future cannabis uses, individual projects within industrial and commercial districts could result in an exceedance of VMT thresholds. This impact would be potentially significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no effects on VMT.

Summary

As discussed above, implementation of the Cannabis Program Update would result in cannabis uses located in more locations throughout the County (i.e., more spread out compared to the existing conditions). With consideration of typical facility sizes and potential facility locations, it is likely that many cannabis facilities would meet applicable VMT screening criteria. However, as noted above, the proposed Cannabis Program Update does not place upper limits on the size of individual cannabis facilities, and due to the programmatic nature of the project it cannot be guaranteed at this time that all individual cannabis projects implemented under the proposed Cannabis Program Update would meet one of the screening criteria. For these reasons, the impact on VMT would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.14-2 (UPC, DRH): Conduct VMT Analysis and Identify Mitigation for VMT

Sonoma County shall require the following mitigation measures for cannabis project applications subject to a use permit or design review with hearing:

Cannabis cultivation and supply chain sites that are located outside of VMT efficient areas, as identified in Table 3.14-3, shall conduct a project-level VMT analysis and identify VMT impacts associated with the cannabis facility. Consistent with this guidance, projects that include accessory uses would be analyzed independently. Where appropriate, VMT shall be evaluated using VMT screening maps based on the outputs from the most recent update of the Sonoma County Travel Demand Model or a dedicated model run.

Table 3.14-3 Project VMT Screening Criteria Summary for Single-Use Projects that Do Not Include Events

VMT Screening Criteria	Applicable Project Component	Screening Threshold
Projects Located in a VMT Efficient Area ¹	Outdoor Cultivation Indoor Cultivation Mixed-light Cultivation Nursery Processing Testing/laboratories Activities Manufacturing Activities Retail Activities Consumption Lounges	See Figure 3.14-1

Notes: ksf = 1,000 square feet

¹ Screening map depicting areas observing 15 percent below countywide VMT per employee obtained from Sonoma County Transportation Authority

Source: Data provided by W-Trans 2024.

Because some projects may not be screened out based on these criteria, the process described below shall be applied to assess potential VMT impacts at the project level:

Step 1 - Map-Based Low VMT Screening

The SCTA travel demand model analyzes geographic areas throughout the county known as transportation analysis zones (TAZs) and the VMT per employee is calculated for each TAZ. As shown in Figure 3.14-1, the VMT per employee is at least 15 percent below the county-wide average for a large portion of Sonoma County. Since incoming development is presumed to be associated with similar commuting patterns as existing conditions in the TAZ, individual cannabis projects proposed for sites in TAZs that have a VMT per employee at least 15 percent below the regional average are presumed to have a less-than-significant VMT impact. This screening criteria shall only be applied to projects that do not include cannabis events, as the SCTA model does not include data for events, or other types of visitor-focused uses. For employee-based projects not located in a TAZ with a VMT per employee at least 15 percent below the regional average, the analysis shall proceed to Step 2.

Step 2 - Proximity to Transit

In accordance with the screening criteria recommended by OPR, projects located within one-half mile of an existing major transit stop or an existing stop along a high-quality transit corridor shall be presumed to have a less than significant VMT impact, unless they meet at least one of the following:

- ▶ Have a Floor Area Ratio (FAR) of less than 0.75
- ▶ Includes more parking for use by customers or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking)
- ▶ Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization)

As in the case of map-based screening, projects that include cannabis events are not presumed to have a less than significant VMT impact and therefore could not be screened using this criterion, and must start at Step 3.

Step 3 - Project VMT Assessment (if screening is not applicable)

For projects that do not screen from VMT analysis, including those that propose events, the individual cannabis project must be compared with the appropriate VMT significance threshold. For employment-based land uses, the OPR-recommended threshold is 15 percent below the regional average; for projects in Sonoma County, the countywide average is typically used as regional. Projects that cannot reduce their VMT to a level that is at least 15 percent below the county-wide average are considered to have a significant VMT impact.

For individual cannabis projects resulting in a significant VMT impact, a Transportation Demand Management (TDM) Program shall be developed that commits the project to VMT reduction measures that match their specific operation and geographic location in the county. These measures may include, but are not limited to the following:

- ▶ Implementation of an employee rideshare program
- ▶ Subsidies to employees for public transit use
- ▶ Provision of on-site bicycle storage and maintenance facilities
- ▶ Shuttle service for employees and customers for all cannabis events
- ▶ Participation in future Sonoma County VMT reduction programs

The TDM will quantify the effectiveness of VMT reduction measures and their ability to reduce project VMT 15 percent below the county-wide average or why attainment of 15 percent reduction is not feasible to the satisfaction of the County prior to the issuance of occupancy permits or other approvals allowing for operation of the cannabis site.

Significance After Mitigation

Implementation of Mitigation Measure 3.14-2 would reduce VMT impacts by requiring the development of a TDM Program that would incentivize employees to choose alternative modes of transportation. In addition, when the Sonoma County VMT Reduction Program is adopted, projects unable to reduce VMT through traditional measures would be required to comply with the measures developed for the County. However, given the variable characteristics and location of individual projects to be implemented under the proposed Cannabis Program Update, as well as the uncertainty regarding when a County VMT Reduction Program would be adopted, it cannot be ensured that VMT per employee would be reduced to a level below the significance threshold of 15 percent below existing countywide VMT per employee. Therefore, this impact would be **significant and unavoidable**.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

Implementation of Mitigation Measure 3.14-2 would be consistent with VMT reduction measures of Plan Bay Area 205 and General Plan Policy CT-1c that encourages development to reduce VMT.

Impact 3.14-3: Substantially Increase Hazards Due to a Geometric Design Feature or Incompatible Uses

Under the Cannabis Program Update, future cannabis uses would be required to comply with local and state federal standards and would be reviewed for compliance as part of the development review process. Therefore, the Cannabis Program Update would not substantially increase hazards due to a geometric design feature or incompatible uses. This impact would be **less than significant**.

The Cannabis Program Update does not propose any specific changes to roadways; however, alterations or newly constructed roadways and access driveways may be needed to accommodate subsequent cannabis uses. Multiple federal, state, and local regulations exist to prevent transportation hazards from occurring within the County. This includes County Construction Standards adopted as County Ordinance 38-2020-0446, which provide guidance for roadway and transportation facility development to ensure a safe roadway system throughout the County. An encroachment permit under Section Chapter 15, Article III, Section 15-8 of the County Code would also be required for construction activities associated with cannabis facilities making frontage or access improvements to roadways to minimize potential hazards during construction. As further addressed below, the proposed Cannabis Program Update would not alter current General Plan transportation policies or County roadway standards and would not conflict with these standards.

In addition, subsequent projects would be subject to County review to ensure compliance with applicable County policies and design standards. Per County requirements, new development projects estimated to generate a minimum of 25 peak hour trips would be required to prepare a full traffic study, while those estimated to generate between 10 and 25 trips would be required to prepare a focused traffic study. A full traffic study would include the following:

- ▶ Assess the need for provision or modification of traffic control devices – Based on analysis of safety criteria and anticipated impacts of projects on traffic operations, the potential need for new or modified traffic signals, stop controls, or other traffic control devices would be analyzed in accordance with the CA MUTCD standards and guidelines.
- ▶ Conduct turn lane warrant analysis – Safety issues at project driveways would be assessed using standard traffic engineering methodologies, potential queuing at project driveways to determine if turn lanes are required to prevent queuing vehicles from blocking through lanes.
- ▶ Assessment of adequacy of sight distance – Applying the criteria from the Caltrans *Highway Design Manual*, adequacy of sight distance at the project access points would be evaluated, based on the speed of approaching vehicles and type of vehicles that will be needing to access the project site.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

As detailed above, an encroachment permit would be required for construction activities associated with cannabis facilities making frontage or access improvements to roadways to minimize potential transportation hazards during construction. All subsequent cannabis projects within agricultural and resources districts would be subject to County review to ensure compliance with state and County policies and design standards described above, thus ensuring that operation of such projects would not result in or substantially increase transportation hazards. This impact would be less than significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed and a maximum of 10 additional average daily trips above existing operations would be permitted. Therefore, applications meeting crop swap requirements would not result in a change to the surrounding roadway network or substantial increase in project-generated trips that would result in increased transportation hazards. This impact would be less than significant.

Event Facilities and Operations

Under the Cannabis Program Update, cannabis events where the sale and consumption of cannabis within agricultural and resources districts would be permitted. Events could be large-scale (i.e., more than 25 attendees) or small-scale (i.e., 25 or fewer attendees, or 50 with shuttle service). Up to two large-scale events and up to 104 small-scale event days per year would be permitted. Vehicle trips associated with cannabis events would include trips generated by employees (e.g., security, vendors) and event attendees. In accordance with Section 26-18-270 "Cannabis Events" of the Cannabis Program Update, a traffic management and parking plan would be required to address the maximum number of attendees visiting during a cannabis event. In addition, for a cannabis event exceeding 100 attendees and for an event that would use overflow parking, the traffic management plan would be required to include a plan for on-site parking requirements and queuing of traffic as well as the enforcement of the on-street parking restrictions. The traffic management and parking plan would be reviewed and approved by the County prior to each event, thus ensuring that event facilities and operations would not result in a substantial increase of transportation hazards. For these reasons, event facilities and operations would not substantially increase transportation hazards. This impact would be less than significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. As detailed above, an encroachment permit would be required for construction activities associated with cannabis facilities making frontage or access improvements to roadways to minimize potential hazards during construction. All subsequent new development of associated with cannabis projects within commercial and industrial districts would be subject to County review to ensure compliance with state and County policies and design standards, thus ensuring that operation of such projects would not result in or substantially increase transportation hazards due to a design feature or incompatible use. This impact would be less than significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial increase in hazards due to a design feature or incompatible use.

Summary

Implementation of the Cannabis Program Update could result in minor changes to roadways including alterations to existing or newly constructed roadways and access driveways to accommodate cannabis uses under the Cannabis Program Update within agricultural and resources districts and commercial and industrial districts. Compliance with federal, state, and local regulations would prevent substantial increases in transportation hazards within the County. County Construction Standards, adopted as County Ordinance 38-2020-0446, provides guidance for roadway and transportation facility development to ensure a safe roadway system throughout the County. Additionally, Section Chapter 15, Article III, Section 15-8 of the County Municipal Code requires an encroachment permit for construction activities proposing frontage or access improvements to roadways. Per County requirements, projects estimated to generate a minimum of 25 peak hour trips would be required to prepare a full traffic study, while those estimated to generate between 10 and 25 trips would be required to prepare a focused traffic study to ensure the project would not substantially increase hazards due to potential queuing and/or sight distance impacts. Subsequent projects under the Cannabis Program Update would be subject to County review to ensure compliance with all applicable local and state standards and regulations. For these reasons, implementation of the Cannabis Program Update would not result in substantially increased hazards due to a design feature or incompatible uses. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County General Plan policies related to transportation safety and would be required to comply with the County Construction Standards adopted as County Ordinance 38-2020-0446, Chapter 15, Article III, Section 15-8 of the County Code, and General Plan Policies CT-3n and CT-6g that address consideration of bicycle facility safety and the requirement that new development provide improvements necessary to address access and safety. The Cannabis Program Update is also consistent with the roadway safety provisions of the Bennett Valley Area Plan, Petaluma Diary Belt Area Plan, Sonoma Mountain Area Plan, South Santa Rosa Area Plan, and West Petaluma Area Plan.

3.15 TRIBAL CULTURAL RESOURCES

This section analyzes and evaluates the potential impacts of the Cannabis Program Update on known and unknown (undiscovered or unidentified) tribal cultural resources. Tribal cultural resources, as defined by Assembly Bill (AB) 52, Statutes of 2014, in Public Resources Code (PRC) Section 21074, are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a tribe. A tribal cultural landscape is defined as a geographic area (including both cultural and natural resources and the wildlife therein) associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. This section begins by identifying the regulatory context and policies related to tribal cultural resources and describes the existing and potential tribal cultural resource conditions in the Program area.

One comment letter regarding tribal cultural resources was received in response to the notice of preparation (NOP). The Native American Heritage Commission (NAHC) requested AB 52 and Senate Bill (SB) 18 compliance information. SB 18 is not a CEQA requirement and therefore is not discussed in this section. AB 52 compliance is described below. All comments received in response to the NOP are presented in Appendix A of this EIR.

3.15.1 Regulatory Setting

FEDERAL

There are no federal regulations that apply.

STATE

California Register of Historical Resources

All properties in California that are listed in or formally determined eligible for listing in the National Register of Historic Places (NRHP) are also listed in the California Register of Historical Resources (CRHR). The CRHR is a list of State of California resources that are significant in the context of California's history. It is a statewide program with a scope and with criteria for inclusion similar to those used for the NRHP. In addition, properties designated under municipal or county ordinances are also eligible for listing in the CRHR.

A historical resource must be significant at the local, state, or national level under one or more of the criteria defined in the California Code of Regulations (CCR) Title 15, Chapter 11.5, Section 4850 to be included in the CRHR. The CRHR criteria are tied to CEQA because any resource that meets one or more of the criteria below is considered a significant historical resource under CEQA. As noted above, all resources listed in or formally determined eligible for listing in the NRHP are automatically listed in the CRHR.

The CRHR uses four evaluation criteria:

- Criterion 1. Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- Criterion 2. Is associated with the lives of persons important to local, California, or national history.
- Criterion 3. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic values.
- Criterion 4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Similar to the NRHP, a historical resource must meet one of the above criteria and retain integrity to be listed in the CRHR. The CRHR uses the same seven aspects of integrity used by the NRHP: location, design, setting, materials, workmanship, feeling, and associations.

California Environmental Quality Act

CEQA requires public agencies to consider the effects of their actions on “tribal cultural resources.” PRC Section 21084.2 establishes that “[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment.” PRC Section 21074 states:

- a) “Tribal cultural resources” are either of the following:
 - 1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following:
 - A) Included or determined to be eligible for inclusion in the CRHR.
 - B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
 - 2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American Tribe.
- b) A cultural landscape that meets the criteria of subdivision (a) is a Tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
- c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “nonunique archaeological resource” as defined in subdivision (h) of Section 21083.2 may also be a Tribal cultural resource if it conforms with the criteria of subdivision (a).

AB 52, signed by the California governor in September of 2014, established a new class of resources under CEQA: “tribal cultural resources,” defined in PRC Section 21074. Pursuant to CEQA requirements, lead agencies undertaking CEQA review must, upon written request of a California Native American Tribe, begin consultation before the release of an EIR, negative declaration, or mitigated negative declaration.

Health and Safety Code, Section 7050.5

Section 7050.5 of the Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If they are determined to be those of a Native American, the coroner must contact the Native American Heritage Commission (NAHC).

California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural, and Sacred Sites Act (PRC Section 5097.9) applies to both state and private lands. The act requires, upon discovery of human remains, that construction or excavation activity cease and that the county coroner be notified. If the remains are those of a Native American, the coroner must notify the NAHC, which notifies (and has the authority to designate) the most likely descendants (MLD) of the deceased. The act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

Public Resource Code Section 5097

PRC Section 5097 specifies the procedures to be followed in the event of the unexpected discovery of human remains on nonfederal land. The disposition of Native American human burials falls within the jurisdiction of the NAHC. Section 5097.5 of the code states the following:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

California Code of Regulations

CCR, Title 4, Section 16304(a)(3) provides that commercial cannabis cultivation activities should be immediately halted and the requirements of Section 7050.5(b) of the Health and Safety Code should be implemented if human remains are discovered.

State Water Resources Control Board Order WQ 2023-0102-DWQ

Attachment A (Section 1, General Requirements and Prohibitions) of the State Water Resources Control Board (SWRCB) Order WQ 2023-0102-DWQ, General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities, includes the following requirements (terms) for state-licensed cultivation sites:

18. Cannabis cultivators shall not commit trespass. Nothing in this Policy or any program implementing this Policy shall be construed to authorize cannabis cultivation: (a) on land not owned by the cannabis cultivator without the express written permission of the landowner; or (b) inconsistent with a conservation easement, open space easement, or greenway easement. This includes, but is not limited to, land owned by the United States or any department thereof, the State of California or any department thereof, any local agency, or any other person who is not the cannabis cultivator. This includes, but is not limited to, any land owned by a California Native American tribe, as defined in section 21073 of the Public Resources Code, whether or not the land meets the definition of tribal lands and includes lands owned for the purposes of preserving or protecting Native American cultural resources of the kinds listed in Public Resources Code section 5097.9 and 5097.993. This includes, but is not limited to, conservation easements held by a qualifying California Native American tribe pursuant to Civil Code section 815.3 and greenway easements held by a qualifying California Native American tribe pursuant to Civil Code section 816.56.
19. Prior to acting on a cannabis cultivator's request to cultivate cannabis on tribal lands¹ or within 600 feet of tribal lands, the Water Boards will notify the governing body of any affected California Native American tribe or the governing body's authorized representative, as applicable. A 45-day review period will commence upon receipt of the notice by the affected tribe.

During the 45-day review period, the affected tribe may, at its discretion, accept, reject, or not act regarding the cannabis cultivation proposal. If the tribe rejects the proposed cultivation, the cannabis cultivator is prohibited from cultivating cannabis on or within 600 feet of the affected tribe's tribal lands. If the affected tribe accepts the cannabis cultivation proposal or does not act during the 45-day review period, the Water Boards may proceed with a decision on the cannabis cultivation request as though the affected tribe accepted the cannabis cultivation proposal. The Water Boards will consider requests to extend the 45-day review period on a case-by-case basis.

The governing bodies of California Native American tribes may, at their discretion, notify the State Water Board's Executive Director in writing that they: a) reject all proposed cannabis cultivation; or b) waive the 45-day review period for all current and future proposed cannabis cultivation on their tribal lands, on portions of their tribal lands, or within 600 feet of their tribal lands. Upon the Executive Director's receipt of written notice, the Water Boards will, based on the nature of the request, either:

- a. Not approve cannabis cultivation proposals on or within 600 feet of the affected tribe's tribal lands, as applicable; or
- b. Abide by the waiver and, at the Water Boards discretion, act on cannabis cultivation requests on or within 600 feet of tribal lands, as applicable, as though the affected tribe accepted the proposal.

The governing bodies of California Native American tribes may, at their discretion, withdraw a previously issued decision regarding cannabis cultivation on or within 600 feet of their tribal lands. In such instances, the governing body of the affected tribe should notify the State Water Board's Executive Director in writing. The

¹ "Tribal lands" means lands recognized as "Indian country" within the meaning of title 18, United States Code, section 1151.

Water Boards will abide by the withdrawal of the affected tribe's decision for any new cannabis cultivation proposals received after the date the State Water Board Executive Director has notified the governing body of the affected tribe that its decision was received. The Water Boards will coordinate with the affected tribe to address existing permitted cannabis cultivation sites on the affected tribe's lands, as necessary. Nothing in this provision shall be construed to modify or interpret tribal law or tribal jurisdiction in any way.

20. No cannabis cultivation activities shall occur within 600 feet of an identified tribal cultural resource site. The State Water Board may modify this requirement for specific identified tribal cultural resource sites at the request of an affected California Native American tribe(s) after consultation with the affected tribe(s). The cannabis cultivator is solely responsible for identifying any tribal cultural resource sites² within the cannabis cultivation area.
21. Prior to land disturbance activities for new or expanded cannabis cultivation activities, the cannabis cultivator shall perform a records search of potential Native American archeological or cultural resources at a California Historical Resources Information System (CHRIS) information center. Any person who meets qualification requirements for access to the CHRIS may perform the initial CHRIS records search and document the results. The requirement to perform a CHRIS records search may be satisfied by using the results of a previous CHRIS records search completed within the previous 10 years for the specific parcel or parcels where new or expanded cannabis cultivation activities are proposed to occur.

Prior to land disturbance activities for new or expanded cannabis cultivation activities, the cannabis cultivator shall also request a search of the Sacred Lands Inventory that is maintained by the Native American Heritage Commission pursuant to Public Resources Code sections 5097.94, subdivision (a), and 5097.96 (Sacred Lands Inventory). If the Sacred Lands Inventory search reveals the presence or potential presence of Native American places of special or social significance to Native Americans, Native American known graves or cemeteries, or Native American sacred places, the cannabis cultivator shall consult with the tribe or tribes that are culturally affiliated with the area in which these Native American cultural resources exist or potentially exist prior to conducting any land disturbance activities. The information provided by tribes through consultation with the cannabis cultivator shall be maintained as confidential by the cannabis cultivator and its agents. A new Sacred Lands Inventory search is always required prior to ground disturbing activities for new or expanded cannabis cultivation.

The cannabis cultivator shall notify the Appropriate Person within seven days of receiving a CHRIS positive result or Sacred Lands Inventory positive result. The Appropriate Person is the Deputy Director for Water Rights (Deputy Director) if the cannabis cultivator is operating under the Cannabis Small Irrigation Use Registration (SIUR), the Executive Officer of the applicable Regional Water Board (Executive Officer) if the cannabis cultivator is operating under the Cannabis Cultivation General Order or Cannabis General Water Quality Certification, or both if the cannabis cultivator is operating under both programs.

In the event that prehistoric archeological materials or indicators are identified in a CHRIS positive result, the cannabis cultivator shall also notify the Native American Heritage Commission within seven days of receiving the CHRIS positive result and request a list of any California Native American tribes that are potentially culturally affiliated with the positive result. The cannabis cultivator shall notify any potentially culturally affiliated California Native American tribes of the CHRIS positive result within 48 hours of receiving a list from the Native American Heritage Commission.

The cannabis cultivator shall promptly retain a Professional Archeologist³ to evaluate the CHRIS positive result and recommend appropriate conservation measures. In the event of a Sacred Lands Inventory positive result, the cannabis cultivator shall develop appropriate mitigation and conservation measures in consultation with the affected California Native American tribe, and shall promptly retain a Professional

² "Identified tribal cultural resource site" means a tribal cultural resource that meets the requirements of section 21074, subdivision (a)(1) of the Public Resource Code.

³ A professional archaeologist is one that is qualified by the Secretary of Interior, Register of Professional Archaeologists, or Society for California Archaeology.

Archeologist to assist in this task in the event of a Sacred Lands Inventory positive result related to human remains or archeological resources. The cannabis cultivator shall submit proposed mitigation and conservation measures to the Appropriate Person(s) (Deputy Director for the Cannabis SIUR and Executive Officer for the Cannabis Cultivation General Order or Cannabis General Water Quality Certification) for written approval. The Appropriate Person may require all appropriate measures necessary to conserve archeological resources and tribal cultural resources, including but not limited to Native American monitoring, preservation in place, and archeological data recovery.

In the event that prehistoric archeological materials or indicators are identified in a CHRIS positive result, or in the event of a Sacred Lands Inventory positive result, the cannabis cultivator shall also provide a copy of the final proposed mitigation and conservation measures to any culturally affiliated California Native American tribes identified by the Native American Heritage Commission. The Appropriate Person will carefully consider any comments or mitigation measure recommendations submitted by culturally affiliated California Native American tribes with the goal of conserving tribal cultural resources and prehistoric archeological resources with appropriate dignity.

Ground-disturbing activities shall not commence until all approved measures have been completed to the satisfaction of the Deputy Director and/or Executive Officer, as applicable.

22. If any buried archeological materials or indicators⁴ are uncovered or discovered during any cannabis cultivation activities, all ground-disturbing activities shall immediately cease within 100 feet of the find.

The cannabis cultivator shall notify the Appropriate Person within 48 hours of any discovery. The Appropriate Person is the Deputy Director if the cannabis cultivator is operating under the Cannabis SIUR, the Regional Water Board Executive Officer if the cannabis cultivator is operating under the Cannabis General Order or Cannabis General Water Quality Certification, or both if the cannabis cultivator is operating under both programs.

In the event that prehistoric archeological materials or indicators are discovered, the cannabis cultivator shall also notify the Native American Heritage Commission within 48 hours of any discovery and request a list of any California Native American tribes that are potentially culturally affiliated with the discovery. The cannabis cultivator shall notify any potentially culturally affiliated California Native American tribes of the discovery within 48 hours of receiving a list from the Native American Heritage Commission.

The cannabis cultivator shall promptly retain a professional archeologist⁵ to evaluate the discovery. The cannabis cultivator shall submit proposed mitigation and conservation measures to the appropriate person(s) (Deputy Director for the Cannabis SIUR and Regional Water Board Executive Officer for the Cannabis General Order or Cannabis General Water Quality Certification) for written approval. The appropriate person may require all appropriate measures necessary to conserve archeological resources and tribal cultural resources, including but not limited to Native American monitoring, preservation in place, and archeological data recovery.

In the event of a discovery of prehistoric archeological materials or indicators are discovered, the cannabis cultivator shall also provide a copy of the final proposed mitigation and conservation measures to any culturally affiliated California Native American tribes identified by the Native American Heritage Commission. The appropriate person will carefully consider any comments or mitigation measure recommendations submitted by culturally affiliated California Native American tribes with the goal of conserving prehistoric archeological resources and tribal cultural resources with appropriate dignity.

⁴ Prehistoric archaeological indicators include, but are not limited to: obsidian and chert flakes and chipped stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars, and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone, fire affected stones, shellfish, or other dietary refuse.

⁵ A professional archaeologist is one that is qualified by the Secretary of Interior, Register of Professional Archaeologists, or Society for California Archaeology.

Ground-disturbing activities shall not resume within 100 feet of the discovery until all approved measures have been completed to the satisfaction of the Deputy Director and/or Executive Officer, as applicable.

23. Upon discovery of any human remains, cannabis cultivators shall immediately comply with Health and Safety Code section 7050.5 and, if applicable, Public Resources Code section 5097.98. The following actions shall be taken immediately upon the discovery of human remains:

All ground-disturbing activities in the vicinity of the discovery shall stop immediately. The cannabis cultivator shall immediately notify the county coroner. Ground disturbing activities shall not resume until the requirements of Health and Safety Code section 7050.5 and, if applicable, Public Resources Code section 5097.98 have been met. The cannabis cultivator shall ensure that the human remains are treated with appropriate dignity.

Per Health and Safety Code section 7050.5, the coroner has two working days to examine human remains after being notified by the person responsible for the excavation, or by their authorized representative. If the remains are Native American, the coroner has 24 hours to notify the Native American Heritage Commission.

Per Public Resources Code section 5097.98, the Native American Heritage Commission will immediately notify the persons it believes to be the most likely descended from the deceased Native American. The most likely descendent has 48 hours to make recommendations to the landowner or representative for the treatment or disposition, with proper appropriate dignity, of the human remains and any associated grave goods. If the Native American Heritage Commission is unable to identify a descendant; the mediation provided for pursuant to subdivision (k) of Public Resources Code section 5097.94, if invoked, fails to provide measures acceptable to the landowner; or the most likely descendent does not make recommendations within 48 hours; and the most likely descendants and the landowner have not mutually agreed to extend discussions regarding treatment and disposition pursuant to subdivision (b)(2) of Public Resources Code section 5097.98, the landowner or their authorized representative shall reinter the human remains and items associated with the Native American human remains with appropriate dignity on the property in a location not subject to further and future disturbance consistent with subdivision (e) of Public Resources Code section 5097.98. If the landowner does not accept the descendant's recommendations, the landowner or the descendants may request mediation by the Native American Heritage Commission pursuant to Public Resources Code section 5097.94, subdivision (k).

LOCAL

Sonoma County General Plan

The 2020 General Plan includes the following policies associated with tribal cultural resources that are relevant to the project:

- ▶ **Objective OSRC-19.3:** Encourage protection and preservation of archaeological and cultural resources by reviewing all development projects in archaeologically sensitive areas.
- ▶ **Objective OSRC-19.5:** Encourage the identification, preservation, and protection of Native American cultural resources, sacred sites, places, features, and objects, including historic or prehistoric ruins, burial grounds, cemeteries, and ceremonial sites. Ensure appropriate treatment of Native American and other human remains discovered during a project.
- ▶ **Objective OSRC-19-6:** Develop and employ procedures to protect the confidentiality and prevent inappropriate public exposure of sensitive archaeological resources and Native American cultural resources, sacred sites, places, features, or objects.
- ▶ **Policy OSRC-19f:** Use the Heritage or Landmark Tree Ordinance and the design review process to protect trees.
- ▶ **Policy OSRC-19j:** Develop an archaeological and paleontological resource protection program that provides: (1) Guidelines for land uses and development on parcels identified as containing such resources, (2) Standard

project review procedures for protection of such resources when discovered during excavation and site disturbance, and (3) Educational materials for the building industry and the general public on the identification and protection of such resources.

- ▶ **Policy OSRC-19k:** Refer applications for discretionary permits to the Northwest Information Center to determine if the project site might contain archaeological or historical resources. If a site is likely to have these resources, require a field survey and preparation of an archaeological report containing the results of the survey and include mitigation measures if needed.
- ▶ **Policy OSRC-19l:** If a project site is determined to contain Native American cultural resources, such as sacred sites, places, features, or objects, including historic or prehistoric ruins, burial grounds, cemeteries, and ceremonial sites, notify and offer to consult with the tribe or tribes that have been identified as having cultural ties and affiliation with that geographic area.
- ▶ **Policy OSRC-19m:** Develop procedures for consulting with appropriate Native American tribes during the General Plan adoption and amendment process.
- ▶ **Policy OSRC-19n:** Develop procedures for complying with the provisions of State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, if applicable, in the event of the discovery of a burial or suspected human bone. Develop procedures for consultation with the Most Likely Descendant as identified by the California Native American Heritage Commission, in the event that the remains are determined to be Native American.

Petaluma Dairy Belt Area Plan

The Petaluma Dairy Belt Area Plan was initially adopted by the County in 1985 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan, and its primary priority shall be to preserve and enhance the agricultural resources and protect the agricultural industry. The plan area is located west of the City of Petaluma along the county's western boundary.

Policies of the Petaluma Dairy Belt Area Plan that address tribal cultural resources include the following:

Natural Resources

A. Historic and Archaeological Sites

- (1) Preserve adequate open space around historic settlements and buildings, areas of archaeological significance, and other features important to the human history of the County, so that the natural settings of such areas are retained.

Sonoma Mountain Area Plan

The Sonoma Mountain Area Plan was initially adopted by the County in 1978 and has been amended through 2012. It is guided by the policy provisions of the Sonoma County General Plan. The plan area is located west of the US 101 in the southern portion of the county.

Policies of the Sonoma Mountain Area Plan that address tribal cultural resources include the following:

Historic Sites and Archaeologically Sensitive Areas

- (1) Preserve adequate open space around missions, historic settlements and buildings, areas of archaeological significance, and other features important to the human history of the County so that the natural settings of such areas are retained.
- (2) Establish a mechanism for identification, review, evaluation, and protection of archaeological sites.

South Santa Rosa Area Plan

The South Santa Rosa Area Plan was initially adopted by the County in 1982 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan and consists of approximately 18,000 acres.

The plan area is bisected by US Highway 101 and is located east of State Route 116 and south of State Route 12. is located west of the US Highway 101 in the southern portion of the county.

Policies of the South Santa Rosa Area Plan that address tribal cultural resources include the following:

Historic Preservation

- (1) Ensure adequate open space around historic buildings, areas of archaeological significance, and other features important to the human history of the County, so that the natural settings of subareas are retained.
- (2) Continue the established practices for identification, review, evaluation and protection of archaeological sites.

West Petaluma Area Plan

The West Petaluma Area Plan was initially adopted by the County in 1981 and has been amended through 2008. It is guided by the policy provisions of the Sonoma County General Plan and consists of approximately 11,000 acres. The plan area is located west of US Highway 101 and the City of Petaluma.

Policies of the West Petaluma Area Plan that address tribal cultural resources include the following:

C. Open Space

Goal 2.2: Preserve significant archaeological and historical sites.

- (1) Establish a mechanism for identification, review, evaluation, and protection of historical and archaeological sites.

Sonoma County Code

Chapter 11, "Construction Grading and Drainage," of the Sonoma County Code outlines standards required in construction or grading in Article 14, including the protection of human remains and archaeological resources (Section 11.14.050). Where human remains or archaeological resources are discovered during construction grading and drainage, all work shall be halted in the vicinity of the find. If human remains or suspected human remains are discovered, the permittee shall notify the county coroner and comply with all state law requirements, including Health and Safety Code Section 7050.5 and PRC Section 5097.98, to ensure proper disposition of the human remains or suspected human remains, including those identified to be Native American remains.

Agricultural Grading and Drainage

Chapter 36 of the Sonoma County Code regulates agricultural grading and drainage in the unincorporated area of the County, and establishes a ministerial standard for those activities.

An agricultural grading permit is required prior to commencing any agricultural grading or related work, including preparatory land clearing, vegetation removal, or other ground disturbance, except under circumstances including: emergency agricultural grading; environmental remediation; exploratory excavations; minor cut; minor fill outside the flood-prone urban area and special flood hazard areas; and resource conservation, restoration, and enhancement projects. An agricultural drainage permit is required prior to commencing any agricultural drainage involving construction or modification of drainage facilities or related work, including preparatory land clearing, vegetation removal, or other ground disturbance, except under circumstances including: emergency agricultural drainage; existing private drainage facilities; minor pipe and vee-ditch swale systems; resource conservation, restoration, and enhancement projects; and seasonal drainage swales.

Chapter 36, Article 20, of the County code contains standards for agricultural grading, drainage, protection of human remains and archaeological resources, protection of listed species, removal of trees and other vegetation, road network requirements, setbacks from certain soil conditions, and requirements for best management practices (BMPs).

3.15.2 Environmental Setting

ETHNOHISTORY

Archaeological evidence indicates that human occupation of California began at least 11,000 years ago (Erlandson et al. 2007). Early occupants appear to have had an economy based largely on hunting, with limited exchange, and social structures based on the extended family unit. Later, milling technology and an inferred acorn economy were introduced. This diversification of economy appears to be coequal with the development of sedentism and population growth and expansion. Sociopolitical complexity and status distinctions based on wealth are also observable in the archaeological record, as evidenced by an increased range and distribution of trade goods (e.g., shell beads, obsidian tool stone), which are possible indicators of both status and increasingly complex exchange systems.

Most of the indigenous languages of the California region belong to one of five widespread North American language groups (the Hokan and Penutian phyla, and the Uto-Aztecan, Algic, and Athabaskan language families). The distribution and internal diversity of four of these groups suggest that their original centers of dispersal were outside, or peripheral to, the core territory of California, that is, the Central Valley, the Sierra Nevada, the Coast Range from Cape Mendocino to Point Conception, and the Southern California coast and islands. Only languages of the Hokan phylum can plausibly be traced back to populations inhabiting parts of this core region during the Archaic period, and there are hints of connections between certain branches of Hokan, such as that between Salinan and Seri, that suggest that at least some of the Hokan languages could have been brought into California by later immigrants, primarily from the Southwest and northwestern Mexico (Golla 2011).

Southern Pomo

At the time of European settlement, the Program area was situated in the territory of the Southern Pomo (Barrett 1908; McLendon and Oswalt 1978). The Pomo were hunter-gatherers who lived in rich environments that allowed for dense populations with complex social structures (Barrett 1908; Kroeber 1925). They settled in large, permanent villages about which were distributed seasonal camps and task-specific sites. Primary village sites were occupied throughout the year, and other sites were visited in order to procure particular resources that were especially abundant or available only during certain seasons. Sites were often situated near fresh water sources and in ecotones where plant life and animal life were diverse and abundant.

The Southern Pomo (also known as the Gallinomero) spoke one of the seven languages of the Pomoan family. The Pomoan language family itself constitutes an independent branch of the Hokan language phylum (Golla 2011). Six of these language groups occupy a contiguous region ranging from the Clear Lake area to the Russian River. The seventh group is geographically isolated and inhabited an area near the Sacramento Valley. The Southern Pomo's aboriginal territory is in Sonoma County and extends approximately 2 miles south of Sebastopol, approximately 5 miles northwest of Cloverdale; to the east near the vicinity of Cobb Mountain; and to the west near the vicinity of Gualala. The aboriginal Southern Pomo territory is bordered by the Central Pomo (also known as the Boya) to the north and the Southwestern Pomo (also known as the Kashaya) to the west. The Southern Pomo held the lower reaches of the Russian River with the exception of the river mouth, which was in Kashaya territory (McLendon and Oswalt 1978: 279).

The Southern Pomo population was decimated early in the historic period, especially in the southern part of their territory, where Mexican slave raids, disease, and denser settlement by immigrants severely impacted Native people. Ethnic identity was severely impacted in the region of Santa Rosa and Sebastopol; the dozen or so speakers remaining in 1976 originated north of Healdsburg (McLendon and Oswalt 1978: 279).

Coast Miwok

The Coast Miwok tribe is indigenous to lands extending from Marin County to southern Sonoma County and eastward from the coast to the Napa-Sonoma Marshes Wildlife Area. The Coast Miwok include the linguistically distinct Olamentko tribe in Bodega Bay and the Hookooeko and Lekahtewutko tribes of southern Marin, making them the second-largest Miwok tribe. However, dialectic distinctions between Hookooeko and Lekahtewutko have been criticized as being too nuanced to be significant. Villages tended to be established at the threshold of differing

ecosystems, allowing expedient access to the widest variety of resources. Between the indigenous Bay Area tribes, a total of seven different languages were spoken: Bay Miwok, Coast Miwok, Karkin Costanoan, Patwin, Southern Pomo, San Francisco Bay Costanoan, and Wappo. Local tribes were made up of 200 to 400 individuals on average and grouped members into several neighboring villages over a territory of some 10 to 12 miles. Ancestors of the Coast Miwok would have traveled south as far as the Monterey Peninsula by 500 BP, populating San Francisco in the north and lands along the South Coast Ranges in between. Social ties within tribes were maintained through the observance of communal feasts, dances, and other activities, such as group hunting and foraging and religious ceremony. At the time of European contact, the Miwok and Ohlone, along with Patwins and Wappo from the north, were known to have intermarried. In 2000, the Federated Indians of Graton Rancheria, formerly known as the Federated Coast Miwok, regained full rights and privileges afforded federally recognized tribes. The federation includes both Coast Miwok and Southern Pomo tribes; currently there are almost 500 members registered with the tribe (NIC 2023).

Acorns represent the primary vegetal food resource of the precontact Coast Miwok, as they did for the Ohlone. Ground into flour with mortar and pestle, the nut was made into bread and other dishes. Tanoak (*Notholithocarpus densiflorus*), Black oak (*Quercus kelloggii*), Blue oak (*Quercus douglasii*), and Valley oak (*Quercus lobata*) were favored species and available in large quantities. Hard seeds, roots, and herbs were also regularly consumed. Terrestrial mammals, such as tule elk, deer, bear, and rabbits, constituted a portion of the Coast Miwok diet while marine foods, including fish, eels, waterfowl, and shellfish, were very important; oysters and mussels were prioritized and eventually overexploited. By AD 160, clam harvesting replaced the reliance on oysters and mussels. Controlled burning of local land was carried out in the fall to ensure a healthy supply of plant foods each year (NIC 2023).

Significant technological distinctions are evident in the material culture of the Coast Miwok in Marin County, many of which connected them to the other tribal groups in the Bay Area. Production and manufacture included the creation of clothing, ornamentation, woodwork, stonework, basketry, weapons, and shell currency. While everyday body clothing was scant, the Coast Miwok are noted to have worn deerskin loin cloths and shirts, while women wore aprons of grass, tule, and sometimes skirts and capes made from deerskin. Ornamentation of feather wristlets, belts, headdresses, plumes, and shells were meticulously crafted and generally reserved for special occasions; however, shell necklaces may have been worn more frequently to communicate the death of a spouse for both men and women. Woodworking included hallowed log foot drums, double-bladed balsa paddles, and mush stirrers while stonework produced mortars, charm stones, and obsidian blades and points. Canoes or balsas made of tule were constructed and used for navigation through marshland channels, promoting trade and productive hunting and fishing while coiled and twined basketry occasionally ornamented with feathers and beads facilitated Coast Miwok life in the form of food storage containers, cradles, cooking implements, and myriad other crafts. Production and labor tasks were divided along gender lines with women being responsible for the harvesting of vegetal resources and basket weaving and men for the bulk of the hunting, fishing, and the construction and placement of traps for wild game. Trade of resources between tribes was a major mechanism driving the indigenous economy. Shell beads, basketry, vegetal and animal foods and medicines, as well as tools and the raw materials with which to make them were all exchanged on a semi-regular basis primarily with the Pomo, Wappo, and Southern Pomo. Currency in the form of disk beads made of clam shells were used, and the Coast Miwok had an abundant supply of these shells in Bodega Bay. Reciprocity of resources is noted between the Coast Miwok and Southern Pomo as the Southern Pomo routinely entered Coast Miwok territory to dig for clams (NIC 2023).

CONTEMPORARY NATIVE AMERICAN SETTING

Federated Indians of Graton Rancheria

The Graton Rancheria community is a federation of Coast Miwok and Southern Pomo groups. In 1920, the Bureau of Indian Affairs purchased a 15.45-acre tract of land in Graton, California. Through the purchase of this land, Graton Rancheria was established as a federally recognized tribe of American Indians. However, in 1958, congress passed the California Rancheria Act and removed 41 California Rancherias, which resulted in the termination of Graton Rancheria as a federally recognized tribe (Graton Rancheria n.d.).

In December 2000, congress restored the federal recognition status of Graton Rancheria through the Graton Rancheria Restoration Act. In 2004, Graton Rancheria formed a language group of tribal citizens who are dedicated to learning the Coast Miwok language. And as part of their efforts, Graton Rancheria applied for and received their first Administration for Native Americans Language Grant and published a Coast Miwok dictionary for the tribe based on recordings from Sarah Smith-Ballard, one of the last fluent Coast Miwok speakers. The language group continues to meet monthly. A year later, the tribe purchased approximately 254 acres of land for its reservation just outside of Rohnert Park. This land was taken into trust by the BIA pursuant to the Graton Rancheria Restoration Act. In November 2013, the tribe opened the Graton Resort and Casino, and in doing so, was able to provide programs and services to tribal citizens to realize their dreams of self-sufficiency. The tribe is currently undertaking to expand its Resort and Casino.

In 2008, after 6 years of applying, the tribe received grant funding from the US Department of Health and Human Services through the Administration of Children and Families to launch its own Tribal Assistance for Needy Families (TANF) program for low-income Native American families in Sonoma and Marin Counties, including programs and services to strengthen families, such as employment assistance, job training, and childcare assistance. Today, Graton Rancheria has established various programs to help their community in various aspects, such as educational, housing, financial, and environmental programs (Graton Rancheria n.d.).

Dry Creek Rancheria Band of Pomo Indians

The Dry Creek Rancheria Band of Pomo Indians is one of more than 20 independent communities that comprises the Pomo people. Ancestors of the Pomo people lived in the area of Sonoma, Mendocino, and Lake Counties thousands of years ago. Descendants of the early Pomo people continue as a tribe in the Alexander Valley and today are known as the Dry Creek Rancheria Band of Pomo Indians.

Official recognition of the tribe as a sovereign nation occurred in 1915, when the federal government created the Dry Creek Rancheria and named the tribe the Dry Creek Rancheria Band of Pomo Indians. The rancheria occupies 75 steep acres between Healdsburg and Geyserville off State Route 128—a sliver of the tribe’s historic land. Major ancestral tribal lands containing gravesites, former villages, and sites for gathering the sedge used in basket weaving were flooded by water from the Warm Springs Dam and Lake Sonoma in 1983.

In 1999, the Dry Creek Rancheria Band of Pomo Indians and dozens of other tribes signed Compacts with California Governor Gray Davis permitting gaming. The Dry Creek Compact with California was first approved by the Assistant Secretary of Indian Affairs, US Department of the Interior, in 2000, and most recently amended in 2018. In 2002 the tribe opened its interim facility, which generates revenues that the tribal government has used to finance housing, education, health, administrative, and other programs that benefit its members, as well as residents and agencies in surrounding communities. The full facility was unveiled in April 2003; the opening of River Rock Casino has provided opportunities for the tribe that were unimaginable only a few years prior. Casino profits are funding improved housing for its members through tribal first-time home buyer programs and other assisted home-ownership opportunities. Proceeds from River Rock Casino also help to provide the youth with the basic forms of health care and provide day care assistance money to working families (Dry Creek Rancheria Band of Pomo Indians n.d.).

TRIBAL CONSULTATION

On March 22, 2023, in compliance with AB 52 requirements, Sonoma County sent notification letters to all tribal representatives identified by the NAHC:

- ▶ Cloverdale Rancheria of Pomo Indians
- ▶ Dry Creek Rancheria Band of Pomo Indians
- ▶ Federated Indians of Graton Rancheria
- ▶ Gudiville Indian Rancheria
- ▶ Kashia Band of Pomo Indians of the Stewarts Point Rancheria
- ▶ Lytton Rancheria

- ▶ Middletown Rancheria of Pomo Indians
- ▶ Mishewal-Wappo Tribe of Alexander Valley
- ▶ Muwekma Ohlone Indian Tribe of the SF Bay Area
- ▶ Pinoleville Pomo Nation
- ▶ Robinson Rancheria of Pomo Indians

Two Tribes requested consultation, and virtual meetings took place on the dates listed below.

- ▶ Federated Indians of Graton Rancheria: Requested consultation on March 30, 2023. Meetings took place on May 2, 2023, December 9, 2024, and April 3, 2025.
- ▶ Dry Creek Rancheria of Pomo Indians: Requested consultation on April 26, 2023. Meetings took place on June 29, 2023, October 30, 2024, and February 10, 2025.

Consultation is ongoing with these two tribes.

TRIBAL CULTURAL RESOURCES

Tribal cultural resources are defined in CEQA statute Section 21074 (see “Regulatory Setting” above) and may include:

- ▶ **Resource Collection Location:** This is a location where Native Americans have historically gone, and are known or believed to go today, to collect resources in accordance with traditional cultural rules of practice.
- ▶ **Spiritual Location:** This is a location where Native American religious practitioners have historically gone, and are known or believed to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice.
- ▶ **Traditional Location:** This is a location associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world.
- ▶ **Cemetery:** A cemetery is a location that has been selected for human burial or interment.

In addition, different types of archaeological resources may also be tribal cultural resources; they include the following features:

- ▶ **Village Site:** Village sites are locations of continuous and concentrated habitation that typically have a large, well-developed midden deposit containing abundant artifactual evidence. They may also contain burials, rock art, bedrock milling stations, or other features.
- ▶ **Burial Site:** A burial site or cemetery is a location where intentional human interments are found in large numbers and close concentration. These locations typically lack evidence of other prehistoric activities.
- ▶ **Milling Site:** This is a boulder or group of boulders or bedrock outcrops that contain at least one modified surface (mortar, slick, or metate) caused by the processing of food or other natural resources.
- ▶ **Lithic Workshop:** A lithic workshop is a distribution of stone flakes and tool fragments reflecting purposeful modification of parent stone through percussion and/or pressure detachment.
- ▶ **Shell Middens:** Shell middens are locations with large amounts of marine shell that extend to an appreciable depth below ground surface. They are normally found in coastal contexts but have been found in the interior.
- ▶ **Rock Art:** Rock art consists of designs or design elements on rock surfaces created by surface applications (pictographs) or by etching (petroglyphs).
- ▶ **Rock Shelters:** These are natural caves or crevices in rock outcrops in which human use has left artifactual remains.

Records Search

On June 2, 2023, a records search for the County of Sonoma was conducted at the Northwest Information Center (NWIC), at California State University, Sonoma (File no. 22-1228). A total of 2,531 precontact archaeological resources have previously been recorded within Sonoma County. Due to the programmatic nature of this EIR, and that record searches are considered expired after 5 years, copies of all site records were not ordered. Therefore, it is unknown how many of these resources have been listed, evaluated, or determined eligible for the CRHR. In addition, no tribal cultural resources have been identified through the AB 52 and SB 18 processes for this project.

3.15.3 Environmental Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, "Project Description," and Chapter 3, section, "Approach to the Environmental Analysis," regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

Information related to tribal cultural resources is based on the records search results (NWIC File no. 22-1228) and the results of Native American consultation under AB 52. The analysis is also informed by the provisions and requirements of state and local laws and regulations that apply to cultural resources.

PRC Section 21074 defines "tribal cultural resources" as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" that are listed or determined eligible for listing in the CRHR, listed in a local register of historical resources, or otherwise determined by the lead agency to be a tribal cultural resource.

For the purposes of this impact discussion, "historical resource" is used to describe historic-era, built-environment resources while the term "unique archaeological resource" is used to describe archaeological sites. Tribal cultural resources, which may qualify as "historical resources" pursuant to CEQA, are analyzed separately from built-environment historical resources and unique archaeological resources, which are analyzed in Section 3.5, "Cultural Resources," of this EIR.

The following proposed Code requirements apply to tribal cultural resources:

- ▶ 26-18-114 (C)(4)(h)(5): Tribal Monitor. A tribal monitor is required for the removal of the existing crop.

THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the State CEQA Guidelines, the Cannabis Program update would result in a potentially significant impact on tribal cultural resources if it would:

- ▶ cause a substantial adverse change in the significance of a Tribal cultural resource, defined in PRC 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.

ISSUES NOT DISCUSSED FURTHER

The proposed Cannabis Program Update does not include changes to personal cultivation standards and would not be substantially different from existing requirements that would create significant impact on tribal cultural resources. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.15-1: Change the Significance of a Tribal Cultural Resource

Although no tribal cultural resources, defined by PRC Section 21074, were identified through the consultation process, it is possible that tribal cultural resources could be identified through the development of permitted cannabis cultivation and supply chain activities from implementation of the proposed Cannabis Program Update. However, permitted cannabis cultivation sites would be required to comply with County requirements as well as Attachment A (Section 1, General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ, which includes protection measures for tribal cultural resources. Nevertheless, project-related ground-disturbing activities could result in damage to tribal cultural resources. This would be a **potentially significant** impact.

As described in Section 3.15.2, "Environmental Setting," 2,531 precontact archaeological resources have been identified in Sonoma County. It is unknown how many of these resources have been listed, evaluated, or determined eligible for the CRHR. Some of these precontact archaeological resources may also be tribal cultural resources. No tribal cultural resources, defined by PRC Section 21074, were identified as a result of AB 52 consultation.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses on existing sites must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

New cannabis uses under the proposed Cannabis Program Update could include vegetation and brush removal, grading, and irrigation to facilitate the development of cannabis uses. Large structures could be constructed for cultivation, processing, and manufacturing activities, and smaller sheds could be constructed to store materials. These activities would result in soil disturbance. The potential exists for indigenous materials to be discovered when soils are disturbed.

Chapter 11, "Construction Grading and Drainage," of the Sonoma County Code outlines standards required in construction or grading in Article 14, including the protection of human remains and archaeological resources (Section 11.14.050); human remains and archaeological resources could also qualify as tribal cultural resources. County Code Section 36.20.040 contains similar procedures that would apply to agricultural grading and drainage associated with cultivation activities. Where human remains or archaeological resources are discovered during construction grading and drainage, all work shall be halted in the vicinity of the find. If human remains or suspected human remains are discovered, the permittee shall notify the county coroner and comply with all state law requirements, including Health and Safety Code Section 7050.5 and PRC Section 5097.98, to ensure proper disposition of the human remains or suspected human remains, including those identified to be Native American remains. These procedures would reduce impacts to tribal cultural resources and ensure consistency with all state law requirements.

In addition, as part of permitting requirements, cannabis cultivation operations and associated activities would be required to comply with the SWRCB's licensing cannabis cultivation policies. Attachment A (Section 1, General Requirements and Prohibitions) of SWRCB General Order (Order WQ 2023-0102-DWQ) includes Terms 19 and 20, which require notification to tribes of any new permitted cannabis cultivation and operation activities on tribal lands or tribal cultural resources or within 600 feet of these lands. In addition, compliance with Terms 21 and 22 would reduce impacts to known tribal cultural resources through requiring a sacred lands inventory search through the NAHC, consultation with the tribe(s) affiliated with the area, and implementation of necessary measures to ensure the conservation of tribal cultural resources. However, the SWRCB Order is specific to cultivation and while the County's standards address protection in the event of accidental discovery, they do not avoid impacts to known resources in the first instance.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. As required by 26-18-114 (C)(4)(h)(5), a tribal monitor is required for the removal of the existing crop. However, if tribal cultural resources are known to exist on site, a tribal monitor does not serve to avoid impacts to the resource in the first instance. This impact would be potentially significant.

Construction of Event Facilities and Event Operations

Construction and operation of event facilities would be subject to County and state standards, as described above, that would protect tribal cultural resources. However, while the County's standards address protection in the event of accidental discovery, they do not avoid impacts to known resources in the first instance.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses. Development of new structures would result in the same impacts as discussed above within agricultural and resources zoning districts.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on tribal cultural resources.

Conclusion

As described above, it is possible that tribal cultural resources could be identified through the development of permitted cannabis sites from implementation of the proposed Cannabis Program Update. However, implementation of the proposed Cannabis Program Update would require compliance with County requirements as well as Attachment A of SWRCB Order WQ 2023-0102-DWQ, which includes protection measures for tribal cultural resources for cultivation activities. For all other activities, while County standards address protection in the event of accidental discovery, they do not avoid impacts to known resources in the first instance. Therefore, the proposed Cannabis Program Update's impact on tribal cultural resources is considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.15-1a (ZPC): Protection of Tribal Cultural Resources for Permitted Uses

The following measures would be included as standards in Section 26-18-115(C)(4)(h):

- ▶ The applicant must attest that they do not know of or have reason to believe that an archaeological tribal cultural resource is present within the cannabis premises.
- ▶ The applicant must provide search results from the Sacred Lands Inventory maintained by the Native American Heritage Commission demonstrating that the project will not impact a known archeological resource.
- ▶ A referral must be sent to the Northwest Information Center. The application cannot be approved if the project will impact a known archaeological resource identified by the Northwest Information Center.
- ▶ A referral must be sent to the local tribes. The application cannot be approved if the project will affect a known archaeological tribal cultural resource as identified by a local tribe. Documentation must be provided by a local tribe to support a finding that an archaeological tribal cultural resource is present. The County must maintain the confidentiality of supporting documentation in accordance with California Government Code Sections 7927.000 and 7927.005.

- ▶ If requested by a local tribe, the applicant must retain a tribal cultural monitor, at its own cost, during crop removal and initial ground disturbing replanting activities.

Mitigation Measure 3.15-1b (UPC and DRH): Implement Mitigation Measure 3.5-2a

- ▶ Mitigation Measure 3.5-2a – (UPC and DRH) Cultural Resource Pre-Approval Evaluation

Mitigation Measure 3.15-1c. (UPC and DRH) Tribal Cultural Resources Pre-Approval Consultation

The County shall send a project referral to all tribes that are culturally affiliated with the area as determined by the Native American Heritage Commission with the cultural resources survey report generated under Mitigation Measure 3.5-2a. If requested by a tribe, the County shall engage in consultation to identify potential impacts to tribal cultural resources. The information provided by tribes through consultation with the applicant shall be maintained as confidential in accordance with California Government Code Sections 7927.000 and 7927.005 and all other applicable laws.

Mitigation Measure 3.15-1d. (UPC and DRH) Avoidance of Tribal Cultural Resources

- ▶ Cannabis project applications shall be designed to avoid impacts to tribal cultural resources identified by Mitigation Measure 3.5-2a and Mitigation Measure 3.15-1c.
- ▶ A barrier (temporary fencing) and flagging shall be placed between the work location and any resources within 60 feet of a work location to minimize the potential for inadvertent impacts.
- ▶ If the site is identified as potentially sensitive for tribal cultural resources under Mitigation Measure 3.5-1b or Mitigation Measure 3.15-1c, the applicant shall retain a qualified archeologist to prepare a tribal cultural resource treatment plan to be implemented in the event an unanticipated archeological resource that may be considered a tribal cultural resource is identified during ground disturbance. The plan shall include any necessary monitoring requirements, suspension of all earth-disturbing work in the vicinity of the find, avoidance of the resource or, if avoidance is infeasible, the plan shall outline the appropriate treatment of the resource in coordination and as agreed to by the local tribe or tribes and, if applicable, a qualified archeologist. Examples of appropriate treatment for the tribal cultural resources include, but are not limited to, protecting the cultural character and integrity of the resource, protecting traditional use of the resource, protecting the confidentiality of the resource, and heritage recovery. The plan shall be reviewed by the County and the local tribe or tribes prior to construction to confirm compliance with this measure.
- ▶ If the site is identified as potentially sensitive for tribal cultural resources under Mitigation Measure 3.5-2a or Mitigation Measure 3.15-1c, the applicant shall retain a tribal monitor to observe all ground disturbance, including archeological excavation. Monitoring methods and requirements shall be outlined in the tribal cultural resource treatment plan to mitigate impacts to the identified resource.

Mitigation Measure 3.15-1e. (UPC and DRH) Avoidance of Human Remains

Impacts to human remains must be avoided. For a site where human remains are expected to be present based on the results of studies or consultation conducted under Mitigation Measure 3.5-2a or Mitigation Measure 3.15-1c, the County shall consult with the local tribe(s) on whether to employ a canine forensics team. If appropriate, the County shall require the use of a canine forensics team to attempt to identify the location of human remains in a noninvasive way for purpose of avoidance. Any requirements for the use of a canine forensics team shall be documented in a tribal cultural resources treatment plan prepared under Mitigation Measure 3.15-1d. The tribal cultural resources treatment plan may require revision or an addendum to reflect additional recommendations or requirements if human remains are present.

Significance after Mitigation

Implementation of Mitigation Measures 3.15-1a would ensure that impacts to tribal cultural resources for projects that are approved as crop swap application are addressed by requiring avoidance of known tribal cultural resources and archaeological resources and retainment of a tribal cultural monitor during crop removal and initial ground disturbance if requested by a local tribe. Through implementation of this mitigation measure, potentially significant impacts on known tribal cultural resources would be avoided and a monitor would be present, if requested by a local

tribe, to identify any previously unknown tribal cultural resources that may be uncovered during earth moving activities. With these requirements, impacts would be reduced to a less-than-significant level for crop swap applications.

For projects subject to a UPC or DRH, if archeological resources are identified in the archeological report, required by Mitigation Measure 3.15-2b, or if a tribal cultural resource is identified through implementation of Mitigation Measure 3.15-1c, a tribal cultural resource treatment plan would be developed and reviewed by the County and tribe to ensure that it includes appropriate treatment of tribal cultural resources through implementation of Mitigation Measure 3.15-1d. In addition, for sites identified as sensitive for tribal cultural resources, a tribal monitor must be retained to observe all ground disturbance, which would ensure identification of unknown tribal cultural resources that may be uncovered during earth-moving activities. As required by Mitigation Measure 3.15-1e, if reports prepared in compliance with Mitigation Measure 3.15-1b or consultation under Mitigation Measure 3.15-1c indicate the potential presence of human remains, and if deemed appropriate by the County and Tribe, canine forensics teams would be employed to identify the location of human remains, as required by Mitigation Measure 3.15-1e. With implementation of these mitigation measures, tribal cultural resources would be avoided or managed consistent with State law, local policies, and the wishes of the affected tribe. Thus, impacts would be reduced to a **less-than-significant** level.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would not change County policies related to tribal cultural resources and would be consistent with Sonoma County General Plan Policies OSRC-19f and OSRC-19j, which require the County to protect heritage or landmark trees and develop an archaeological and paleontological resource protection program. Additionally, Policy OSRC-19k requires that applications for discretionary permits be reviewed to determine if the project site contains archaeological or historical resources and, if it does, a field survey, archaeological report, and (if needed) mitigation measures would be required. Under the Cannabis Program Update, if a project site is determined to contain Native American cultural resources, the County would be required to notify and offer to consult with the applicable tribe(s) consistent with Policies OSRC-19l and OSRC-19m. Finally, Policy OSRC-19n requires the County to develop procedures for complying with Health and Safety Code Section 7050.5 and PRC Section 5097.98 in the event of the discovery of human remains and develop procedures for consultation with the MLD as identified by the NAHC, in the event that the remains are determined to be Native American. Similar to the consistency with General Plan policy provisions, the proposed Cannabis Program Update would be generally consistent with archaeological policy provisions in the area plans for Petaluma Dairy Belt, Sonoma Mountain, South Santa Rosa, and West Petaluma. As noted above, cannabis uses would be subject to County Code Section 11.14.050 and 36.20.040.

This page is intentionally left blank.

3.16 UTILITIES AND SERVICE SYSTEMS

This section identifies the regulatory context and policies related to utilities, evaluates the availability of existing utility and infrastructure systems (water, wastewater, stormwater, electricity, and natural gas) in Sonoma County to serve the Cannabis Program Update, and the impact of the Program on these systems.

Stormwater, flooding, and groundwater resources are addressed in Section 3.10, “Hydrology and Water Quality.” Section 3.6, “Energy,” contains additional information related to efficient use of electricity and natural gas in Sonoma County. Issues pertaining to groundwater resources and personal wells are addressed in Section 3.10, “Hydrology and Water Quality.”

Several utilities-related comments were received in response to the notice of preparation (NOP). The comments identified concerns regarding water supply, groundwater impacts, and solid waste disposal. These comments are considered in this section as well as Section 3.10, “Hydrology and Water Quality.” All comments received in response to the NOP are presented in Appendix A of this EIR.

3.16.1 Regulatory Setting

FEDERAL

There are no federal plans or programs that address utilities and service systems that would apply to the Cannabis Program Update.

STATE

State Water Resources Control Board

In California, the State Water Resources Control Board (SWRCB) is responsible for ensuring the highest reasonable quality of waters of the state, while allocating those waters to achieve the optimum balance of beneficial uses. SWRCB’s current challenge is exacerbated by California’s rapid population growth and the continuing struggle over precious water flows. It faces tough new demands that include fixing ailing sewer systems, building new wastewater treatment plants, and tackling the cleanup of underground water sources impacted by the very technology and industry that has catapulted California into global prominence. In addition, SWRCB will continue to focus on its most vexing problem of nonpoint source pollution, or polluted runoff, which is difficult to categorize, isolate and resolve.

Urban Water Management Plan

In 1983, the California State Legislature enacted the Urban Water Management Planning Act (UWMPA) (California Water Code Sections 10610–10656). The UWMPA states that every urban water supplier that provides water to 3,000 or more customers, or that provides more than 3,000 acre-feet (af) of water annually, should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. This effort includes the adoption of an urban water management plan (UWMP) by every urban water supplier and an update of the plan every 5 years on or before December 31, of every year ending in a five or zero. The UWMPA has been amended several times since 1983 with the most recent amendment occurring with Senate Bill (SB) 318 in 2004. The UWMPA and SB 610 are interrelated; the UWMP is typically relied upon to meet the requirements for SB 610.

The Sonoma County Water Agency 2020 UWMP was adopted in June 2021.

California Water Code

The California Water Code contains provisions that control almost every consideration of water and its use. Division 2 of the California Water Code provides that SWRCB shall consider and act upon all applications for permits to appropriate waters. Division 6 of the Water Code controls conservation, development, and utilization of state water resources. Division 7 addresses water quality protection and management.

Commercial Cannabis Licensing Requirements

The following cannabis regulations in the CCR, title 4, division 19 are associated with water supply and solid waste.

Section 15049.1: Additional Requirements for Recording Cultivation Activities

(b) The following information shall be reported in the track and trace system for each harvest batch:

- (2) A cannabis waste management plan developed in accordance with section 17223.

Section 16309: Cultivation Plan Requirements

(a) Licensed cultivators shall establish and maintain a cultivation plan that includes all of the following:

- (2) The weight of cannabis waste associated with each harvested plant.

Section 16311: Supplemental Water Source Information

The following information shall be provided for each water source identified by the applicant:

(a) Retail water supply sources:

- (1) If the water source is a retail water supplier, as defined in section 13575 of the Water Code, such as a municipal provider, provide the following:
 - (A) Name of the retail water supplier; and
 - (B) A copy of the most recent water service bill or written documentation from the water supplier stating that service will be provided at the premises address.
- (2) If the water source is a small retail water supplier, such as a delivery service, and is subject to section 26060.1(a)(1)(B) of the Business and Professions Code and the retail water supplier contract is for delivery or pickup of water from a surface water body or an underground stream flowing in a known and definite channel, provide all of the following:
 - (A) The name of the retail water supplier under the contract;
 - (B) The water source and geographic location coordinates, in either latitude and longitude or the California Coordinate System, of any point of diversion used by the retail water supplier to divert water delivered to the commercial cannabis business under the contract;
 - (C) The authorized place of use of any water right used by the retail water supplier to divert water delivered to the commercial cannabis business under the contract;
 - (D) The maximum amount of water delivered to the commercial cannabis business for cannabis cultivation in any year; and
 - (E) A copy of the most recent water service bill.
- (3) If the water source is a small retail water supplier, such as a delivery service, and is subject to section 26060.1(a)(1)(B) of the Business and Professions Code and the retail water supplier contract is for delivery or pickup of water from a groundwater well, provide all of the following:
 - (A) The name of the retail water supplier under the contract;
 - (B) The geographic location coordinates for any groundwater well used to supply water delivered to the commercial cannabis business, in either latitude and longitude or the California Coordinate System;
 - (C) The maximum amount of water delivered to the commercial cannabis business for cannabis cultivation in any year;
 - (D) A copy of the well completion report filed with the Department of Water Resources pursuant to section 13751 of the Water Code for each percolating groundwater well used to divert water delivered to the commercial cannabis business. If no well completion report is available, the applicant shall provide evidence from the Department of Water Resources indicating that the Department of Water Resources

does not have a record of the well completion report. When no well completion report is available, the State Water Resources Control Board may request additional information about the well; and

(E) A copy of the most recent water service bill.

(b) If the water source is a groundwater well, provide the following:

- (1) The groundwater well's geographic location coordinates, in either latitude and longitude or the California Coordinate System; and
- (2) A copy of the well completion report filed with the Department of Water Resources pursuant to section 13751 of the Water Code. If no well completion report is available, the applicant shall provide evidence from the Department of Water Resources indicating that the Department of Water Resources does not have a record of the well completion report. If no well completion report is available, the State Water Resources Control Board may request additional information about the well.

(c) If the water source is a rainwater catchment system, provide the following:

- (1) The total square footage of the catchment footprint area(s).
- (2) The total storage capacity, in gallons, of the catchment system(s).
- (3) A detailed description and photographs of the rainwater catchment system infrastructure, including the location, size, and type of all surface areas that collect rainwater. Examples of rainwater collection surface areas include a rooftop and greenhouse.
- (4) Geographic location coordinates of the rainwater catchment infrastructure in either latitude and longitude or the California Coordinate System.

(d) If the water source is a diversion from a waterbody (such as a river, stream, creek, pond, lake, etc.), provide any applicable water right statement, application, permit, license, or small irrigation use registration identification number(s), and a copy of any applicable statement, registration certificate, permit, license, or proof of a pending application issued under part 2 (commencing with section 1200) of division 2 of the California Water Code as evidence of approval of a water diversion by the State Water Resources Control Board.

Section 17223: Waste Management

(a) A licensee shall dispose of all waste in accordance with the Public Resources Code and any other applicable state and local laws. It is the responsibility of the licensee to properly evaluate waste to determine if it should be designated and handled as a hazardous waste, as defined in Public Resources Code section 40141.

(b) A licensee shall establish and implement a written cannabis waste management plan that describes the method or methods by which the licensee will dispose of cannabis waste, as applicable to the licensee's activities. A licensee shall dispose of cannabis waste using only the following methods:

- (1) On-premises composting of cannabis waste.
- (2) Collection and processing of cannabis waste by a local agency, a waste hauler franchised or contracted by a local agency, or a private waste hauler permitted by a local agency in conjunction with a regular organic waste collection route.
- (3) Self-haul cannabis waste to one or more of the following:
 - (A) A staffed, fully permitted solid waste landfill or transformation facility;
 - (B) A staffed, fully permitted composting facility or staffed composting operation;
 - (C) A staffed, fully permitted in-vessel digestion facility or staffed in-vessel digestion operation;
 - (D) A staffed, fully permitted transfer/processing facility or staffed transfer/processing operation;
 - (E) A staffed, fully permitted chip and grind operation or facility; or

- (F) A recycling center as defined in title 14, California Code of Regulations, section 17402.5(d) that meets the following:
 - (i) The cannabis waste received shall contain at least ninety (90) percent inorganic material;
 - (ii) The inorganic portion of the cannabis waste is recycled into new, reused, or reconstituted products that meet the quality standards necessary to be used in the marketplace; and
 - (iii) The organic portion of the cannabis waste shall be sent to a facility or operation identified in subsections (b)(3)(A)-(E).
- (4) Reintroduction of cannabis waste back into agricultural operation through on-premises organic waste recycling methods including, but not limited to, tilling directly into agricultural land and no-till farming.
- (c) The licensee shall maintain any cannabis waste in a secured waste receptacle or secured area on the licensed premises until the time of disposal. Physical access to the receptacle or area shall be restricted to the licensee, employees of the licensee, the local agency, waste hauler franchised or contracted by the local agency, or private waste hauler permitted by the local agency only. Nothing in this subsection prohibits licensees from using a shared waste receptacle or area with other licensees, provided that the shared waste receptacle or area is secured and access is limited as required by this subsection.
- (d) A licensee that disposes of waste through an entity described in subsection (b)(2) shall do all of the following:
 - (1) Maintain and make available to the Department upon request the business name, address, contact person, and contact phone number of the entity hauling the waste; and
 - (2) Obtain documentation from the entity hauling the waste that evidences subscription to a waste collection service.

State Water Resources Control Board—Cannabis Cultivation Policy

Attachment A of SWRCB Order WQ 2023-0102-DWQ establishes surface water diversion standards that are designed to protect surface water flow conditions and associated aquatic resources under Section 3, "Numeric and Narrative Instream Flow Requirements." Section 3.4, "Biological Resources," and Section 3.10, "Hydrology and Water Quality," contain further discussion of the numeric and narrative instream flow requirements.

SWRCB's cannabis cultivation policy provides requirements for the treatment of wastewater associated with indoor cannabis cultivation, as well as wastewater created from the processing of cannabis (as defined in Attachment A of SWRCB Order WQ 2023-0102-DWQ as industrial wastewater). Indoor cannabis cultivation facilities must either (1) discharge all industrial wastewaters generated to a permitted wastewater treatment collection system and facility that accepts cannabis cultivation wastewater, or (2) collect all industrial wastewater in an appropriate storage container to be stored and properly disposed of by a permitted wastewater hauler at a permitted wastewater treatment facility that accepts cannabis cultivation wastewater (Term 38 of Attachment A, Section 1 of SWRCB Order WQ 2023-0102-DWQ). Term 27 of Attachment A of SWRCB Order WQ 2023-0102-DWQ prohibits discharges of wastewater from cannabis manufacturing activities defined in Business and Professions Code Section 26100, indoor grow operations, and other industrial wastewater to an on-site wastewater treatment system (e.g., septic tank and associated disposal facilities) to surface water or to land. Section 3.7, "Geology, Soils, and Mineral Resources," contains further discussion regarding on-site wastewater treatment system regulations.

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (Assembly Bill [AB] 939), Chapter 1095, Statutes of 1989) requires state, county, and local governments to substantially decrease the volume of waste disposed of at landfills by 2000 and beyond. The act requires each county to submit an integrated waste management plan that includes an adopted source reduction and recycling element from each of its cities, as well as a county-prepared source reeducation and recycling element for the unincorporated area. The element identifies existing and future quantities and types of solid waste, an inventory of existing disposal sites, a determination of the plan's economic feasibility, enforcement programs, and implementation schedule.

SB 1383 (Chapter 395, Statutes of 2016) and AB 1826 (Chapter 727, Statutes of 2014) have established additional waste reductions for organic waste. SB 1383 was placed in code and requires 50-percent reduction in organic waste levels in landfills from 2014 levels by 2020 and 75-percent reduction by 2025. AB 1826 requires businesses to recycle organic waste and requires local jurisdictions to implement an organic waste recycling program to divert organic waste generated by businesses.

LOCAL

Sonoma County General Plan

The following policies address utility services and are applicable to the project:

- ▶ **Policy PF-1d:** Require as part of discretionary project applications within a water or sewer service area written certification that either existing services are available or needed improvements will be made prior to occupancy.
- ▶ **Policy PF-1e:** Avoid General Plan amendments that would increase demand for water supplies or wastewater treatment services in those urban areas where existing services cannot accommodate projected growth as indicated in Table LU-1 or any adopted master plan.
- ▶ **Policy PF-1f:** Avoid extension of public sewer services outside of either a sphere of influence or Urban Service Area. To the extent allowed by law, consider exceptions to this policy only:
 - (1) Where necessary to resolve a public health hazard resulting from existing development, or
 - (2) Where appropriate to allow farmworker housing or an affordable housing project providing exclusively lower income housing on properties adjoining urban service boundaries.
- ▶ **Policy PF-1g:** Use the following guidelines for any exception allowed by Policy PF-1f:
 - (1) The property must adjoin the Urban Service Boundary or the proposed connection to a public sewer system must be no more than 200 feet from the Urban Service Boundary,
 - (2) Size sewage facilities to serve development consistent with the General Plan, and
 - (3) Require written certification that adequate service capacity is available for the use to be connected to the system.
- ▶ **Policy PF-1h:** Avoid extension of public water service to a property that is outside of both the Urban Service Area and sphere of influence of the water provider. Consider exceptions to this policy, to the extent allowed by law, only:
 - (1) Where necessary to resolve a public health hazard resulting from existing development such as failing wells or groundwater contamination, or
 - (2) Where water service is to be extended for a property which is located within a water district boundary in effect in November, 2003, or
 - (3) Where appropriate to allow an affordable housing project providing exclusively lower income housing on properties adjoining Urban Service Boundaries.
- ▶ **Policy PF-1i:** Use the following guidelines for any exception allowed by Policy PF-1h:
 - (1) Size facilities to serve development consistent with the General Plan,
 - (2) Require written certification that adequate service capacity is available for the use to be connected to the system or planned to be connected in the future, and
 - (3) Utilize out-of-service area agreements rather than annexations

Sonoma County Water Agency Sanitation Facilities Requirements

The Sanitation Code of the Sonoma County Water Agency contains uniform requirements for contributors to Sonoma Water's wastewater collection and treatment systems. Sonoma Water's Sanitation Code details enforcement of general requirements for users and through the issuance of permits or permit contracts to certain users, authorizes

monitoring and enforcement activities, requires user reporting where applicable; establishes administrative review procedures, and establishes the guidelines for establishing fees to provide equitable distribution associated with maintaining a source control program.

Section 3.13 of the Sanitation Code requires a sewer service permit to be obtained for installation, alteration, or repair of public sewer and sanitation facilities. Section 3.14 of the Sanitation Code requires sewer services granted solely for the specific use for which application was made. No substantial change shall be made in the character or strength nor shall an increase in the amount of wastewater discharged by user be made through an existing sewer lateral connection except by making application to the Sonoma County Water Agency.

The Sonoma Water Design and Construction Standards for Sanitation Facilities consist of guidelines and requirements for the design and construction of sewerage facilities. In addition, both the Sanitation Codes and these Agency Standards often contain information and requirements on the same subject.

Countywide Integrated Waste Management Plan

The Countywide Integrated Waste Management Plan, dated October 15, 2003, provides a solid waste disposal strategy through the year 2050. The plan includes the following implementation policies to ensure adequate waste prevention, reuse, recycling, composting, and disposal services.

2.4.1 Source Reduction Implementation Policies

- ▶ The Sonoma County Waste Management Agency (SCWMA), County and the Cities will encourage and support the use of waste minimization practices for business, government agencies, and the public by distributing information on the availability of waste minimization options.
- ▶ The SCWMA, the County, and the Cities will continue to encourage and support backyard composting for businesses, residences, and government agencies by providing information and technical assistance.

2.4.3 Composting Implementation Policy

The SCWMA, County, and cities will provide access to composting opportunities through implementation of composting facilities and programs which may be regional or local, public or private.

2.4.6 Solid Waste Management Implementation Policy

Satisfy the AB 939 solid waste planning and diversion mandates in a manner that is consistent with the objectives of the community, as reflected by the deliberations and documents of the AB 939 Local Task Force and Sonoma County Waste Management Agency.

3.16.2 Environmental Setting

WATER SUPPLY

Potable, commercial, industrial, and agricultural water supplies in Sonoma County are derived from a number of sources, including surface water, groundwater, and recycled water. A large proportion of surface water supplies provided to retail water providers primarily are used in the incorporated areas (cities) and are supplemented by groundwater. Residences in rural areas in the County rely largely on groundwater sources. Section 3.10, "Hydrology and Water Quality," contains further discussion related to groundwater resources.

The Russian River and Dry Creek (a tributary of the Russian River) are the principal sources of potable surface water supplies in Sonoma County. The Russian River originates in central Mendocino County, approximately 15 miles north of Ukiah, and drains an area of 1,485 square miles, including much of Sonoma and Mendocino Counties. The Russian River reaches the Pacific Ocean at Jenner, approximately 20 miles west of Santa Rosa. The main channel of the Russian River is approximately 110 miles long and has five principal tributaries: the East Fork of the Russian River, Big Sulphur Creek, Maacama Creek, Dry Creek, and Mark West Creek (Sonoma County 2006).

Two major reservoirs provide water storage for the Russian River Basin: Lake Mendocino on the East Fork of the Russian River and Lake Sonoma on Dry Creek. Lake Mendocino provides water for agricultural, municipal, and industrial uses, and Lake Sonoma provides water for municipal and industrial uses. Releases from both lakes maintain minimum streamflows required by SWRCB for recreational uses and fish habitat. A portion of the summer streamflow in the Russian River is augmented by diversions from the Eel River via the Potter Valley Project, a hydroelectric plant owned and operated by the Pacific Gas and Electric Company (PG&E). Water for the Potter Valley Project is stored in Lake Pillsbury on the Eel River (Sonoma County 2006).

Municipal water is supplied to the County by retail water suppliers. While there are hundreds of water systems within the county, the majority of larger public water systems source water (at least in part) from Sonoma Water, including the City of Santa Rosa, City of Petaluma, City of Rohnert Park, Town of Windsor, Valley of the Moon Water District, City of Sonoma, and City of Cotati. These systems also source water from groundwater.

The Russian River Utility operates water systems throughout Sonoma County, including: Fitch Mountain, Freestone, Jenner, Salmon Creek and West Water, Camp Meeker Recreation and Park District, Occidental Community Services District, Rains Creek Water District, and Russian River County Water (RRU 2025a, 2025b, 2025c, 2025d). Sweetwater Springs Water District: Guerneville, Rio Nido Guerneville Park, Villa Grande, Monte Rio (Sweetwater Springs Water District 2025).

Other smaller community water systems, some of which purchase water from Sonoma Water, provide water to areas of Sonoma County, including:

- ▶ Cal-American Water Company,
- ▶ Forestville Water District,
- ▶ Lawndale Mutual Water Company,
- ▶ Occidental Community Services District,
- ▶ Penngrove/Kenwood Water Company,
- ▶ Potter Valley Irrigation District, and
- ▶ Redwood Valley Irrigation District.

As discussed above in Section 3.16.1, UWMPA states that every urban water supplier that provides water to 3,000 or more customers, or that provides more than 3,000 acre-feet (af) of water annually, should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. While the majority of water suppliers in Sonoma County are not subject to these requirements, UWMPs for areas within the unincorporated county have been prepared by Sonoma Water, Sweetwater Springs Water District, and Valley of the Moon Water District. Tables 3.16-1 through 3.16-5 provide a summary of the reported water supply and demand projects for Sonoma Water, Sweetwater Springs Water District, and Valley of the Moon Water District during normal, single dry, and multiple dry year scenarios.

**Table 3.16-1 Sonoma Water Normal, Single, and Multiple Dry Year Water Supply and Demand (2025–2045)
(Acre-Feet Per Year)**

Type of Year	2025	2030	2035	2040	2045
Normal Year					
Supply	65,020	69,177	70,725	72,588	74,547
Demand	65,020	69,177	70,725	72,588	74,547
Difference	0	0	0	0	0
Single Year Dry					
Supply	65,020	58,168	58,897	59,789	60,656
Demand	65,020	69,177	70,725	72,588	74,547

Type of Year	2025	2030	2035	2040	2045
Difference	0	(11,009)	(11,828)	(12,799)	(13,891)
Multiple Year Dry (First - Fifth Year)					
Supply	65,020	69,177	70,725	72,588	74,547
Demand	65,020	69,177	70,725	72,588	74,547
Difference	0	0	0	0	0

Source: Sonoma Water 2021: Tables 6-2 through 6-4.

Table 3.16-2 Sweetwater Springs Water District Normal, Single, and Multiple Dry Year Water Supply and Demand (2025–2045) (Acre-Feet Per Year)

Type of Year	2025	2030	2035	2040	2045
Normal Year					
Supply	1,137	1,137	1,137	1,137	NA
Demand	851	857	862	857	NA
Difference	286	280	275	280	NA
Single Year Dry					
Supply	796	796	796	796	NA
Demand	540	543	545	548	NA
Difference	256	253	251	248	NA
Multiple Year Dry (First Year)					
Supply	1,137	1,137	1,137	1,137	NA
Demand	720	724	727	730	NA
Difference	417	413	410	407	NA
Multiple Year Dry (Second Year)					
Supply	1,137	1,137	1,137	1,137	NA
Demand	576	579	581	584	NA
Difference	561	558	556	553	NA
Multiple Year Dry (Third Year)					
Supply	796	796	796	796	NA
Demand	540	543	545	548	NA
Difference	256	253	251	248	NA
Multiple Year Dry (Fourth and Fifth Year)					
Supply	570	570	570	570	NA
Demand	414	418	421	424	NA
Difference	156	152	149	146	NA

Source: Sweetwater Springs Water District 2021: Tables 7-2 through 7-4.

Table 3.16-3 Valley of the Moon Water District Normal, Single, and Multiple Dry Year Water Supply and Demand (2025–2045) (Acre-Feet Per Year)

Type of Year	2025	2030	2035	2040	2045
Normal Year					
Supply	3,200	3,200	3,220	3,353	3,477
Demand	2,996	3,101	3,220	3,353	3,477
Difference	204	99	0	0	0
Single Year Dry					
Supply	3,200	3,069	3,043	3,014	2,982
Demand	2,996	2,996	3,101	3,220	3,477
Difference	204	(32)	(177)	(339)	(495)
Multiple Year Dry (First – Fifth Year)					
Supply	3,200	3,200	3,220	3,353	3,477
Demand	2,996	3,101	3,220	3,353	3,477
Difference	204	99	0	0	0

Source: Valley of the Moon Water District 2021: Tables 7-4 through 7-6.

Table 3.16-4 City of Santa Rosa Normal, Single, and Multiple Dry Year Water Supply and Demand (2025–2045) (Acre-Feet Per Year)

Type of Year	2025	2030	2035	2040	2045
Normal Year					
Supply	31,540	31,540	31,540	31,540	31,540
Demand	21,660	23,083	23,652	24,329	25,097
Difference	9,880	8,457	7,888	7,211	6,433
Single Year Dry					
Supply	22,660	20,639	20,937	20,978	21,689
Demand	21,660	20,639	20,937	20,978	21,689
Difference	1,000	0	0	0	0
Multiple Year Dry (First - Sixth Year)					
Supply	22,660	24,093	24,652	25,329	26,097
Demand	21,660	23,083	23,652	24,329	25,097
Difference	1,000	1,000	1,000	1,000	1,000

Source: City of Santa Rosa 2021: Tables 7-2 through 7-4.

Table 3.16-5 Town on Windsor Normal, Single, and Multiple Dry Year Water Supply and Demand (2025–2045) (Acre-Feet Per Year)

Type of Year	2025	2030	2035	2040
Normal Year				
Supply	7,969	7,987	8,186	8,745
Demand	6,504	6,955	7,614	8,628
Difference	1,465	1,032	572	117
Single Year Dry				
Supply	7,969	7,987	8,186	8,745

Type of Year	2025	2030	2035	2040
Demand	6,504	6,955	7,614	8,628
Difference	1,465	1,032	572	117
Multiple Year Dry (First Year)				
Supply	7,932	7,950	8,149	8,708
Demand	6,504	6,955	7,614	8,628
Difference	1,428	995	535	80
Multiple Year Dry (Second Year)				
Supply	7,894	7,912	8,111	8,670
Demand	6,504	6,955	7,614	8,628
Difference	1,390	957	497	42
Multiple Year Dry (Third Year)				
Supply	7,857	7,875	8,074	8,633
Demand	6,504	6,955	7,614	8,628
Difference	1,353	920	460	5
Multiple Year Dry (Fourth Year)				
Supply	7,819	7,837	8,036	8,595
Demand	6,504	6,955	7,614	8,628
Difference	1,315	882	422	(33)
Multiple Year Dry (Fifth Year)				
Supply	7,782	7,800	7,999	8,558
Demand	6,504	6,955	7,614	8,628
Difference	1,278	845	385	(71)

Source: Town of Windsor 2021: Tables 7-2, 7-4, 7-5.

WASTEWATER AND STORMWATER

Various wastewater districts provide wastewater collection and treatment services in unincorporated Sonoma County. Sonoma Water manages and operates eight different sanitation districts and zones throughout the County.

Wastewater Treatment and Disposal

Incorporated cities and special districts own and operate numerous centralized wastewater collection and treatment systems throughout the County. The discharge of treated effluent and disposal of biosolids is permitted by the corresponding RWQCB (either the North Coast or the San Francisco Bay RWQCB). Rural areas not served by centralized systems use on-site septic systems subject to regulation by the Sonoma County Permit and Resource Management Department, with larger systems subject to the approval of the RWQCBs.

The following sanitation districts own and operate wastewater treatment infrastructure within Sonoma County:

- ▶ Airport/Larkfield/Wikiup Sanitation Zone,
- ▶ Geyserville Sanitation Zone,
- ▶ Occidental County Sanitation District,
- ▶ Penngrove Sanitation Zone,
- ▶ Russian River County Sanitation District,

- ▶ Sea Ranch Sanitation Zone,
- ▶ Sonoma Valley County Sanitation District, and
- ▶ South Park County Sanitation District.

The wastewater flow and gallons per day (gpd) capacity available within each zone/facility are identified in Table 3.16-6.

Table 3.16-6 Capacities of Wastewater Treatment Facilities in Sonoma County

Facility	Wastewater Flow (gpd)	Daily Capacity (gpd)	Additional Information
Airport/Larkfield/Wikiup Sanitation Zone	800,000	900,000	—
Geyserville Sanitation Zone	54,000	92,000	—
Occidental County Sanitation District	17,000	50,000	—
Penngrove Sanitation Zone	—	—	The collected sewage from the Penngrove Sanitation Zone is routed through the Penngrove Sanitation Zone's lift station to the City of Petaluma's system for treatment.
Russian River County Sanitation District	300,000	710,000	—
Sea Ranch Sanitation Zone	4,000 (Central Plant) 1,900 (North Plant)	27,000 (Central Plant) 160,000 (North Plant)	—
Sonoma Valley County Sanitation District	2,800,000	3,000,000	—
South Park County Sanitation District	—	—	Collected influent is routed through the Todd Road Lift Station, located at Todd Road and Moorland Avenue, to the Laguna Subregional system for treatment.

Note: gpd = gallons per day.

Sources: Sonoma Water 2025; Sonoma County LAFCO 2004.

Stormwater Drainage

Drainage facilities in the unincorporated portions of the County are limited and primarily consist of roadside open drainage ditches that discharge to canals and other surface water features. Section 3.10, "Hydrology and Water Quality," contains further discussion of surface water and drainage conditions in the County.

ENERGY

Electricity

Sonoma Clean Power (SCP) and PG&E serve unincorporated Sonoma County. PG&E is responsible for all electric delivery and maintaining the electric grid, and SCP provides an optional electric generation service (customers can opt out of SCP's electric generation service). SCP provides electricity from cleaner power sources with lower greenhouse gas (GHG) emissions than PG&E. Energy is discussed in more detail in Section 3.6, "Energy."

Natural Gas

California relies on out-of-state natural gas imports for nearly 90 percent of its natural gas supply. The California Energy Commission (CEC) estimates that 45 percent of the natural gas burned across the state is used for electricity generation, and much of the remainder is consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors (CEC n.d.). Building and appliance energy efficiency standards account for up to 39 percent of natural gas demand savings since 1975 (CEC 2024a).

The County is in PG&E's natural gas service area, which spans central and northern California (CEC 2022). In 2022, PG&E customers consumed 4.4 billion therms of natural gas. Residential users accounted for approximately 42 percent of PG&E's natural gas consumption (CEC 2024b). The remainder was used for industry (32 percent),

commercial buildings (20 percent), mining and construction (5 percent), other commercial (1 percent), and agricultural and water pump accounts (1 percent) (CEC 2024b). In 2022, PG&E’s service area is equipped with approximately 6,700 miles of gas transmission pipelines and 42,000 miles of gas distribution pipelines (PG&E 2024.).

TELECOMMUNICATIONS

There are various telecommunication providers in the County for DSL, wireless, cable, and fiber optic services. Providers include AT&T, Sprint, Verizon, Comcast, Earthlink, Viasat, Sonic, Xfinity, and HughesNet (CPUC 2024).

SOLID WASTE DISPOSAL

Cannabis plants that contain the psychoactive compound tetrahydrocannabinol (THC) are legal in the state of California for medical and recreational use. However, cannabis is federally considered a Schedule I illegal drug. For this reason, all aspects of the industry are heavily regulated, including its waste management. As shown in Table 3.16-7, there are three licensed cannabis waste disposal companies that offer pickup service, and 8 licensed cannabis waste disposal companies that offer drop off service in Sonoma County.

Table 3.16-7 Licensed Cannabis Waste Disposal and Processing Facilities

Facility	Waste Accepted	Service Type
Annapolis Transfer Station (disposal and recycling)	Plant trimmings and edibles; other waste types	Drop-off
Cannabis Waste Solutions	Plant trimmings and edibles	Pickup
Cold Creek Compost	Plant Trimmings and edibles	Drop-off
Easy Waste Management	Plant trimmings, edibles, hazardous cannabis by-products, and all other type of cannabis waste	Pickup
GAIACA Waste Revitalization	Plant trimmings, stalks, stems, leaves, edibles, failed product, hazardous cannabis waste, vape pens, post-extracted plant material, wastewater	Pickup
Grab N Grow Soil Products	Plant trimmings	Drop-off
Guerneville Transfer Station (disposal and recycling)	Plant trimmings and edibles	Drop-off
Healdsburg Transfer Station (disposal and recycling)	Plant trimmings and edibles	Drop-off
Napa Recycling	Plant trimmings and edibles	Drop-off
Republic Services/Global Materials Recovery Services	Plant trimmings and edibles	Drop-off
Sonoma Transfer Station	Plant trimmings and edibles	Drop-off

Source: Zero Waste Sonoma 2024

3.16.3 Environmental Impacts and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, “Project Description,” and Chapter 3, section, “Approach to the Environmental Analysis,” regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

The impact analysis is based on existing conditions identified in Section 3.16.2, "Environmental Setting." Assumptions associated with the proposed regulation of cannabis operations and the anticipated extent of future cannabis operations under the Cannabis Program Update are provided in Section 2.4, "Project Future Commercial Cannabis Uses under the Cannabis Program Update," and Table 3-1. Estimated water demands of the Cannabis Program Update are presented in Table 3.10-7 in Section 3.10, "Hydrology and Water Quality." Evaluation of potential utilities and service systems impacts is based on a review of existing documents and studies. Information obtained from these sources was reviewed and summarized to describe existing conditions and to identify potential environmental effects, based on the thresholds of significance presented in this section. In determining the level of significance, the analysis assumes that future cannabis uses would comply with relevant state and local laws, ordinances, and regulations.

The following proposed Code requirements apply to utilities and service systems:

Section 26-18-115(B) – Permits

4. Use Permit required in MP, M1, M2, M3, where urban services (water and sewer) are not available.

Section 26-18-115(C) – Standards

- d. Generators. Generator use is prohibited, except in the case of an emergency.

Section 26-18-115(C)(h) – Crop Swap

8. Water Source. The on-site water supply must be adequate to support the new use as demonstrated by consistency with the following for each water source proposed. Trucked water is only allowed in the event of an emergency as determined by the director.
 - a. Municipal Water or Recycled Water. Municipal water and municipal recycled water require proof of availability.
 - b. Groundwater Well. A study prepared by a qualified professional must be submitted to demonstrate no net increase in groundwater use for all agricultural operations on the parcel.
 - c. Surface Water. A surface water diversion to a tank or an existing reservoir requires an appropriative water right and a Lake and Streambed Alteration (LSA) Agreement. A maximum of 100,000 gallons of new tank storage is allowed. Riparian water rights are prohibited.
 - d. Rainwater and sheet flow. A rainwater catchment system or an existing reservoir that collects sheet flow, requires a water supply assessment prepared by a qualified professional. A maximum of 100,000 gallons of new tank storage is allowed.

THRESHOLDS OF SIGNIFICANCE

Based on State CEQA Guidelines Appendix G, a utilities and service systems impact is considered significant if implementation of the Cannabis Program Update would do any of the following:

- ▶ require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- ▶ have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;
- ▶ result in a determination by the wastewater treatment provider that 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;
- ▶ generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure;
- ▶ negatively impact the provision of solid waste services or impair the attainment of solid waste reduction goals; or
- ▶ comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

ISSUES NOT DISCUSSED FURTHER

Personal Cultivation

The proposed Cannabis Program Update does not include changes to personal cultivation standards that would be substantially different from existing requirements such that physical changes to the environment could occur that would create significant impacts related to utilities and service systems. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

Water, Wastewater, Drainage, Energy, and Telecommunication Infrastructure

Potential expansion of cannabis cultivation sites and supply chain operations associated with the proposed Cannabis Program Update may require construction or improvements to water, wastewater, stormwater drainage, electric power, natural gas (where available), and telecommunication facilities as needed based on site-specific conditions. Extension of these infrastructure facilities are expected to be limited because they are generally available along roadway frontage of the parcels or may be accommodated on the site (e.g., drainage ditches, detention basins, solar energy generation). However, the overall environmental impacts for construction and operation of cannabis uses (including those related to infrastructure facilities) have been programmatically evaluated in this Draft EIR. Section 3.6, "Energy," contains further discussion about energy use impacts, and Section 3.10, "Hydrology and Water Quality," contains further discussion about drainage and water quality impacts. Implementation of the Cannabis Program Update would not trigger the need for the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. This issue is not further evaluated.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.16-1: Result in Insufficient Water Supplies

Municipal water is supplied to entities within Sonoma County through retail water services. Cannabis uses would require water supply for irrigation and operational demands. According to relevant UWMPs, some areas of the County are not expected to have sufficient water during all dry year scenarios. Therefore, it cannot be stated with certainty that adequate water supply would be available to new cannabis uses. Thus, this impact would be **significant**.

Cannabis sites permitted under the Cannabis Program Update would require water supply for irrigation and operational demands. The Cannabis Program Update is anticipated to accommodate up to 208 acres of cultivation and 235 supply chain uses within the County in 2044 (refer to Table 3-1 for a full list of development assumptions). As identified in Impact 3.10-2 in Section 3.10, "Hydrology and Water Quality," it is estimated that the new cannabis uses would have a total water demand of approximately 500 acre-feet per year (AFY). Of the total 456 AFY would be associated with indoor, mixed-light, and outdoor cannabis, and the remaining 44 AFY would be associated with nursery and supply chain uses (see Table 3.10-8 for a full breakdown of demand by cannabis facility type).

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Cannabis cultivation must comply with water use and storage requirements established in the County's best management practices (BMPs) for cannabis cultivation. Consistent with these requirements, cannabis cultivation

facilities must obtain all necessary permits from Sonoma County Permit and Resource Management Department for any water tanks or storage facilities and are subject to leak inspection and repairs, as necessary, prior to planting each year and continuously during the growth cycle. These requirements support efficient water use in the County.

New cannabis cultivation facilities would be subject to the water supply documentation, verification of adequate source of supply, and use restrictions requirements provided under CCR, Title 4, Section 16311; SWRCB Order WQ 2023-0102-DWQ Attachment A, Section 3, Numeric and Narrative Instream Flow Requirements; and MCCR Sections 10A.17.070(H), 10A.17.080(B), and 10A.17.090(E). Additionally, CCR, Title 4, Division 9, Section 16311 requires documentation of verified water supply sources for cultivation (indoor, outdoor, and nursery) to be provided to the California Department of Cannabis Control (DCC). For example, if the water supplier is a retail water supplier, the cannabis cultivation applicant must provide the name of the retail water supplier and a copy of the most recent water service bill or a written will-serve letter. In contrast, no water supply verification is required under the Cannabis Program Update or state regulations for supply chain uses.

Water demand estimates are related to the development potential assumptions presented in Table 3-1 of this Draft EIR. The development potential presents the anticipated growth of cannabis facilities at the countywide level, but it is not feasible to determine the specific location of where cannabis may be cultivated or the extent to which accessory uses may be located within agricultural and resources district. Thus, while water supply is more likely to be provided via onsite wells within agricultural and resources districts, municipal water supply may be available and relied upon to support cannabis uses in some areas agricultural and resources districts. However, as identified in Section 3.16.2, "Environmental Setting," according to UWMPs within the County some water suppliers (e.g., Valley of the Moon, Town of Windsor, and Sonoma Water) are not projected to have sufficient water supplies during a single dry year scenario, and there is not sufficient water supply to meet increased demand under normal and multiple dry-year scenarios through 2045. In addition, information on supply and demand for the majority of the water retailers within the County is not available, in part because the UWMPA limits requirements for preparation of UWMPs to urban water suppliers that provide water to 3,000 or more customers, or that provides more than 3,000 af of water annually. While CCR Section 16311 requires documentation of verified water supply sources for cultivation (indoor, outdoor, and nursery) to be provided to DCC (i.e., a copy of the most recent water service bill or a written will-serve letter), no such requirement exists under the Cannabis Program Update or state regulations for supply chain uses.

Therefore, it cannot be stated with certainty that adequate water supply would be available to new or expanded cannabis facilities seeking municipal or retail water supplies.

Applications Meeting Crop Swap Requirements

Crop swap applicants would be required to provide documentation that water supply is available to serve the project (Section 26-18-115[C][h][8]). Thus, because proof of available water supplies would be provided for applicants meeting crop swap requirements, there would be water available for sites that rely on municipal or retail water supplies. While outdoor cannabis demands more water per acre (2.0 AFY/ac) than other outdoor crops such as vineyards (0.6 AFY) and irrigated orchards (1.8 AFY/ac), per the County's Policies and Procedures 8-2-1 Guidance, Use and Conservation Assessment Guidelines, Appendix A, under the proposed Cannabis Program Update, Code Section 26-18-115(C)(4)(b) limits the cannabis canopy to 10 percent of a parcel. This would likely be a smaller portion of a parcel than for cultivation of vineyards or orchards, which in turn may decrease water demand with implementation of a crop swap cultivation site. However, site specific conditions and water supply associated with a crop swap application are not known at this time.

Construction of Event Facilities and Event Operations

Water demand related to cannabis events may include water demands related to hygiene of the attendee (e.g., toilets and sinks). Based on event water demands in Table 3.10-7 and the number and size of small-scale events (limited to 50 attendees and 104 event days per year) and large-scale events (no limit on number of attendees and four total event days per year), cannabis events could result in an water demand of 0.06 AFY.¹ However, as discussed above under "Proposed Allowable Uses in Agricultural and Resources Districts," available UWMPs in the County indicate that

¹ This estimate assumes that large-scale event has 400 attendees.

there is not sufficient water supplies for the existing demand during a single dry year scenario, and the supply and demand are equal under normal and multiple dry-year scenarios for the foreseeable future; thus, for many areas in the County there is not sufficient municipal or retail water supply available to support projected water demand.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial-zoned parcels, cannabis cultivation would be allowed by right if municipal (or public) water and sewer are available. Within these areas, supply chain uses would also be allowed by right, and could also include accessory uses. Within Industrial and Commercial Districts, mixed-light and indoor cultivation are allowed, and demand approximately 4 AFY of water per acre of canopy. Of the supply chain uses, retail and distribution would demand the greatest water supply at 11.2 and 11.8 afy. Based on the assumptions presented in Table 3-1 of this Draft EIR, mixed-use and indoor assumptions for the County assume 1 acre of canopy per operation, and retail sites are generally contained within a 2,400 square foot building and have approximately 16 employees.

As discussed above, proposed allowable cultivation and supply chain uses within industrial and commercial districts would demand between approximately 0.18 AFY and 4 AFY. Based on Sonoma County Policy and Procedures 8-2-1 Water Supply, Use and Conservation Assessment Guidelines, Appendix A, commercial and industrial water demand ranges from 0.6 afy for printing/publishing up to 31 afy for food processing. Thus, water assumptions for commercial and industrial uses tend to be consistent with the proposed allowable cannabis uses in industrial and commercial districts. However, as discussed above under “Proposed Allowable Uses in Agricultural and Resources Districts,” available UWMPs in the County indicate that there is not sufficient water supplies for the existing demand during a single dry year scenario, and the supply and demand are equal under normal and multiple dry-year scenarios for the foreseeable future; thus, for many areas in the County there is not sufficient municipal or retail water supply available to support projected water demand.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County’s existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on water supply sufficiency.

Conclusion

It is unknown what amount of this projected water demand would be met by surface water, groundwater, or municipal water sources. As identified in Section 3.16.2, “Environmental Setting,” available UWMPs in the County indicate that there is not sufficient water supplies for the existing demand during a single dry year scenario, and the supply and demand are equal under normal and multiple dry-year scenarios for the foreseeable future; thus, there is no evidence that indicates that additional municipal or retail water supply is available to support additional water demand. Therefore, it cannot be stated with certainty that adequate water supply would be available to new cannabis facilities. Thus, this impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.16-1 (All Cannabis Uses): Municipal Water Supply Verification for New Cannabis Uses

The proposed Code Sections for all cannabis uses shall be modified to include the following standard.

- ▶ Individual projects must demonstrate that water demand would be equivalent or less than current levels of a facility or if the entity providing water can demonstrate that water is available to serve the project in normal, dry, and multiple dry years.

Significance after Mitigation

Implementation of Mitigation Measure 3.16-1 would reduce potentially significant impacts associated with water supply because an applicant would be required to either not increase water demand above levels of an existing building or obtain verification from a water supplier that water is available for the project in normal, dry, and multiple-dry years. If these conditions cannot be met, a project will not be approved. Therefore, upon implementation of Mitigation Measure 3.16-1, allowable uses under the Cannabis Program Update would not result in insufficient water supply during normal, dry, and multiple-dry years and impacts would be reduced to a **less-than-significant** level.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

With implementation of Mitigation Measures 3.16-2, all new cannabis cultivation sites would be required to provide a will service letter to establish water availability. This is consistent with requirements set forth under General Plan Policy PF-1d, which requires written certification of water service or needed improvements to be provided as part of a discretionary project application.

Impact 3.16-2: Interfere with Adequate Wastewater Treatment Facility Capacity

New cannabis facilities operating under the Cannabis Program Update would generate wastewater that would require treatment. As required under Sonoma Water's Sanitation Code Section 3.13, a sewer service permit would be required for installation, alteration, or repair of public sewer and sanitation facilities. Section 3.14 of the Sanitation Code requires sewer services to be granted solely for the specific use for which application was made. That is, a new cannabis use would be required to submit an application to the applicable sanitation district to establish service. This impact would be **less than significant**.

The Cannabis Program Update would allow for an increase in acreage of cannabis cultivation and supply chain uses and associated structures, the operation of which would generate wastewater from employees, customers, cannabis manufacturing activities, and cannabis wastewater from irrigation or washing. Cannabis operations in urban areas of the county with utility services would typically discharge wastewater to local wastewater conveyance and treatment systems. Wastewater treatment providers would consider potential impacts on their treatment systems when providing service to cannabis uses and may establish pretreatment standards to avoid the need for new or altered facilities.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

Wastewater demand from these uses would be associated with domestic uses (e.g., toilets and sinks), as well as product-related processes. As described in Section 3.16.1, "Regulatory Setting," cannabis processing wastewater is defined as "industrial wastewater" under Attachment A of SWRCB Order WQ 2023-0102-DWQ. Term 27 of Attachment A, Section 1 of SWRCB Order WQ 2023-0102-DWQ prohibits discharges of wastewater from cannabis manufacturing activities defined in Business and Professions Code Section 26100, indoor grow operations, or other industrial wastewater to an on-site wastewater treatment system (e.g., septic tank and associated disposal facilities), to surface water, or to land. In addition, indoor cannabis cultivation structures must either: (1) discharge all industrial wastewaters generated to a permitted wastewater treatment collection system and facility that accepts cannabis cultivation wastewater or (2) collect all industrial wastewater in an appropriate storage container to be stored and properly disposed of by a permitted wastewater hauler at a permitted wastewater treatment facility that accepts cannabis cultivation wastewater (Term 38 of Attachment A, Section 1 of SWRCB Order WQ 2023-0102-DWQ).

While many of the cannabis uses within agricultural and resources districts, would be provided on-site through septic or other alternative wastewater treatment systems for domestic wastewater only, municipal wastewater treatment facilities are available in some areas of the county. Sewer generation rates would be similar for other types of uses in the county (e.g., retail and distribution facilities). As available, cannabis uses allowed within agricultural and resource districts would rely on existing connections to public wastewater conveyance systems, which would be required to comply with the standards set forth in Sonoma Water's Sanitation Code and facilities requirements. Sonoma Water's Sanitation Code specifies conditions and procedures for sewer facilities and sewer availability commitments from the provider and fee schedules, which require annual sewer service, connection, and annexation fees. As required under Sonoma Water's Sanitation Code Section 3.13, a sewer service permit would be required for installation, alteration, or repair of public sewer and sanitation facilities. Section 3.14 of the Sanitation Code requires sewer services to be granted solely for the specific use for which application was made.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development would be allowed. Because there would be no changes to the existing conditions, with regard to developed uses on a cannabis site, there would not be a substantial increase in demand for wastewater treatment.

Construction of Event Facilities and Event Operations

Facilities for events would rely on on-site wastewater treatment systems, portable bathrooms, or existing connections to public wastewater conveyance systems that would be required to comply with the standards set forth in Sonoma Water's Sanitation Code and facilities requirements. Sonoma Water's Sanitation Code specifies conditions and procedures for sewer facilities and sewer availability commitments from the provider and fee schedules, which require annual sewer service, connection, and annexation fees. As required under Sonoma Water's Sanitation Code Section 3.13, a sewer service permit would be required for installation, alteration, or repair of public sewer and sanitation facilities. Section 3.14 of the Sanitation Code requires sewer services to be granted solely for the specific use for which application was made. As identified in Table 3.16-6, wastewater treatment facilities in the county currently have capacity that could accommodate future cannabis uses. Sonoma Water's Sanitation Code specifies conditions and procedures for sewer facilities and sewer availability commitments from the provider and fee schedules, which require annual sewer service, connection, and annexation fees. As required under Sonoma Water's Sanitation Code Section 3.13, a sewer service permit would be required for installation, alteration, or repair of public sewer and sanitation facilities. Section 3.14 of the Sanitation Code requires sewer services to be granted solely for the specific use for which application was made.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses, as well as accessory uses. While new cannabis uses could be located within existing buildings, new structures may be developed within the County. Additionally, accessory uses to primary cannabis uses would be allowed, which may involve development of new structures associated with indoor and mixed-light cultivation. The potential impacts on wastewater treatment capacity within industrial and commercial districts would be the same as discussed above under "Proposed Allowable Uses in Agricultural and Resources Districts."

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on wastewater treatment capacity.

Conclusion

For the reasons described above, compliance with the regulations would ensure that new cannabis uses allowed under the proposed Cannabis Program Update would not result in exceedance of wastewater treatment capacity in addition to the provider's existing commitments. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The Cannabis Program update would not change requirements for permits and use of wastewater treatment facilities. Discretionary project applicants within sewer service areas would continue to be subject to State and county requirements related to sewer connections. Thus, the Cannabis Program Update would be consistent with Sonoma County General Plan Policies PF-1d through PF-1g, which contain requirements for public sewer services.

Impact 3.16-3: Generate Solid Waste in Excess of Solid Waste Facilities or That Conflicts with Regulations

Implementation of the Cannabis Program Update would generate solid waste, including cannabis waste that would be required to comply with state regulations related to cannabis waste. There are various cannabis waste disposal facilities available in the County, which may be contracted with to develop a cannabis waste management plan and support the state's track-and-trace system. This impact would be **less than significant**.

Proposed cannabis operations would generate solid waste from cannabis plant and product waste, as well as non-cannabis waste (e.g., vegetation clearing and other related solid waste). As described in Section 3.16.1, "Regulatory Setting," CCR, Title 4, Division 19, Section 17223 requires cultivation facilities to have a cannabis waste management plan that identifies methods for managing cannabis waste, including on-premises composting, collection, and processing by an agency or self-hauling to a permitted facility. Transportation of self-hauled cannabis waste may be performed only by the licensee or employees of the licensee.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

New cannabis activities, including retail, cultivation, manufacturing, distribution, testing, processing, and cannabis events would generate solid waste. As required by CCR, Title 4, Division 19, Section 17223, licensees must establish and implement a waste management plan. As shown in Table 3.16-7, there are three licensed cannabis waste disposal companies that offer pickup service and eight licensed cannabis waste disposal companies that offer drop off service in Sonoma County, all of which may be relied upon to provide adequate cannabis waste management services. In addition, a licensee must report all cannabis waste activities, up to and including disposal, into the state's track-and-trace system. CCR, Title 4, Division Section 15049 requires that all disposed cannabis is entered into the track-and-trace system for disposal purposes. Non-cannabis waste would be disposed of through the County's existing transfer stations that would divert recyclable materials and dispose of remaining materials to available landfills.

Applications Meeting Crop Swap Requirements

The potential impacts on solid waste management would be the same as discussed above under "Proposed Allowable Uses in Agricultural and Resources Districts."

Construction of Event Facilities and Event Operations

The potential impacts on solid waste management would be the same as discussed above under “Proposed Allowable Uses in Agricultural and Resources Districts.”

Proposed Allowable Uses in Industrial and Commercial Districts

The potential impacts on solid waste management would be the same as discussed above under “Proposed Allowable Uses in Agricultural and Resources Districts.”

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County’s existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. Because there would be no new construction or changes in operation at facilities that could support periodic events, there would be no substantial effects on solid waste generation.

Conclusion

Because cannabis waste services are provided in the County and because state cannabis licensees would be required to develop a waste management plan and implement the state’s track-and-trace system, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The Cannabis Program update would not change requirements for solid waste management, which is subject to CCR, Title 4, Section 17223. Thus, the Cannabis Program Update would be consistent with the Countywide Integrated Waste Management Plan, which contains goals, objectives, and policies to ensure adequate waste collection, management, and disposal services.

3.17 WILDFIRE

This section identifies the regulatory context and policies related to wildfire, describes the existing wildfire conditions and hazard mapping/modeling, and evaluates the potential wildfire impacts of the proposed Cannabis Program Update. The potential for the Cannabis Program Update to impair air quality is addressed in Section 3.3, "Air Quality."

Comment letters submitted in response to the notice of preparation (NOP) for this EIR identified issues pertaining to wildfire dangers associated with high fire risk zones, evacuation routes, community egress and access roads, and neighborhood compatibility. These issues are addressed in the impact analysis below. All comments received in response to the NOP are presented in Appendix A of this EIR.

3.17.1 Regulatory Setting

FEDERAL

There are no federal plans or programs that address wildfire that would apply to the Cannabis Program Update.

STATE

Office of the State Fire Marshal and California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) is dedicated to the fire protection and stewardship of over 31 million acres of the state's privately-owned wildlands. PRC Sections 4125–4137 establish that CAL FIRE has the primary financial responsibility of preventing and suppressing fires in State Responsibility Areas (SRAs). PRC Section 4290 states that CAL FIRE also has responsibility for enforcement of State Minimum Fire Safe Regulations (Fire Safe Regulations), including road standards for fire equipment access and civilian evacuation; standards for signs identifying streets, roads, and buildings; minimum private water supply reserves for emergency fire use; fuel breaks; and greenbelts. PRC Section 4291 gives CAL FIRE the authority to enforce 100 feet of defensible space around all buildings and structures on SRA lands, or nonfederal forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material.

Additionally, CAL FIRE is also responsible for a broad range of programs that guide forest policy and planning within California and for implementing the Fire Resource and Assessment Program (FRAP). The FRAP assesses the amount and extent of California's forests and rangelands, analyzes their conditions, and identifies alternative management and policy guidelines. Fire Hazard Severity Zones for community planning are developed under FRAP and identify areas with very high fire hazards in both the SRA and local responsibility area.

New development located in SRAs and Very-High Fire Hazard Severity Zones (VHFHZs) are subject to the following requirements:

- ▶ Determination that new subdivisions are consistent with regulations adopted by the State Board of Forestry and Fire Protection pursuant to PRC Sections 4290 and 4291 or are consistent with local ordinances certified by the State Board of Forestry and Fire Protection as meeting or exceeding the state regulations (California Code of Regulations [CCR], Title 14, Section 1266.01).
- ▶ Defensible space of 100 feet around all buildings and structures (PRC Section 4291; CCR, Title 14, Section 1299.03).
- ▶ Provision of adequate emergency access and egress (PRC Sections 4290 and 4291; CCR, Title 14, Sections 1273.01–1273.09).
- ▶ Emergency water requirements (CCR, Title 14, Sections 1275.01–1275.04).
- ▶ Building signing and number requirements (PRC Sections 4290 and 4291; CCR, Title 14, Sections 1274.01–1274.04).

Fire Safe Regulations

The Fire Safe Regulations apply to areas within the SRA and Local Responsibility Area (LRA) VHFHSZ. They contain standards for design and construction of structures, subdivision and developments within these areas and lay out provisions for basic emergency access and perimeter wildfire protection measures. Standards apply to the following topics.

- ▶ Ingress and Egress
- ▶ Signing and Building Numbering
- ▶ Emergency Water Standards
- ▶ Building siting, Setbacks and Fuel Modifications

These standards apply to future development; they apply to new commercial and residential construction and expansions to existing commercial construction within the SRA and LRA VHFHSZ.

Strategic Plan for California

The 2019 Strategic Plan prepared by CAL FIRE and the California Natural Resources Agency lays out central goals for reducing and preventing the impacts of fire in the state (CAL FIRE 2019). The goals are meant to establish, through local, state, federal, and private partnerships, a natural environment that is more resilient and human-made assets that are more resistant to the occurrence and effects of wildland fire. The goals of the 2019 Strategic Plan include improving core capabilities; enhancing internal operations; ensuring health and safety; and building an engaged, motivated, and innovative workforce. CAL FIRE is currently in the process of developing a new 2024 Strategic Plan that builds on the goals and objectives of the 2019 Strategic Plan; however, the updated plan has not yet been adopted at the time of this Draft EIR.

In addition to the 2019 Strategic Plan, individual CAL FIRE units develop fire plans, which are major strategic documents that establish a set of tools for each CAL FIRE unit for its local area. Updated annually, unit fire plans identify wildfire protection areas, initial attack success, assets and infrastructure at risk, prefire management strategies, and accountability within their unit's geographical boundaries. The unit fire plan identifies strategic areas for prefire planning and fuel treatment as defined by the people who live and work locally. The plans include contributions from local collaborators and interested parties and are aligned with other plans for the area.

Public Resources Code Section 4427

PRC Section 4427 includes fire safety statutes that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment with internal combustion engines; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided on site for various types of work in fire-prone areas.

California Building Code

The California Building Code (CBC) contains general building design and construction requirements relating to fire and life safety, structural safety, and access compliance. CBC provisions provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all buildings and structures and certain equipment.

Within the 2022 California Building Code, Title 24, Part 2, section 701A.3 ("Application") requires that new buildings located in any Fire Hazard Severity Zone within SRAs, any local agency Very-High Fire Hazard Severity Zone VHFHSZ, or any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted, shall comply with all the requirements of Chapter 7A. Standards for new development, addressed in Chapter 7A, include conditions of ignition-resistant construction materials as well as specifications, including those pertaining to roofing, vents, exterior covering, exterior windows, skylight, doors, and decking. Additionally, Chapter 7A requires local buildings officials to certify that a new building complies with all applicable building standards. As part of final approval of building permits, properties with new development must demonstrate compliance with the

vegetation management requirements prescribed in California Fire Code Section 4906, including Public Resources Code 4291 or California Government Code Section 51182.

Exceptions to these standards apply to group U occupancy buildings (e.g., agricultural buildings, barns, sheds, private garages, greenhouses), certain conditions related to new accessory buildings and miscellaneous structure (per Section 710A of CBC), and additions to and remodels of buildings originally construction prior to July 1, 2008.

California Fire Code

The 2022 California Fire Code (CFC) (CCR, title 24, Part 9) establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare for the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of this code apply to construction, alternation, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of buildings or structures or any appurtenances connected or attached to such building structures throughout California.

Chapter 49 of the CFC, contains requirements to reduce the likelihood of life and property loss due to a wildfire through the use of performance and prescription requirement for development and construction in LRAs designated as Very High Fire Hazard Severity Zones and areas designated by the Board of Forestry and Fire Protection as SRAs. Strategies included in Chapter 49 of the CFC include: development of fire protection plans, development of landscape plans and long-term vegetation management, and creation and maintenance of defensible space to protect structures and subdivision.

Assembly Bill 747

AB 747 was enacted on October 19, 2019, and required jurisdictions, upon the next revision of a local hazard mitigation plan on or after January 1, 2022, or beginning on or before January 1, 2022, if a local jurisdiction has not adopted a local hazard mitigation plan, to review and update their General Plan Safety Elements to identify evacuation routes and their capacity, safety, and viability under a range of emergency scenarios. AB 747 also allows cities and counties with an adopted local hazard mitigation plan, emergency operations plan, or other document that fulfills commensurate goals and objectives to summarize and incorporate by reference that information in their Safety Element to comply with the bill.

State of California Emergency Plan

The State of California Emergency Plan (Emergency Plan) was prepared to describe how state government mobilizes and responds to emergencies and disasters in coordination with partners in all levels of government, the private sector, nonprofits, and community-based organizations. The Emergency Plan also works in conjunction with the California Emergency Services Act and outlines a robust program of emergency preparedness, response, recovery, and mitigation for all hazards, both natural and human caused. All local governments with a certified disaster council are required to develop their own emergency operations plan for their jurisdiction that meets state and federal requirements. Local emergency operation plans contain specific emergency planning considerations, such as evacuation and transportation, sheltering, hazard specific planning, regional planning, public-private partnerships, and recovery planning (Cal OES 2017). The current version of the plan was adopted on October 1, 2017.

The Office of Emergency Services coordinates the responses of other agencies, including EPA, California Highway Patrol, Regional Water Quality Control Boards, Air Quality Management Districts, and county disaster response offices.

Standardized Emergency Management System Chapter 2, Division 2, Title 19 of the California Code of Regulations

The Standardized Emergency Management System (SEMS) is intended to standardize responses to emergencies involving multiple jurisdictions or multiple agencies. SEMS requires that emergency response agencies use basic principles and components of emergency management, multiagency or interagency coordination, the operational area concept, and established mutual aid systems. Local government must use SEMS to be eligible for state funding of response-related personnel costs.

Worker Protection from Wildfire Smoke

Worker protection from wildfire smoke, addressed in CCR, Title 8, Section 5141.1, applies to most outdoor workplaces where the current Air Quality Index (current AQI) for airborne particulate matter 2.5 micrometers or smaller (PM_{2.5}) is 151 or greater, and where employers should reasonably anticipate that employees could be exposed to wildfire smoke. Employers with workplaces and operations must comply with the full standard when both of the following conditions apply:

- ▶ The current AQI for PM_{2.5} is 151 or greater, regardless of the AQI for other pollutants
- ▶ The employer should reasonably anticipate that employees may be exposed to wildfire smoke

As required under these regulations, employers are required to do the following to protect workers from wildfire smoke:

1. **Identification of Harmful Exposures (subsection c)** – For worksites covered by the regulation, employers (with certain exceptions) must determine employee exposure to PM_{2.5} at the start of each shift and periodically thereafter, as needed.
2. **Communication (subsection d)** – Employers must implement a system for communicating wildfire smoke hazards in a language and manner readily understandable by employees.
3. **Training and instruction information (subsection e and Appendix B)** – For worksites covered by the regulation, employers must provide effective training that includes at least the information contained in Appendix B.
4. **Control of harmful exposures to employees (subsection f)** – With certain exceptions, employers must reduce workers' exposure to wildfire smoke in the following ways:
 - ▶ If feasible, by providing an enclosed location with filtered air so that employee exposure to PM_{2.5} is less than a current AQI of 151, or to the extent feasible.
 - ▶ If that is not feasible or adequate, by relocating to another outdoor location where the current AQI for PM_{2.5} is lower, changing work schedules, reducing work intensity, or providing more rest periods.
 - ▶ With respiratory protective equipment if employers cannot reduce workers' exposure to PM_{2.5} to a current AQI of less than 151.
 - Where the current AQI for PM_{2.5} is from 151 to 500, employers must provide a sufficient number of NIOSH-approved particulate respirators, such as N95 masks, to all employees for voluntary use, and training on the regulation, the health effects of wildfire smoke, and the safe use and maintenance of respirators.
 - Where the current AQI for PM_{2.5} is higher than 500, the employer must provide and require employees to use NIOSH-approved particulate respirators that will reduce employee exposure to PM_{2.5} to an equivalent of an AQI less than 151.

Employers with workplaces and operations in any of the following conditions are exempt from complying with **section 5141.1**:

- ▶ Enclosed buildings or structures in which the air is filtered by a mechanical ventilation system and the employer ensures that windows, doors, bays and other openings are kept closed, except when it is necessary to open doors to enter or exit.
- ▶ Enclosed vehicles in which the air is filtered by a cabin air filter and the employer ensures that windows, doors and other openings are kept closed, except when it is necessary to open doors to enter or exit the vehicle.
- ▶ The employer demonstrates that the concentration of PM_{2.5} in the air does not exceed a concentration that corresponds to a current AQI of 151 or greater by measuring PM_{2.5} levels at the worksite in accordance with Appendix A.
- ▶ Employees exposed to a current AQI for PM_{2.5} of 151 or greater for a total of one hour or less during a shift.
- ▶ Firefighters engaged in wildland firefighting.

Cannabis State Regulations

Permitting of commercial cannabis operations (medical and adult use) is regulated by the California Department of Cannabis Control (DCC) under CCR Title 4, Division 19.

CCR, Title 4, Division 19 includes the following requirements regarding public services for commercial cannabis uses.

- ▶ Section 15011: Additional Information
 - (a) A commercial cannabis business applying for a license to cultivate cannabis shall provide the following information:
 - (10) An attestation that the local fire department has been notified of the cultivation site if the application is for an indoor license type.
- ▶ Section 17202.1: General Requirements for Extraction and Post-Extraction Processing
 - (a) A licensed manufacturer that uses a volatile solvent, a flammable liquid, or a solvent that creates an asphyxiant gas shall ensure that the solvent is used in accordance with the requirements of:
 - (1) Chapter 39 of the California Fire Code;
 - (2) Title 8, California Code of Regulations, sections 5416-5420, which includes ensuring adequate ventilation and controlling sources of ignition;
 - (3) All Division of Occupational Safety and Health (Cal/OSHA) regulations related to the processing, handling, and storage of the applicable solvent; and
 - (4) All fire, safety, and building code requirements related to the processing, handling, and storage of the applicable solvent or gas.
 - (b) No volatile solvent extraction or post-extraction processing operations or other closed-loop system operations shall occur in an area zoned as residential.
- ▶ Section 17205: Additional Requirements for Ethanol Operations - A licensed manufacturer that uses ethanol in manufacturing operations for extractions or post-extraction processing shall receive approval for the facility and equipment from the local fire code official prior to commencing operations, if required by local ordinance.

LOCAL

Sonoma County General Plan

Circulation and Transit Element

The Sonoma County General Plan Circulation and Transit Element includes the following policies that address emergency access and may apply to the project:

For Urban and Rural Collector Roads:

- ▶ **Policy CT-4i (2):** Design traffic calming improvements to accommodate local circulation, to accommodate emergency vehicles, to reduce speeds, to promote the safety of pedestrian and bicycle traffic, and to discourage truck traffic and through traffic, particularly during peak periods.

For Local Roads:

- ▶ **Policy CT-4j (1):** Design local roads for reasonable access by emergency and service vehicles.
- ▶ **Policy CT-4j (2):** Design traffic calming improvements to accommodate local circulation, to accommodate emergency vehicles where possible, to reduce speeds, to promote the safety of pedestrian and bicycle traffic, and to discourage truck traffic and through traffic, particularly during peak periods.

Land Use Element

The Sonoma County General Plan Land Use Element includes the following policies that address environmental suitability and wildfire hazards and may apply to the project:

- ▶ **Policy LU-1l:** Pursue the merger of substandard lots consistent with the limits of State law. Prioritize the establishment of merger requirements of parcels that do not meet minimum development standards for sewage disposal, domestic water supply, legal access, slope stability and development within the 100-year flood zone or are located in marginal groundwater availability areas, designated or restricted open space lands, agriculture preserve lands, timberlands, mineral resource areas, environmentally threatened areas, and the Coastal Zone.
- ▶ **Policy LU-6b:** Site specific environmental factors shall be considered in making decisions on development permits. Site specific factors which create health or safety problems or result in unmitigated significant environmental impacts may at times reduce densities that are allowed by the Land Use Map and zoning.
- ▶ **Policy LU-7d:** Avoid new commercial, industrial, and residential land use designations in areas subject to "high" or "very high" fire hazards, as identified in the Public Safety Element, unless the combination of fuel load, access, water supply, and other project design measures will reduce the potential fire related impacts of new development to insignificant levels.

Public Facilities and Services Element

The Sonoma County General Plan Public Facilities and Services Element includes the following policy that addresses wildfire hazards as they relate to public utilities and may apply to the project:¹

- ▶ **Policy PF-2o:** The Department of Fire Service shall review and comment on any proposed changes in the boundaries of areas of State and local responsibility for wildland fire protection and the service boundaries of local fire districts and volunteer companies.

Public Safety Element

The Sonoma County General Plan Public Safety Element includes policies that address wildfire hazards. These policies that may apply to the project are listed below:

- ▶ **Policy PS-3a:** Continue to use available information on wildland and structural fire hazards.
- ▶ **Policy PS-3b:** Consider the severity of natural fire hazards, potential damage from wildland and structural fires, adequacy of fire protection and mitigation measures consistent with the Public Safety Element in the review of projects.
- ▶ **Policy PS-3c:** Continue to adopt revisions to the Uniform Fire and Building Codes and other standards which address fire safety as they are approved by inspection organizations and the State of California. Review, revise, and/or adopt existing or new local codes, ordinances, and Fire Safe Standards to reflect contemporary fire safe practices.
- ▶ **Policy PS-3d:** Refer projects and code revisions to the County Department of Fire and Emergency Services and responsible fire protection agencies for their review and comment.
- ▶ **Policy PS-3e:** The County Department of Fire and Emergency Services shall offer assistance to local agencies in adoption and enforcement of fire safety regulations and shall work with local agencies to develop proposed improvements to County codes and standards.
- ▶ **Policy PS-3f:** Encourage strong enforcement of State requirements for fire safety by the California Department of Forestry and Fire Protection.
- ▶ **Policy PS-3g:** Encourage continued operation of California Department of Forestry and Fire Protection (CAL FIRE) programs for fuel breaks, brush management, controlled burning, revegetation, and fire roads.

¹ Future cannabis growing sites may require expanded utilities, hence this policy's inclusion.

- ▶ **Policy PS-3h:** Develop a program to improve and standardize the County street addressing system in order to reduce emergency service response times. Where applicable, coordinate the program with the cities.
- ▶ **Policy PS-3i:** Encourage and promote fire safe practices and the distribution of fire safe educational materials to the general public, permit applicants, and local planning agencies.
- ▶ **Policy PS-3j:** Provide fire hazard information signs in Very High or High Fire Hazard Severity Zones in a manner consistent with Area Plans and that does not degrade Scenic Corridors and scenic views.
- ▶ **Policy PS-3k:** Work with the California Department of Forestry and Fire Protection (CAL FIRE) to identify areas of high fire fuel loads and take advantage of opportunities to reduce those fuel loads, particularly in Very High or High Fire Hazard Severity Zones.
- ▶ **Policy PS-3l:** Require automatic fire sprinkler systems or other on-site fire detection and suppression systems in all new residential and commercial structures, with exceptions for detached utility buildings, garages, and agricultural exempt buildings.
- ▶ **Policy PS-3m:** Consider additional impact or mitigation fees, or a benefit assessment, to offset the impact of new development on fire services.

Sonoma County Code

Chapters 13 and 13A: Sonoma County Fire Safety Ordinance

Chapter 13 of the County Code contains the specific County fire safety ordinance requirements for construction standards, vegetation management, and other requirements for wildland urban interface (WUI) fire areas. Article IV, Section 13-17 outlines the California Fire Code, as adopted with local amendments, and Article V, Sections 13-21 through 13-63 establish minimum fire safe standards for development within the unincorporated County that is in the LRA outside the VHFHSZ.

Chapter 13A of the County Code contains requirements for property owners regarding the removal of hazardous vegetation and combustible material situated in the unincorporated areas of the County to reduce the potential for fire and to promote the public health, safety and welfare of the community. The requirements apply to improved parcels in the LRA and unimproved parcels in both the SRA and LRA. For improved parcels, there must be 30 feet of defensible space around all structures or up to 100 feet depending on property slope, fuel type, or fuel load. Vegetation management is further required for road frontages, low tree limbs, and dead or dying vegetation. Agricultural and cannabis operations are exempt from the requirements, including cultivation, agricultural buildings, and cultivation buildings approved by the fire code official. Other habitable structures that may support accessory uses, such as processing, manufacturing, retail, and events remain subject to defensible space and vegetation management requirements.

Sonoma County Community Wildfire Protection Plan

The purpose of the Sonoma County Community Wildfire Protection Plan (CWPP) is to enhance efforts to protect communities, watersheds, and other at-risk lands from catastrophic wildfire events. The CWPP is not a regulatory document but provides wildfire hazard and risk assessments, community descriptions, options for addressing issues of structural vulnerability to wildfire (home hardening), and a prioritized list of projects that, if implemented, can serve to reduce wildfire hazards (Sonoma County 2023).

Sonoma County Multi-Jurisdictional Hazard Mitigation Plan

The Sonoma County Multi-Jurisdictional Hazard Mitigation Plan incorporates wildfire hazard mitigation principles and practices into the routine government activities and functions of the County. The plan recommends specific actions that are designed to protect people and community assets from losses to hazards that pose the greatest risk. Some mitigation programs and activities identified in the plan include creating and maintaining defensible space around structures, using fire-resistant building materials, and clearing potential fuels on property, such as dry underbrush and diseased trees (Sonoma County 2021).

Sonoma County Emergency Operations Plan

The County's Emergency Operations Plan addresses the planned response to extraordinary emergency situations associated with large-scale disasters and includes all cities, special districts, and unincorporated areas of the County. The plan aims to provide effective safety measures and reduce property loss and damage to the environment through management and coordination of emergency response operations, establishing priorities, and spreading information to the public (Sonoma County 2022).

Sonoma County Operational Area Emergency Operations Plan Annex: Evacuation

The Sonoma County Operational Area Emergency Operations Plan Annex: Evacuation outlines the strategies, procedures, and organizational structures to be used in managing coordinated, large-scale evacuations in Sonoma County. This document incorporates national best practices and lessons learned locally. The document was developed using the whole-community approach to emergency planning, and contains the basic concepts and authorities outlined in the Sonoma County EOP.

Sonoma County Operational Area Burn Scar Contingency Plan

The Sonoma County Operational Area Burn Scar Contingency Plan establishes a uniform plan for a joint response by local governments, special districts, and allied agencies in the Sonoma County Operational Area to the threat of or actual soil movement in areas burned in recent wildfires. This is a supporting plan to the Sonoma County Operational Area Emergency Operations Plan (Sonoma County 2020).

As described in the plan, in the event a debris flow, flood, or landslide produces substantial damage or threatens lives and property, the Operational Area will execute response efforts as per the Sonoma County Operational Area Emergency Operations Plan (EOP), and the Sonoma County Department of Transportation & Public Works Debris Plan. Response activities may include:

- ▶ Op Area EOC activation.
- ▶ Deployment of resources to the field to gather real-time observations, as appropriate.
- ▶ Establishment of a Unified Command at an Incident Command Post.
- ▶ Issuance of evacuation warnings or orders. (General messages will be sent countywide periodically while evacuation messages will be more focused to the impacted areas).
- ▶ Door-to-door notifications by public safety staff may occur inside evacuation areas, as needed/possible.
- ▶ If available, permanent and temporary message boards (trap-lines/a-frames and electronic) will be updated with current safety message.

Sonoma County Fire Prevention Division

The Fire Prevention and Hazardous Materials Division of Permit Sonoma is responsible for programs, procedures, and projects for preventing the outbreak of fires within the unincorporated areas of the County. The goal of this Division is to minimize the danger to people and damage to property caused by fires that do occur. In addition to code adherence, Fire Prevention Division staff are responsible for hazardous materials incident response, fire investigations, emergency scene management support at emergencies, review of new development permit applications, and inspection authority under the State Minimum Fire Safe Regulations.

Sonoma County Operational Area Contingency Plan Wildfire Burn Scar Debris Flow Response

The Sonoma County Operational Area Contingency Plan Wildfire Burn Scar Debris Flow Response establishes a uniform plan for a joint response by local governments, special districts, and allied agencies in the Sonoma County Operational Area to the threat of or actual soil movement in areas burned in recent wildfires. The contingency plan provide guidance on threat assessment, notifications and warnings, and roles and responsibility for how to best execute response efforts as per the Sonoma County Operational Area Emergency Operations Plan (Sonoma County 2020).

Sonoma County Department of Emergency Management

The Sonoma County Department of Emergency Management is responsible for the mitigation, preparedness, planning, coordination of response, and recovery activities related to County emergencies and disasters. The department serves as the primary coordination point for emergency management's activities affecting more than one jurisdiction, and the unincorporated areas of the County. The department became an independent County department in July 2019.

3.17.2 Environmental Setting

WILDFIRE BEHAVIOR AND CONTROLLING FACTORS

A wildfire is an uncontrolled fire in an area of combustible vegetation, such as grassland, woodlands, brushland, scrubland, peatland, or other wooded areas, that acts as a source of fuel or combustible material. The susceptibility of an area to wildfires depends on multiple factors, including slope and topography, vegetation type and condition, human influences (such as land use and presence of structures), and weather and atmospheric conditions. Primarily, wildfire behavior is based on three factors: topography, weather, and fuels (Sonoma County 2021). Fires over the last decades increasingly affect urban communities well removed from wildland areas. "Wildfire" impacts can go far beyond natural areas.

The fire regime in any area is defined by several factors, including fire frequency, intensity, severity, and area burned. Each of these are important for an understanding of how the variables that affect fire behavior produce fire risks. Fire frequency refers to the number of fires that occur in a given area over a given period of time; fire intensity refers to the speed at which fire travels and the heat that it produces; fire severity involves the extent to which ecosystems and existing conditions are affected or changed by a fire; and area burned is the size of the area burned by wildfire.

Human Influence on Wildfire

Human influence on wildfire is broad. It includes direct influences, such as the ignition and suppression of fires, and indirect influence through climate change and alterations in land use patterns that support modified vegetative regimes and increased development in areas at risk to wildfire (refer to "Climate Change and Wildfire" below for more discussion on the indirect effect of climate change on wildfire).

Anthropogenic influence more directly controls fire frequency (i.e., number of ignitions) because humans are responsible for most ignitions. Once started, fires spread, and fire behavior becomes a function of fuel characteristics, terrain, and weather conditions (Syphard et al. 2008). Human-induced wildfire ignitions can change fire regime characteristics in two ways: (1) changing the distribution and density of ignitions and (2) changing the seasonality of burning activity (Balch et al. 2017). A study of wildfires across the United States for the 20-year period between 1992 and 2012 showed that 82 percent of wildfires during that period were started by human causes (Balch et al. 2017), whereas in California specifically, humans account for starting approximately 95 percent of wildfires (Syphard et al. 2007; Syphard and Keeley 2015). In California in 2022, only 3 percent of fires were caused by natural causes (lightning); all other fires were caused by humans in some capacity (CAL FIRE 2022).

Human ignitions include a multitude of sources, including escapes from debris and brush-clearing fires, electrical equipment malfunctions, campfire escapes, smoking, fire play (e.g., fireworks), vehicles, and arson. Consequently, areas near human development, especially in areas at risk to wildfire or in areas near campgrounds and roads, generate fires at a more frequent rate than very remote or urban areas (Syphard et al. 2007; Mann et al. 2016; Balch et al. 2017). Circumstances in California have made the environment particularly vulnerable to human-caused fires with expansion of the building in areas at risk to wildfire, and introduction of more people in areas susceptible to wildfire at all times of the year. A 2018 study indicates that the number of houses considered to be areas at risk to wildfire increased nationwide by 41 percent between 1990 and 2010 (Radeloff et al. 2018).

Climate Change and Wildfire

Wildfires are a significant threat in California, particularly in recent years as the landscape responds to climate change and decades of fire suppression. It is estimated that since 1985, more than 50 percent of the increase in the area burned by wildfire in the western United States is attributable to anthropogenic climate change (Abatzoglou and Williams 2016). As climate change persists, it is anticipated to produce increasing temperatures and drier conditions that will generate abundant dry fuels. All wildfires (those initiated by both natural and human-made sources) tend to be larger under drier atmospheric conditions and when fed by drier fuel sources (Balch et al. 2017).

In addition, climate change has led to exacerbation of wildfire conditions during a longer period of the year because the spring season has warmed—driving an earlier spring snowmelt—and winter precipitation has overall decreased (Westerling et al. 2006). Furthermore, wildfire activity is closely related to temperature and drought conditions, and in recent decades, increasing drought frequency and warming temperatures have led to an increase in wildfire activity (Westerling et al. 2006; Schoennagel et al. 2017). In particular, the western United States, including California, has seen increases in wildfire activity in terms of area burned, number of large fires, and fire season length (Westerling et al. 2006; Abatzoglou and Williams 2016). These conditions have resulted in the largest, most destructive, and deadliest wildfires on record in California history. The largest fires include the August Complex Fire in August 2020 (1,032,648 acres burned), Dixie Fire in July 2021 (963,309 acres), and Mendocino Complex Fire in July 2018 (459,153 acres). The November 2018 Camp Fire resulted in loss of 18,804 structures (Sonoma County 2023).

In addition to the size and destructiveness of the largest fires, the total number and total acreage of wildfires are also important. While the highly destructive fires attract the most attention in press coverage and public awareness, from the perspective of wildfire risk reduction, it is also critical to understand and address the more frequent and more widespread smaller fires. Total burned acreage in California can be highly variable. As of August 20, 2024, the total number of wildland fires in 2024 is 5,342 with 827,321 acres burned compared to 4,350 wildland fires and 116,009 acres burned in 2023. The 5-year average is 5,061 wildland fires and 367,583 acres (CAL FIRE 2024a).

Climate change will continue to produce conditions that facilitate a longer fire season, which, when coupled with human-caused changes in the seasonality of ignition sources, will produce more, longer, and bigger fires during more times of the year. According to California's Fourth Climate Change Assessment, Statewide Summary Report, if greenhouse gas (GHG) emissions continue to rise, the frequency of extreme wildfires burning over 25,000 acres could increase by 50 percent by 2100, and the average area burned statewide could increase by 77 percent by the end of the century (OPR et al. 2018). Refer to Section 3.8, "Greenhouse Gas Emissions," for additional discussion of climate change trends and the effects of climate change on the environment.

Factors Affecting Fire Behavior

Fire behavior may be affected by many factors. The primary factors in Sonoma County that affect wildfire include fuel, weather, and topography. These factors are summarized below.

Fuel

Fuel may include living and dead vegetation on the ground, along the surface as brush and small trees, and above the ground in tree canopies. Lighter fuels such as grasses, leaves and needles quickly expel moisture and burn rapidly, while heavier fuels such as tree branches, logs and trunks take longer to warm and ignite. Trees killed or defoliated by forest insects and diseases can be more susceptible to wildfire. Structures in the human-built environment also represent a fuel component (Sonoma County 2021).

Weather

Relevant weather conditions include temperature, relative humidity, wind speed and direction, cloud cover, precipitation amount and duration, and the stability of the atmosphere. When the temperature is high, relative humidity is low, wind speed is increasing and coming from the east (offshore flow), and there has been little or no precipitation so vegetation is dry, conditions are very favorable for extensive and severe wildfires. These conditions occur more frequently inland where temperatures are higher and fog is less prevalent (Sonoma County 2021).

Topography

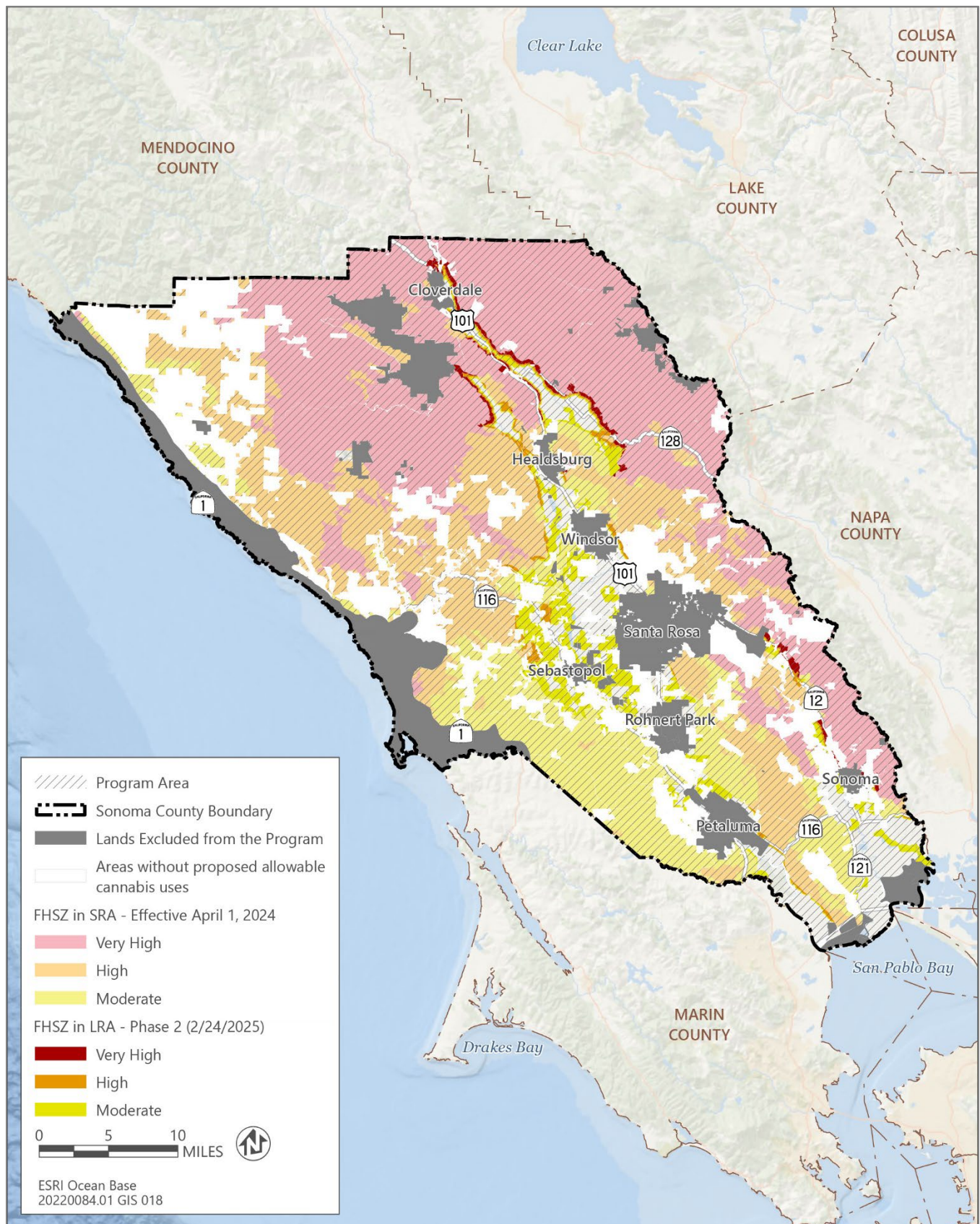
Topography includes slope and elevation. The topography of a region influences the amount of moisture retained in fuels; the impact of weather conditions such as temperature and wind; potential barriers to fire spread, such as roads, vineyards, and lakes; and elevation and slope of landforms (fire spreads more easily uphill than downhill). In steep terrain, common geographic features such as drainages, gulches and canyons can funnel air to act as chimneys, pulling hot air, gases, and embers ahead or outside of the main fire. The direction that a slope faces also has a major influence on fire behavior. South-facing slopes receive heating and drying solar radiation from early in the morning until sunset, whereas north-facing slopes only receive solar radiation during a short period of the day when the sun is high in the sky (Sonoma County 2021).

WILDFIRE CONDITIONS IN THE UNINCORPORATED COUNTY

CAL FIRE designates Fire Hazard Severity Zones (FHSZ) throughout the state, which are mapped as part of its FRAP. These areas are mapped based on fuels, terrain, weather, and other relevant factors, and include several classifications including Moderate, High, and Very High. CAL FIRE released updated maps of FHSZs within an SRA for public comment in 2022. These maps show an overall reduction in lands within High FHSZs and an increase in lands within the Very High FHSZ designation in the unincorporated County. These designations have been adopted and became effective on April 1, 2024. The majority of the unincorporated County is within an SRA and is classified as High and Very High FHSZs (CAL FIRE 2022). Moderate, High, and Very High FHSZs are described below and depicted within Sonoma County on Figure 3.17-1. Within the County, FHSZs are generally rated high or very high along mountain ranges where denser vegetation provides fuels.

- ▶ The **Moderate** FHSZ includes: a) wildland areas of low fire frequency supporting modest fire behavior; and b) developed/urbanized areas with a very high density of non-burnable surfaces and low vegetation cover that is highly fragmented and low in flammability.
- ▶ The **High** FHSZ includes: a) wildland areas supporting medium to high fire behavior and roughly average burn probabilities; and b) developed/urbanized areas with more limited non-burnable surfaces and moderate vegetation cover.
- ▶ The **Very High** FHSZ includes: a) wildland areas supporting high to extreme fire behavior resulting from well-developed surface fuels and forests where fire in tree crowns (portions of trees above the trunks) is likely; and b) developed/urbanized areas with high vegetation density and fuel continuity, allowing flame to spread over much of the area with little impediment from non-burnable surfaces. Additional site elements include steep and mixed topography and seasonally extreme conditions of strong winds and dry fuel moistures. The highest fire hazard is found in mountainous areas with dry summers, plenty of fuel, and steep slopes.

There are LRAs established within the Cities of Santa Rosa and Cloverdale. Draft LRA recommendations (i.e. not yet adopted) were released in April 2025 (see Figure 3.17-1).



Source: Data downloaded from CAL FIRE in 2024; adapted by Ascent in 2024.

Figure 3.17-1 Fire Hazard Severity Zones

The unincorporated County also includes WUI areas, which are areas where development is located close to open space or lands with native vegetation and habitat prone to brush fires. The WUI creates an environment in which fire can move readily between structural and vegetation fuels. Once homes are built within (or adjacent to) natural habitat settings, it increases the complexity of fighting wildland fires because the goal of extinguishing the wildland fire is often superseded by protecting human life and private property.

WUI communities are created when the following conditions occur: (1) structures are built at densities greater than one unit per 40 acres, (2) the percentage of native vegetation is less than 50 percent, (3) the area is more than 75 percent vegetated, and (4) the area is within 1.5 miles of an area greater than a census block (1,325 acres). The 1.5-mile buffer distance was adopted according to the 2001 California Fire Alliance definition of vicinity, which is roughly the distance that pieces of burning wood can be carried from wildland fire to the roof of a structure (Stewart et al. 2007).

In addition, the California Public Utilities Commission (CPUC) maintains a High Fire Threat District (HFTD) Map (Figure 3.17-2). The CPUC HFTD Map (CPUC 2018) includes three fire-threat areas:

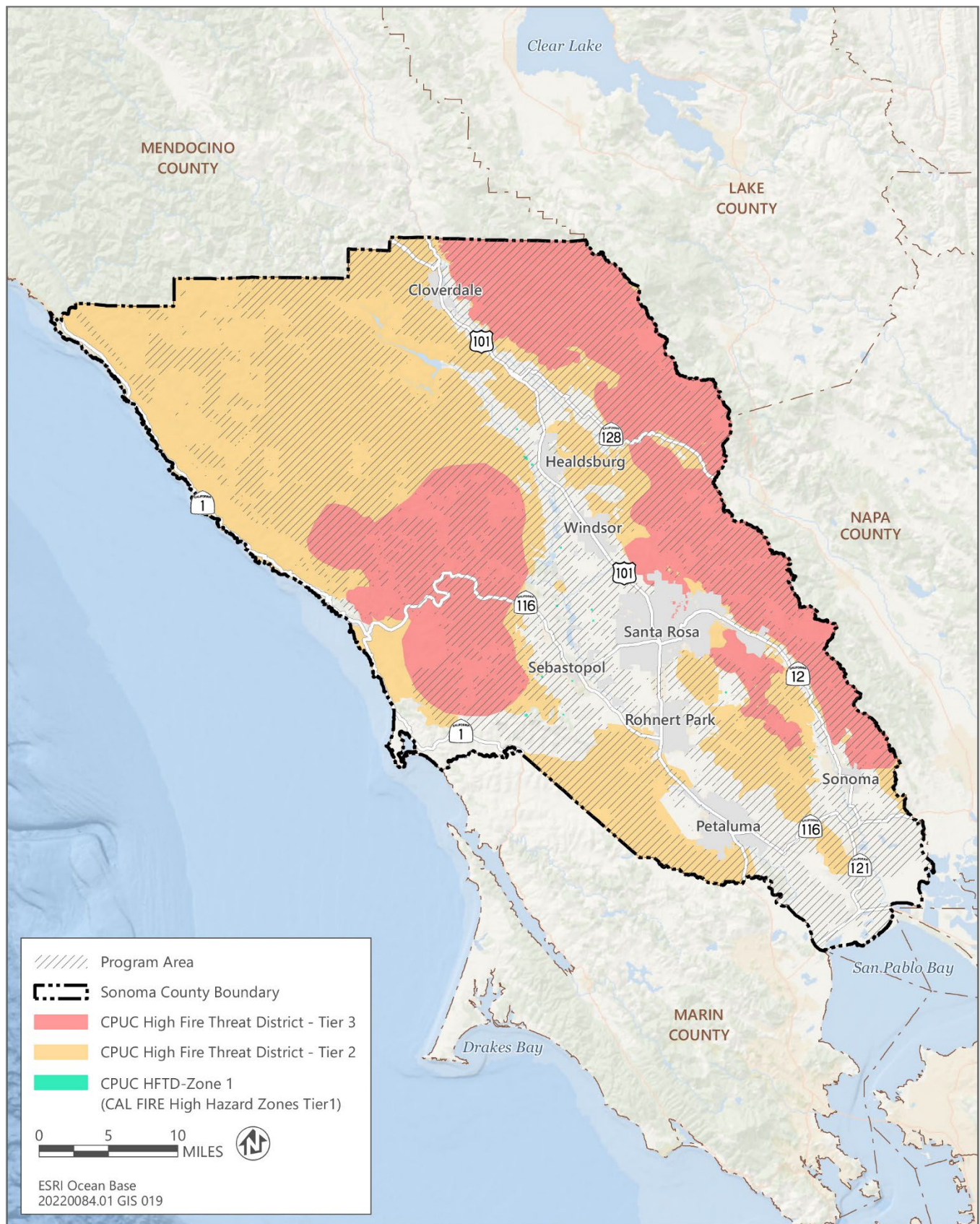
- ▶ Tier 3 consists of areas on the CPUC Fire-Threat Map where there is an extreme risk from wildfires associated with overhead utility power lines or overhead utility power-line facilities also supporting communication facilities.
- ▶ Tier 2 consists of areas on the CPUC Fire-Threat Map where there is an elevated risk from wildfires associated with overhead utility power lines or overhead utility power-line facilities also supporting communication facilities.
- ▶ Zone 1 consists of Tier 1 High-Hazard Zones (HHZs) from the US Forest Service and CAL FIRE joint map of Tree Mortality HHZs. Tier 1 HHZs are in direct proximity to communities, roads, and utility lines, and are a direct threat to public safety (Note that these areas are very small, but visible in areas such as west of Santa Rosa and south of Sebastopol).

WILDFIRE HISTORY IN SONOMA COUNTY

Wildfire hazard in Sonoma County is substantial. The following factors affect this risk (Sonoma County 2024.):

- ▶ Homes built without fire-resistant construction materials and practices.
- ▶ Inadequate defensible space management.
- ▶ Overgrown, dense, or dead or dying vegetation within and near residential areas.
- ▶ Vegetative fuels, especially in areas that have burned.
- ▶ Steep topography, much of the County's fire history is in hilly areas.
- ▶ Dry and windy fall weather. Although lightning has not been a significant cause of wildland fires in the past, the 2020 lightning siege may indicate that the risk of lightning-caused fires is increasing due to changing weather patterns.

Wildland fires, particularly WUI fires, have historically occurred in Sonoma County. As development and human activity in Sonoma County increased over the decades, the incidence of human-caused fires increased. From 2017 through 2020, a series of large, damaging wildfires directly affected Sonoma County. These fires burned over 300,000 acres in Sonoma County, destroyed nearly 7,000 structures, and killed 24 people. Wildfire events have become more common during the summer and fall, bringing periods of smoke, red-flag warnings, planned power shutdowns, and evacuations. Large destructive fires have occurred in the county, most significantly in 1923, 1954, 1964, 1978, and 2017, 2019, and 2020 (Sonoma County 2021).



Source: Data downloaded from CPUC in 2023; adapted by Ascent in 2024.

Figure 3.17-2 CPUC High Fire Threat Districts

In 1964, the Hanley and Nuns Canyon fires burned 63,100 acres and 135 structures near the cities of Santa Rosa and Sonoma. Since then, there has been substantial growth in rural WUI areas in the county, vastly increasing risks to life and property. The conversion of properties from agriculture, timber production, and grazing uses to residential use tends to reduce the extent to which lands are managed. Without vegetation management, such as that required for agriculture, grazing, or timber production, wildland vegetation may grow unchecked by human activity or fire, substantially increasing potential for destructive wildfire (Sonoma County 2021).

Table 3.17-1 provides an overview of large fires (burn areas greater than 1,000 acres) that occurred over the past 10 years. Notably, in 2017, the Sonoma Complex fires (the Tubbs, Nuns, Adobe, and Pocket and Young fires) killed 24 residents and burned 110,716 acres (Sonoma County 2021).

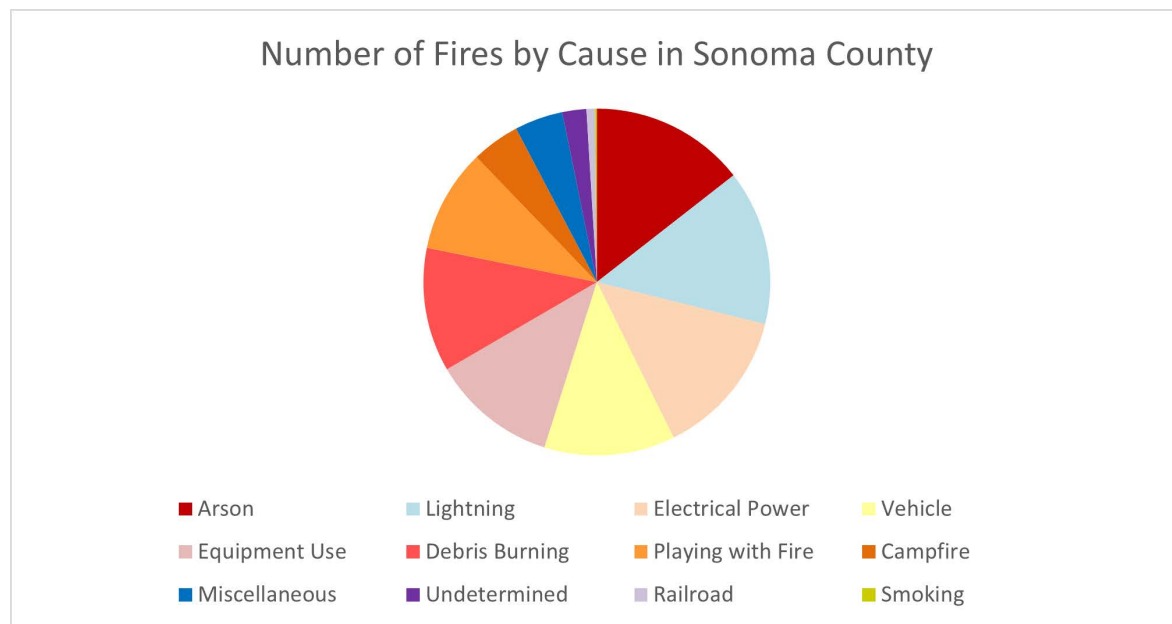
Table 3.17-1 Large Fires in Sonoma County 2013–2024

Fire Name	Year	County	Acre Burned
McCabe Fire	2013	Sonoma	3,505
Valley Fire ¹	2015	Sonoma	76,085
Sawmill Fire	2016	Sonoma	1,547
Tubbs Fire (Central LNU Complex)	2017	Napa, Sonoma	36,807
Nuns, Adobe, Norrbom, Pressley, Partrick Fires, Oakmont (Central LNU Complex)	2017	Napa, Sonoma	44,573
37 Fire	2017	Sonoma	1,660
Pocket Fire (Central LNU Complex)	2017	Sonoma	17,357
Kincade Fire	2019	Sonoma	77,758
LNU Lightning Complex ¹	2020	Napa, Solano, Lake, Sonoma, Yolo	363,220
Glass Fire ¹	2020	Napa, Sonoma	67,484
Point Fire	2024	Sonoma	1,207

Notes: ¹ primarily burned areas outside of Sonoma County.

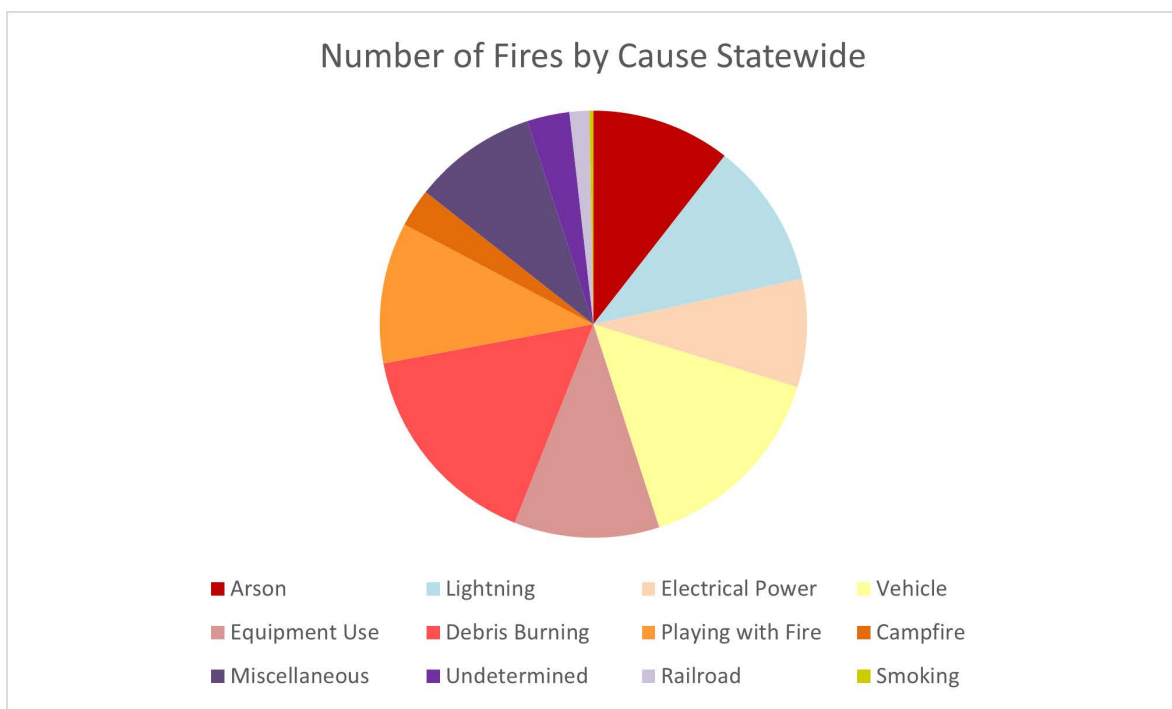
Source: CAL FIRE 2024b; Sonoma County 2023.

When considered over the period of 2019 through 2023, the majority of the fires within Sonoma County were started by arsons, lightning, and electrical power system failures, while the main causes of fires statewide were debris burning, vehicular fires, equipment use failures, and lightning (Table 3.17-2, Figures 3.17-3 and 3.17-4). Due to heavy fuel loading, when fires start during high wind conditions, rapid rates of wildfire spread can result (Sonoma County 2021). Table 3.17-2 presents the predominant causes of fire changes from year to year in the SRA within both Sonoma County and the state.



Source: CAL FIRE 2023, 2022, 2021, 2020, 2019.

Figure 3.17-3 Sonoma County Causes of Fire in SRA



Source: CAL FIRE 2023, 2022, 2021, 2020, 2019.

Figure 3.17-4 Statewide Causes of Fire in SRA

Table 3.17-2 Causes of Fire in Sonoma County and the State within the SRA

Year	Area	Total	Arson	Lightning	Electrical Power	Vehicle	Equipment Use	Debris Burning	Playing with Fire	Campfire	Miscellaneous	Undetermined	Railroad	Smoking
2023	Sonoma County	102	16	1	12	17	10	16	0	1	17	11	0	1
	Statewide	3,236	359	197	176	310	348	591	32	47	819	328	2	27
2022	Sonoma County	143	25	26	14	8	23	19	25	0	1	0	2	0
	Statewide	3,333	358	350	228	435	370	488	824	86	89	44	55	6
2021	Sonoma County	159	33	29	20	17	15	16	9	13	4	3	0	0
	Statewide	3,054	386	419	284	515	329	476	269	104	152	60	54	6
2020	Sonoma County	129	11	17	22	22	14	13	13	10	5	0	2	0
	Statewide	3,501	320	449	335	604	381	579	326	110	264	47	80	6
2019	Sonoma County	90	5	17	18	12	11	8	13	4	1	0	1	0
	Statewide	3,086	284	376	304	607	354	468	280	122	195	41	52	3
Total 2019 - 2023	Sonoma County	623	90	90	86	76	73	72	60	28	28	14	5	1
			14.4%	14.4%	13.8%	12.2%	11.7%	11.6%	9.6%	4.5%	4.5%	2.2%	0.8%	0.2%
	Statewide	16,210	1,707	1,791	1,327	2,471	1,782	2,602	1,731	469	1,519	520	243	48
			10.5%	11.0%	8.2%	15.2%	11.0%	16.1%	10.7%	2.9%	9.4%	3.2%	1.5%	0.3%

Source: CAL FIRE 2023, 2022, 2021, 2020, 2019.

POST-FIRE CONDITIONS

The severity of several fires, including the Tubbs, Nuns, Kincade, Glass, and Walbridge fires, left many areas vulnerable to mudslides, debris flow, soil instability, and other post-fire flooding impacts that can occur during and after precipitation or extreme weather events. Although the County has been spared from any major post-fire flooding events, ongoing monitoring and proactive planning remains an important component of their resilience activities (Community Wildfire Planning Center and OPR 2022).

Sonoma County's experiences with flood-after-fire (wildfires and post-fire flooding events) have prompted local agencies to work collaboratively with other partners across a broad spectrum of topics to recover from disasters and prepare for future ones fueled by ongoing and increasing climate change impacts. The County relies on plans, tools, and strategies to advance and align fire and flood resiliency policies and actions, increase data collection, and develop post-fire monitoring systems. In addition, the County has implemented a suite of public outreach activities to increase engagement with vulnerable populations, expand emergency notification systems, and create additional mechanisms to increase preparedness and resilience (Community Wildfire Planning Center and OPR 2022).

WILDFIRE PROTECTION AND RESPONSE

Wildfire protection and response in California is the responsibility of either the federal, state, or local government. On federally owned land, or federal responsibility areas, fire protection is provided by the federal government, often in partnership with local grants and contracts. In SRAs, CAL FIRE has a legal responsibility to provide fire protection. In Sonoma County, local fire protection is provided by Fire Protection Districts and County Service Areas in unincorporated areas and by city fire departments and joint powers agreements within city boundaries.

The County has engaged in significant evacuation planning that has greatly improved evacuation operations since recent major fires in 2017 (Tubbs Fire and Nuns Fire). Following these fires and the Kincade Fire in 2019, the County and other agencies took several actions to ensure more planned and orderly evacuation. This has included better readiness and coordination protocols, wildfire cameras to detect fires, and collaboration between the County and cities to finalize a map that divides each jurisdiction into formally defined, labeled tracts intended to expedite evacuation notices and public action in the event of wildfire or other emergencies. The use of evacuation zones, evacuations warnings, and direct alerts to the public have helped to ensure that evacuation routes are not overloaded and that the public is evacuated prior to a wildfire event reaching their zone. These efforts have proven successful in subsequent wildfire events, such as during the Glass Fire in 2020.

Additional discussion of the fire protection agencies serving the unincorporated County is provided in Section 3.13, "Public Services."

3.17.3 Impact Analysis and Mitigation Measures

This analysis programmatically evaluates the effect of cannabis operations countywide based on the information provided in Chapter 2, "Project Description," and Chapter 3, section, "Approach to the Environmental Analysis," of regarding assumptions for cannabis uses and activities. The EIR considers the types of impacts that could occur from a range of cannabis uses and activities (including accessory uses) associated with implementation of the Cannabis Program Update. Individual future licensed commercial cannabis facilities within the unincorporated area would be evaluated by the County to determine if they are within the scope of this EIR or if they would result in project-specific impacts in addition to what is concluded in this analysis.

METHODOLOGY

The impact analysis below evaluates whether adoption and implementation of the proposed Cannabis Program Update, including subsequent cannabis operations pursuant to the adopted Cannabis Program Update, could result in significant impacts related to wildfire in the County. The analysis focuses specifically on proposed allowable land

uses and typical cannabis facilities practices that could result in the increased risk of wildland fire, and addresses the environmental effects that could result from increased risk. The reader is referred to Chapter 2, "Project Description," for a description of the proposed regulation of commercial cannabis operations and the anticipated extent of new commercial cannabis operations under the Cannabis Program Update.

Table 3.17-3 provides an overview of the FHSZ designation within districts subject to the proposed Cannabis Program Update. Fire Hazard Severity Zone maps evaluate "hazard," not "risk," and are based on the physical conditions that create a likelihood and expected fire behavior over a 30- to 50-year period without considering mitigation measures, such as structure hardening, recent wildfire, and fuel reduction efforts. "Risk" is the potential damage a fire can do to the area under existing conditions, accounting for any modifications, such as fuel reduction projects, defensible space, and ignition-resistant building construction. The FHSZ designation addresses the existing conditions, such as fuel, slope, weather, fire history, and access to a fire department.

Table 3.17-3 Fire Hazard Severity Zone Area within the Program Area

	SRA Zones	SRA Total Acreage	SRA Very High	SRA High	SRA Moderate	SRA None	LRA
Allowed Cannabis Uses in Agricultural and Resource Districts							
Cultivation, wholesale nursery, accessory uses including cannabis events	RRD, LEA, LIA, DA	674,667	43%	26%	17%	0.1%	14%
Centralized processing	LEA, LIA, DA	290,444	21%	17%	30%	0.04%	33%
Allowed Cannabis Uses in Industrial Districts							
Indoor cultivation, wholesale nursery, testing laboratories, non-storefront retail, distribution, centralized processing, and manufacturing	MP, M1, M2, M3	1,918	1%	1%	3%	—	96%
Allowed Cannabis Uses in Commercial Districts							
Storefront retail	C1, C2, LC	836	0.1%	18%	19%	—	63%
Storefront retail, non-storefront retail, testing laboratories, distribution, centralized processing, and manufacturing	C3	88	—	—	2%	—	98%

Notes: RRD = Resources and Rural Development; LEA = Land Extensive Agriculture; LIA = Land Intensive Agriculture; DA = Diverse Agriculture; MP = Industrial Park; M1 = Limited Urban Industrial; M2 = Heavy Industrial; M3 = Limited Rural Industrial; C1 = Neighborhood Commercial; C2 = Retail and Business Service; LC = Limited Commercial; C3 = General Commercial.

Source: Compiled by Ascent in 2024.

Figure 3.17-5 depicts the location of the Program Area relative to the designated SRA and LRA overlaid with applicable zoning. Figure 3.17-6 depicts the location of the Program Area relative to the designated FHSZs overlaid with applicable zoning. The RRD zoning district is separated from LEA, LIA, and DA to distinguish where centralized processing would be allowed (i.e., within LEA, LIA, and DA, but not RRD).

In addition to FHSZ maps, it is helpful to also consider the CPUC Fire-Threat Map. These are areas where CPUC has defined existing extreme risk from wildfires associated with overhead utility power lines or overhead utility power-line facilities also supporting communication facilities. Table 3.17-4 provides an overview of the CPUC Fire-Threat designations within districts subject to the proposed Cannabis Program Update. Tier 3 areas are at extreme risk for wildfire, Tier 2 areas are at elevated risk for wildfire, and Zone 1 High Hazard Zones are areas with high numbers of dead and dying trees.

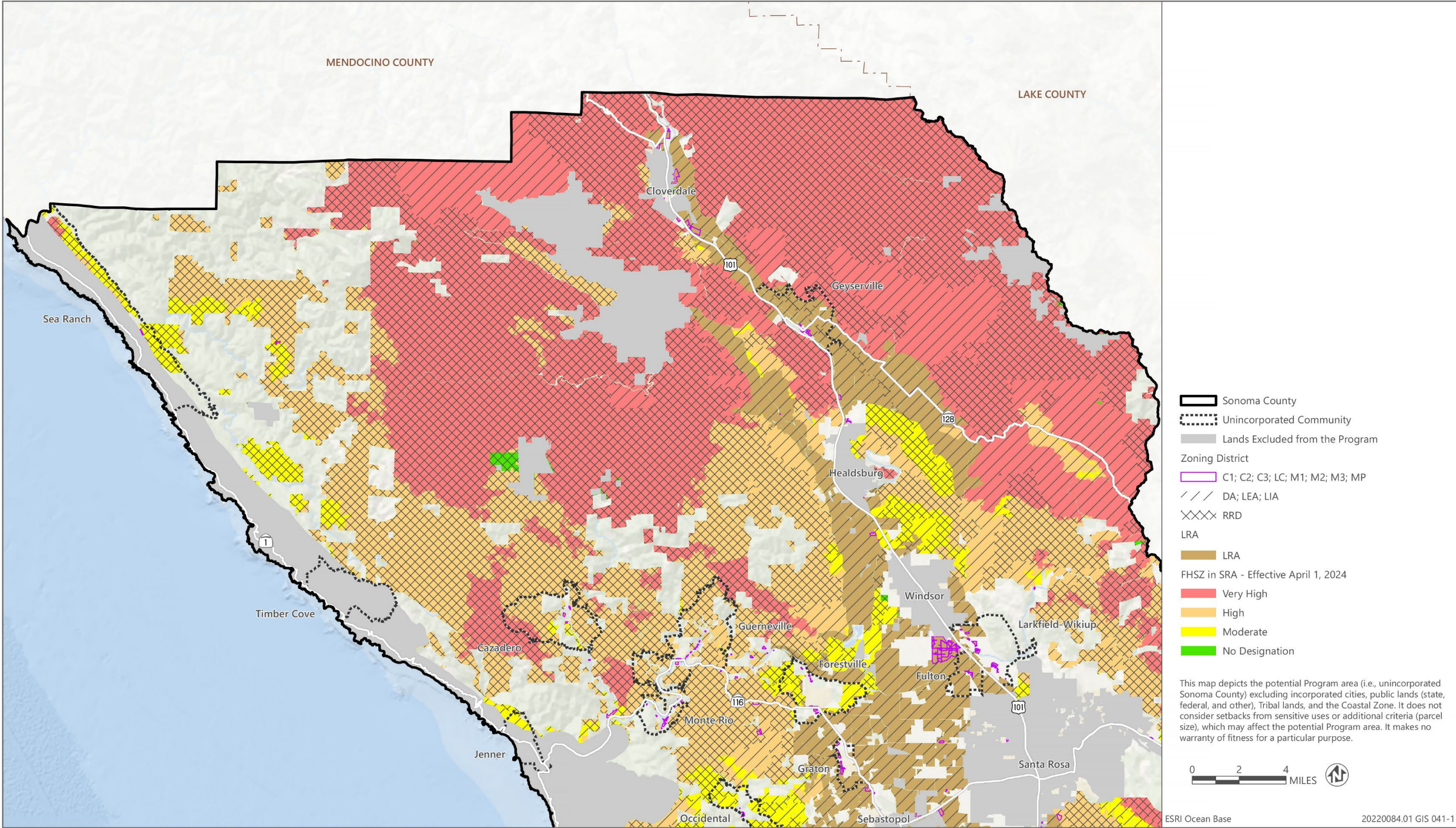
Table 3.17-4 CPUC Fire-Threat Area within the Program Area

	Zones	Total Acreage	Tier 3	Tier 2	Zone 1	None
Allowed Cannabis Uses in Agricultural and Resource Districts						
Cultivation, wholesale nursery, and cannabis events	RRD, LEA, LIA, DA	674,667	34%	43%	0.002%	23%
Centralized processing	LEA, LIA, DA	290,444	16%	34%	0.004%	50%
Allowed Cannabis Uses in Industrial Districts						
Indoor cultivation, wholesale nursery, testing laboratories, non-storefront retail, distribution, centralized processing, and manufacturing	MP, M1, M2, M3	1,918	—	3%	—	98%
Allowed Cannabis Uses in Commercial Districts						
Storefront retail	C1, C2, LC	836	21.2%	9%	—	70%
Storefront retail, non-storefront retail, testing laboratories, distribution, centralized processing, and manufacturing	C3	88	—	—	—	100%

Notes: RRD = Resources and Rural Development; LEA = Land Extensive Agriculture; LIA = Land Intensive Agriculture; DA = Diverse Agriculture; MP = Industrial Park; M1 = Limited Urban Industrial; M2 = Heavy Industrial; M3 = Limited Rural Industrial; C1 = Neighborhood Commercial; C2 = Retail and Business Service; LC = Limited Commercial; C3 = General Commercial.

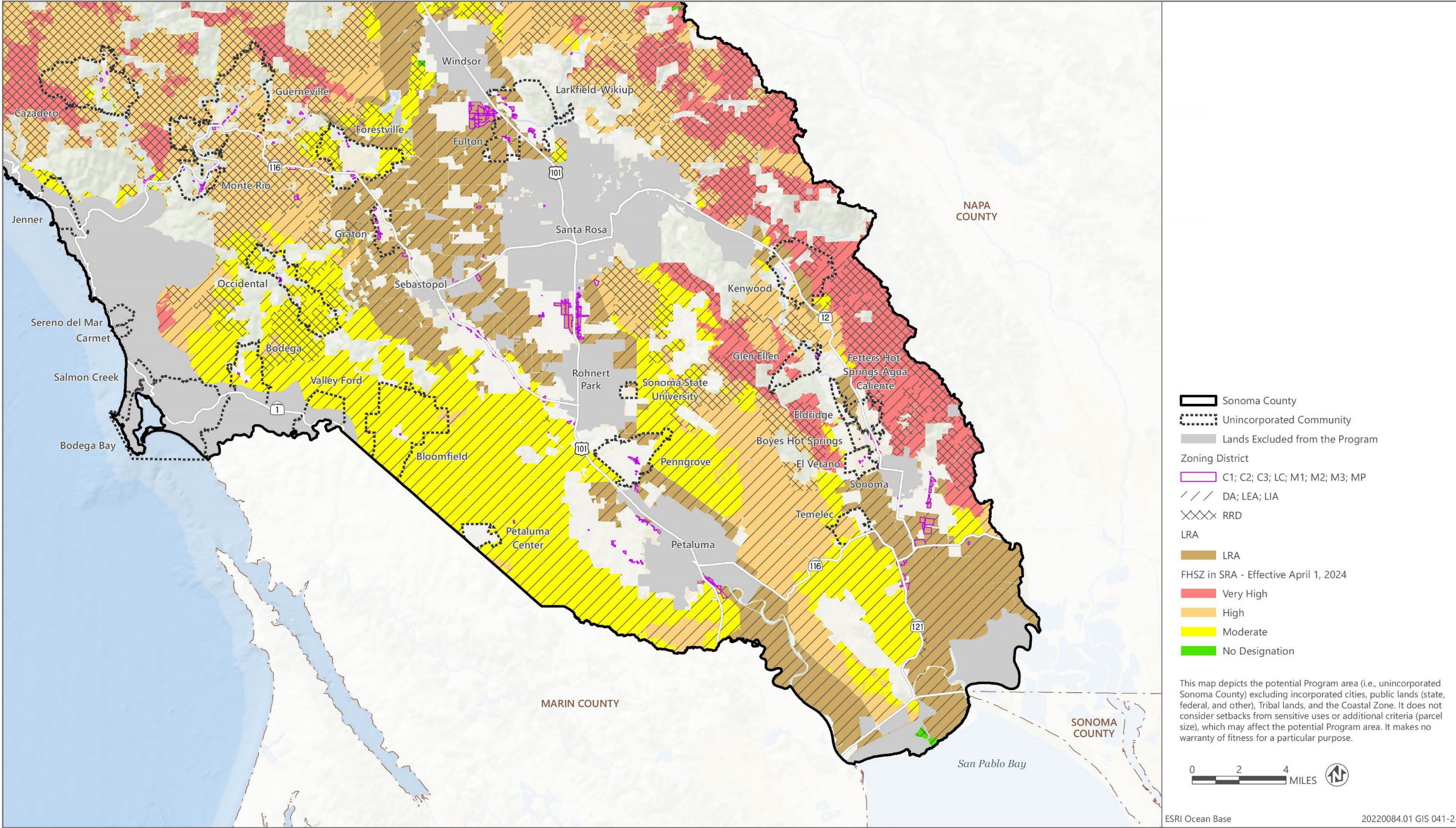
Source: Compiled by Ascent in 2024.

There are no proposed changes to the General Plan or Code that address wildfire.



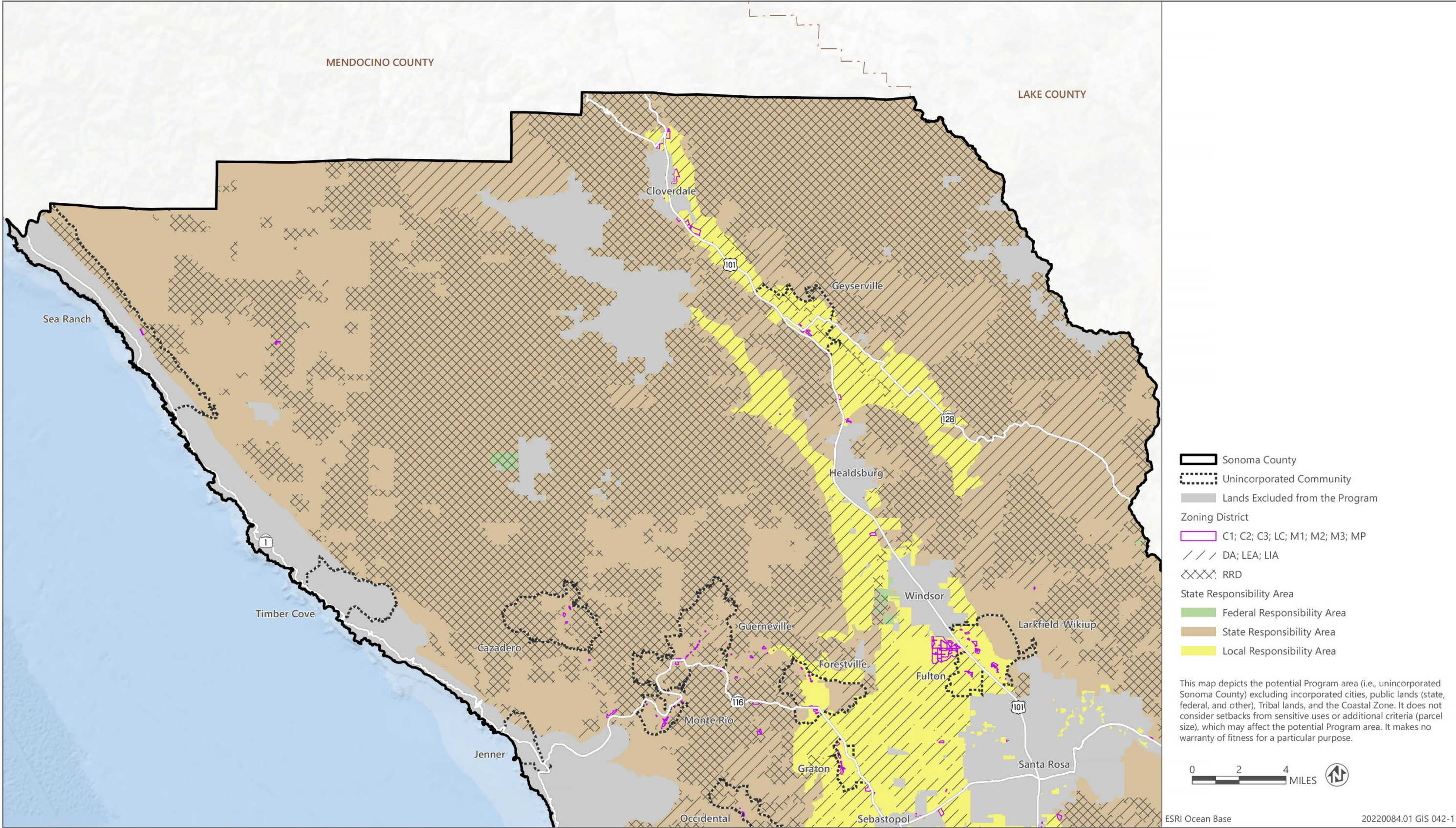
Sources: Adapted by Ascent in 2025.

Figure 3.17-5a FHSZ and Zoning Districts - Map 1 of 2



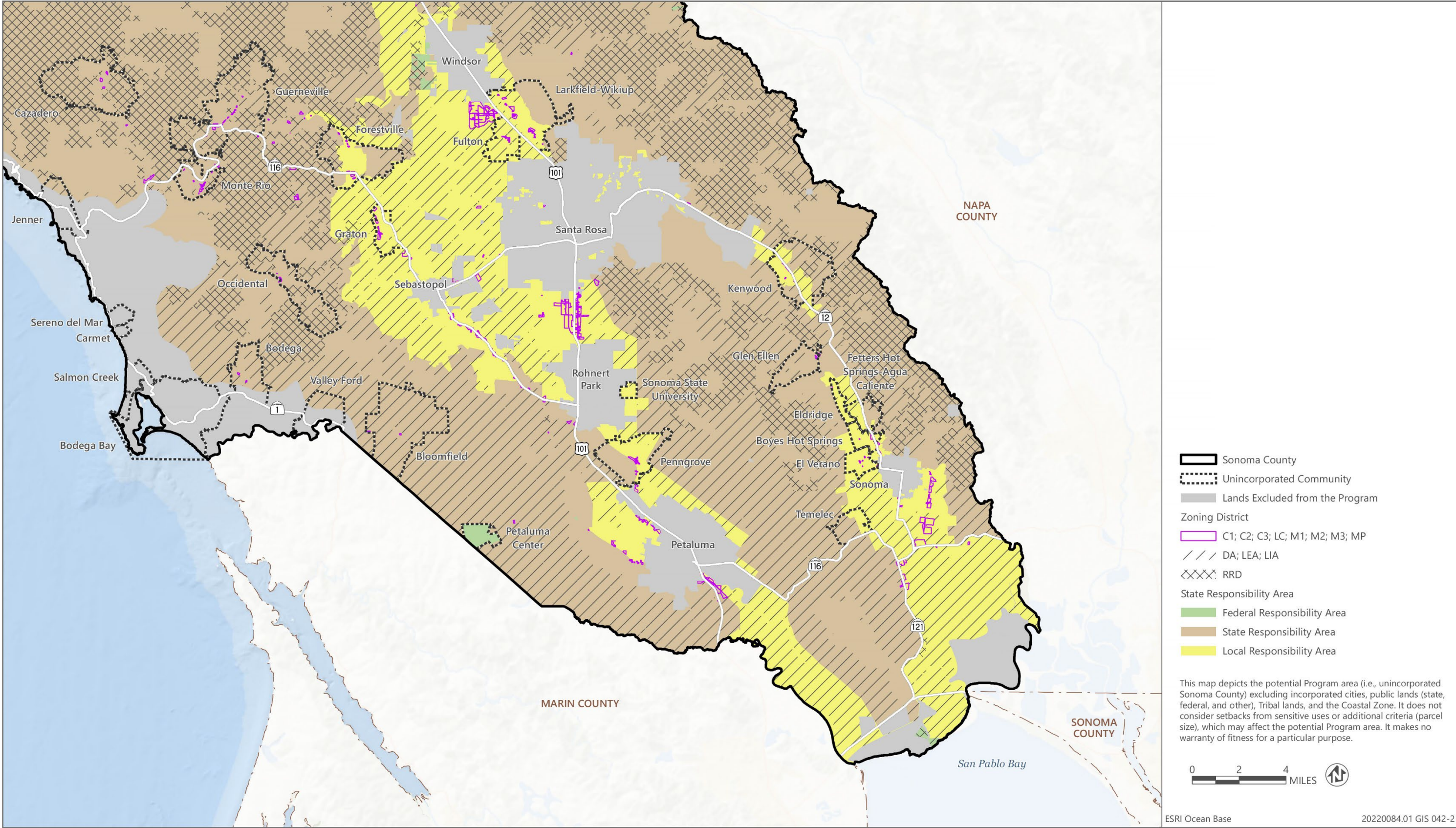
Sources: Adapted by Ascent in 2025.

Figure 3.17-5b FHSZ and Zoning Districts - Map 2 of 2



Sources: Adapted by Ascent in 2025.

Figure 3.17-6a Responsibility Areas and Zoning Districts - Map 1 of 2



Sources: Adapted by Ascent in 2025.

Figure 3.17-6b Responsibility Areas and Zoning Districts - Map 2 of 2

THRESHOLDS OF SIGNIFICANCE

Thresholds of significance used to evaluate the Cannabis Program Update impacts to wildfire are based on Appendix G of the State CEQA Guidelines. A wildfire-related impact would be significant if implementation of the Cannabis Program Update would:

- ▶ expose people or structures, either directly or indirectly, to significant risk of loss, injury, or death involving wildland fires; and
- ▶ if located in or near SRAs or land classified as very high fire hazard severity zones:
 - ▶ substantially impair an adopted emergency response plan, emergency access, or emergency evacuation plan;
 - ▶ due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
 - ▶ require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or
 - ▶ expose people or structures to substantial risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

ISSUES NOT DISCUSSED FURTHER

Personal Cultivation

The proposed Cannabis Program Update does not include changes to personal cultivation standards that would be substantially different from existing requirements such that physical changes to the environment could occur that would create significant impacts related to wildfire. Thus, there would be no changes involving the development and operation of personal cultivation within the County that may result in a significant environmental impact, and this issue is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.17-1: Expose People or Structures, Either Directly or Indirectly, to a Significant Risk of Loss, Injury, or Death Involving Wildland Fires

New cannabis uses would be allowed under the proposed Cannabis Program Update in areas where existing risk of wildland fire has been established. While outdoor cultivation would not create an increased risk of wildland fire, indoor cultivation, mixed-light cultivation, centralized processing, cannabis events, and other supply chain uses would increase the potential for new ignitions. If wildland fires are ignited within undeveloped areas of the County, there is substantial potential risk of loss, injury, or death because emergency access and evacuation may be impeded in these areas. This impact is **potentially significant** for allowable cannabis land uses other than outdoor cultivation within the county.

As discussed above in Section 3.17.2, "Environmental Setting," wildfire risk in Sonoma County is substantial. The following factors affect this risk (Sonoma County n.d.):

- ▶ homes built without fire-resistant construction materials and practices;
- ▶ inadequate defensible space management;
- ▶ overgrown, dense, or dead or dying vegetation within and near residential areas;
- ▶ vegetative Fuels, especially in areas that have burned;

- ▶ steep topography, much of the County's fire history is in hilly areas; and
- ▶ dry and windy fall weather. Although lightning has not been a significant cause of wildland fires in the past, the 2020 lightning siege may indicate that the risk of lightning-caused fires is increasing due to changing weather patterns.

While wildfire risk is related to conditions associated with fuels, terrain, and weather, the changes to ignition potential and fuels must also be considered when determining future risk. Because the County as a whole is susceptible to catastrophic wildfires, as demonstrated by its history of wildfire (i.e., see Table 3.17-1), the Cannabis Program Update may increase risk of loss, injury, or death involving wildland fires from the introduction of new ignition sources.

Proposed Allowable Uses in Agricultural and Resources Districts

Within agricultural and resources districts, new structures could be developed and operated for cultivation, wholesale nursery, centralized processing, and events. Additionally, accessory uses to cultivation would be allowed, such as manufacturing, processing, and packaging. Under the proposed Program, specific setback requirements for existing permits and applications, existing cannabis premises may be expanded to meet the proposed Cannabis Program update allowances, and would remain largely subject to existing setbacks (i.e., would not need to be reoriented to come in line with new setback requirements). However, new or expanded uses at existing sites must be setback at least 100 feet from each property line and at least 300 feet from offsite residences on residentially zoned parcels, in compliance with sensitive use setbacks that were applied to the original approval.

The potential for wildfires to occur is associated with fuel availability (e.g., the presence of flammable vegetation and other materials needed to feed a fire). Fire on agricultural land accounts for approximately 8 to 11 percent of global fires. Agricultural fires burn through various crops, pastures, and native vegetation on farms. Among different crop types, fruit crops and cereals have been found to be more flammable than vegetable crops, grazing herbs, pasture grasses, pasture legumes, and weeds. Generally, crop flammability has been correlated to lower moisture content, higher retention of dead material, and faster moisture loss rating (Pagadala et al. 2024). With this understanding in mind, cannabis cultivation in Sonoma County is not a crop with higher flammability potential, compared to orchard or cereal crops because it is harvested before the plant may dry out and is not maintained with any dead material because new plants are established annually and completely removed after harvest. Cannabis is also trimmed, packaged, and stored in containers in a manner that restricts its ability to ignite or spontaneously combust.

While cannabis cultivation sites may involve wood fencing, which may be a fuel for wildland fire, their operation may also increase vegetation management on a previously undisturbed area (i.e., a portion of unmanaged lands is converted to a least partially managed lands). More generally, outdoor cannabis cultivation, under the proposed Cannabis Program Update, would be substantially similar to other agricultural uses within the county. For example, row crops involve similar activities to cannabis, including land preparation, planting, cultivation (e.g., application of fertilizers and water), and harvesting. For comparison, in 2023, approximately 6,250 acres of corn, hay, rye, and oat were harvested in the County (Sonoma County 2023). The addition of the projected approximately 188 additional acres under the Cannabis Program Update would be minimal, particularly considering that in 2022, approximately 10,640 acres were used for the same purposes. Furthermore, crop types that may have more flammable features, such as apple orchards and vineyards covered nearly 60,000 acres across the County in 2023 (Sonoma County 2023). Thus, because cannabis is similarly or less flammable than other crops in the County, and is projected to cover a small amount of the cultivated land (i.e., less than 1 percent of the acreage of apple orchard, vineyards, and row crops in 2023), its cultivation would not substantially increase fuels in the county.

While cannabis may not present uniquely flammable properties as a crop type, a recent study indicates that legal cannabis cultivation operations are located more often in areas identified high and very high FHSZs and closer to wildfire perimeters than any other agricultural type (Dillis et al. 2022). Additionally, cannabis cultivation occurred more often in projected wildfire hotspots than other agricultural crop types. While this indicates the potential for cannabis to be susceptible to wildland fire, it does not indicate the potential for increased fire risk from cultivation of cannabis as opposed to other crop types (Dillis et al. 2022). As demonstrated in Table 3.17-3 and depicted in Figure 3.17-6, within the Program Area, the majority of lands designated as LEA, LIA, DA, and RRD are identified within the Very High FHSZ (43 Percent/289,180 acres), High FHSZ (26 percent/173,893 acres), and Moderate FHSZ (17 percent/113,313

acres). (Note that a large area of the SRA FHSZs corresponds with RRD zones [i.e., 384,223 acres of RRD in Very High FHSZ, 125,766 acres of RRD in High FHSZ, and 26,144 acres of RRD in Moderate FHSZ].) Thus, consistent with the study described above, areas where cannabis cultivation would be allowed within agricultural and resources district under the proposed Cannabis Program Update, tend to be within lands identified as having characteristics consistent with existing high fire hazards conditions.

In addition to flammability and fuels, it is important to examine the potential for increased ignition. As shown in Table 3.17-2, during the period of 2019 through 2023, the majority of the fires within Sonoma County were started by arsons, lightning strikes, electrical power system failures, vehicles, equipment use, and debris burning. While lightning is a natural source, the remaining causes can be attributed to increased development and the consequential increase in human access to areas in the county. The potential for debris burning, vehicular, and other common anthropogenic ignition sources would not substantially increase in areas where undeveloped uses begin supporting outdoor cannabis cultivation because the cultivation area would be limited (projected to be a total of 188 acres Countywide, as shown in Table 3-1 of this Draft EIR). While there would be a small number of staff required to support an outdoor cannabis cultivation operation (i.e., 8.5 employees per acre), across the County this could account for up to an additional 1,598 workers. In comparison, in 2022, 11,071 farm workers were reported to have worked at 1,333 farms in Sonoma County (USDA 2022). The majority of these farms (722), hired between 1 and 4 workers. Thus, on average, a cannabis farm tends to employ more workers than other farm types in the County, however, the majority of farm workers (8,009) in the County were associated with farms with 10 or more workers (USDA 2022). These data indicate that the number of employees supporting Cannabis farms is within the range of other crop types within the County. Thus, as an agricultural activity, cannabis cultivation would not present a unique risk or a substantial increase in risk associated with wildfire.

As discussed above in Section 3.17.2, “Environmental Setting,” between 2019 and 2023, the majority of the fires within Sonoma County were started by arsons, lightning, and electrical power system failures, while the main causes of fires statewide were debris burning, vehicular fires, equipment use failures, and lightning (Table 3.17-2, Figures 3.17-3 and 3.17-4). Due to heavy fuel loading, when fires start during high wind conditions, rapid rates of wildfire spread can result (Sonoma County 2021). Consistent with these ignition sources, development of indoor and mixed-light cultivation, as well as accessory uses related to cultivation, would involve extension of electrical power and equipment use that could increase the potential for ignition from electrical power and equipment uses.

Sonoma County has experienced extensive wildfires. Notably, between 2017 through 2020, wildfires occurred on over 300,000 acres in Sonoma County, destroyed nearly 7,000 structures, and killed 24 people (Sonoma County 2021). Wildfire events have become more common during the summer and fall, bringing periods of smoke, red-flag warnings, planned power shutdowns, and evacuations. Large destructive fires have occurred in the county, most substantially in 1923, 1954, 1964, 1978, 2017, 2019, and 2020 (Sonoma County 2021). Moreover, as described above in Section 3.17.2, “Environmental Setting,” climate change will continue to produce conditions that facilitate a longer fire season, which, when coupled with human-caused changes in the seasonality of ignition sources, will produce more, longer, and bigger fires during more times of the year. Notably, according to California’s Fourth Climate Change Assessment, *Statewide Summary Report*, if GHG emissions continue to rise, the frequency of extreme wildfires burning over 25,000 acres could increase by 50 percent by 2100, and the average area burned statewide could increase by 77 percent by the end of the century (OPR et al. 2018).

Existing Requirements to Limit the Potential for Catastrophic Wildland Fires

Regulatory requirements that are intended to limit the potential for catastrophic wildland fires are generally related to requirements for construction materials, vegetation management, and roadway/access specifications. As outlined above in Section 3.17.1, “Regulatory Setting,” local and state requirements address wildland fire potential in Sonoma County. These regulations and the extent to which they apply to development and operation of cannabis facilities, under the proposed Cannabis Program update, is discussed below.

► New Building Regulatory Requirements

New buildings must comply with Chapter 13, Article IV, Section 13-17 (i.e., locally adopted amendments to the CBC) and the State CBC Chapter 7a for areas within the SRA or VHFHSZ. Under the Sonoma County Code

amendments, additional permits must be obtained from the division of fire prevention for cannabis-related cultivation, distribution, and manufacturing operations. New structures must comply with these regulations, with the exception of U occupancy (e.g., agricultural buildings, barns, sheds, private garages, greenhouses). These exceptions would likely apply to some of the uses allowed under the Cannabis Program Update (e.g., greenhouses, storage sheds, some facilities that support events that are not built structures); however, the requirements would apply to indoor cultivation and most accessory uses that occur within built structures.

Existing structures do not need to be updated to comply with the CBC or the County building requirements.

► **Roadway/Access Regulatory Requirements**

Access, emergency water supply, and other fire safety requirements are governed in the SRA and VHFHSZs by Cal. Pub. Res. Section 4290 and the State Minimum Fire Safe Regulations (14 CCR 1270.00 et seq.)

Chapter 13, Article V, of the County Code contains the Fire Safe Standards (Article V) for the LRA outside of VHFHSZs. These are locally enforceable regulations, based on the State's Fire Safe Regulations.

As shown in Table 3.17-3, approximately 14 percent (approximately 97,350 acres) of the agricultural and resources districts that would allow cannabis cultivation, wholesale nurseries, and accessory uses including events (i.e., LEA, LIA, DA, RRD), are located within the LRA. A portion of this area within the LRA (approximately 94,650 acres) would also allow for centralized processing (i.e., LEA, LIA, and DA). Within the Program Area, approximately 674,667 acres are located in agricultural and resources districts that would allow cannabis cultivation, wholesale nurseries, and accessory uses including events. Within this area, centralized processing would be allowed on approximately 290,444 acres. These requirements apply to new development and include:

- Emergency access provisions that require emergency fire equipment accessibility, all-weather driving surfaces, grades to not exceed 16 percent, and well as other standards related to curves, intersections, and one-way, two-way, and dead-end roads.
- Signing and building numbers must meet minimum standards to facilitate locating a fire and avoid delays in response.
- Emergency water supply, subject to approval by the county fire marshal.
- Flammable vegetation clearance areas.

► **Vegetation Management Regulatory Requirements**

Defensible space and vegetation management are governed by state law for improved parcels in the SRA (Cal. Pub. Res. Code Section 4291 and 14 CCR 1299 et seq.) and by Chapter 13A for improved parcels in the LRA and for unimproved parcels in both the LRA and SRA. In the SRA, there must be 100 feet of defensible space around all buildings and structures, with stricter requirements for the first 30 feet.

PRC Section 4290 and 4291 require 100 feet of defensible space around all buildings and structures on SRA lands, or nonfederal forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material. Under PRC Section 4291, the amount of fuel modification necessary must take into account the flammability of the structure as affected by building material, building standards, location, and type of vegetation. Fuels are required to be maintained in a condition so that a wildfire burning under average weather conditions would be unlikely to ignite the structure. The provision of defensible space and the associated reduction of vegetative fuels have specifically been found to be effective at reducing fire frequency, fire severity, and annual area burned over an extended period of time. Where treatments have occurred, the pattern of wildfire progression may be limited to low-intensity underbrush and surface burning, which can create safe conditions for firefighters to successfully suppress fires in areas near structures, or around areas of high resource value (Kim et al. 2013; Martinson and Omi 2013; Tubbesing et al. 2019).

In addition, PRC Section 4427, which includes fire safety statutes that restrict the use of construction equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment with internal

combustion engines; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided on site for various types of work in fire-prone areas.

In the LRA, there must be 30 feet of defensible space around all structures. Cannabis and agricultural operations, agricultural buildings, and cannabis cultivation buildings approved by the fire code official are exempt. However, defensible space requirements in the LRA would still apply to structures used for cannabis accessory uses. Chapters 13 and 13A further require defensible space and vegetation clearance along roads and road frontages. While roads used solely for agriculture are exempt, the existence of accessory uses would trigger this requirement. As discussed above, building standards intended to reduce fire spread and severity do not extend to some cannabis-related uses (e.g., group U buildings, such as greenhouses, barns, sheds), and road safety standards that would require upgraded conditions are limited to new development within the County. Additionally, U occupancy buildings are exempted from many of the requirements related to roadway standards and vegetation management.

As summarized above, existing regulations related to new buildings and vegetation management would decrease fuel availability in the County, while roadway standards would improve access and the potential to successfully extinguish an established wildfire. However, as shown above in Table 3.17-2, arson and other human-cause ignitions are common causes of wildfire in the County. Thus, bringing more people into areas of high fire risk would increase the chance of fires because there would be increased access to different areas of the county (i.e., wildfires are often ignition by anthropogenic means). Additionally, because U occupancy buildings and existing buildings are exempted from some State and local standards, allowable uses under the Cannabis Program Update may contribute to new fuel sources (e.g., buildings not required to be hardened or maintained with defensible space). Therefore, based on the existing wildfire risk in the county and the introduction of additional people into more areas of the unincorporated county, it stands to reason that ignition from arson, electrical power incidents, and equipment use may increase with implementation of the Cannabis Program Update. Because there may be increased fuels and potential for ignition, operation of cannabis projects could increase the risk of wildfires. This impact would be potentially significant.

Applications Meeting Crop Swap Requirements

Cannabis cultivation applications that meet the requirements for a crop swap could replace active perennial or row crop facilities with outdoor cannabis cultivation or reuse an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation. No new or expanded development or events would be allowed and there would be a negligible change in trip generation (see Section 3.14, "Transportation"). Because there would be no changes to the existing conditions (beyond change in crop type), with regard to the types of equipment and general cultivation activities, there would not be a substantial change to the fire risk associated with implementation of a cannabis cultivation site under crop swap conditions. This impact would be less than significant.

Construction of Event Facilities and Event Operations

Under the proposed Cannabis Program Update, small events would be allowed within LEA, LIA, DA, and RRD zoning districts. Small events would be allowed up to 104 days per year and support up to 50 people if a shuttle is made available to transport guests. Additionally, large events with no guest limit would be allowed twice per year with up to two event days for each event. These events would include cannabis promotion activities, which may include cannabis consumption, food service, and amplified noise, that would increase ignition sources (e.g., vehicles, electrical infrastructure, and equipment use) at cannabis sites when these events are held.

While tobacco cigarette smoking is a well-known ignition source of wildfires, it is not particularly common as a cause of wildland fire within Sonoma County in recent years (Table 3.17-2). However, only "fire-safe" cigarettes may be sold in the United States. These cigarettes self-extinguish if not smoked frequently enough. While data is limited, a recent study suggests that cannabis cigarettes are generally more difficult to initially ignite and may have less potential to burn than a tobacco cigarette. This, however, may be dependent on the concentration of resins and oils specific to the strain of cannabis (Jason et al. 2014). The use of incendiary devices to consume cannabis (e.g., joints, pipes, bongs), nonetheless, involves fire ignition, which can pose a risk of wildland fire, especially in High and Very High FHSZs where fire hazards exist most. Furthermore, events would expand human access in the county to areas beyond those presently available. Consequently, there is a greater potential for ignition related to arson, playing with fire, and

vehicles. Additionally, events may involve extension of electrical power and equipment use to support noise amplifiers, lights, and other power needs, thus increasing the potential for ignition from electrical power and equipment uses. If wildland fires are ignited in areas where existing fire risk exists, there is a potential risk of loss, injury, or death as evidenced by the history of catastrophic wildfire in the county. This impact would be potentially significant.

Proposed Allowable Uses in Industrial and Commercial Districts

Within industrial and commercial districts, new structures could be developed and operated for indoor and mixed-light cultivation and supply chain uses. While new cannabis uses could be located within existing buildings, new structures may be developed within the county. As identified in Table 3.17-3, approximately one percent of lands are designated as Very High FHSZ, and approximately 19 percent of lands are designated as High FHSVs in industrial and commercial districts (MP, M1, M2, M3, C1, C2, LC, C3) within the program area. For the reasons described above for new uses within agricultural and resources zoning districts, new development would present a risk of increased ignition within industrial and commercial zoning districts where High and Very High FHSZs have been identified. This impact would be potentially significant.

Periodic Event Operations for Cannabis

Operation of periodic special events, including those associated with the cannabis industry, are expected to continue to be held outdoors in undeveloped areas or at existing developed sites consistent with the County's existing Code related to periodic special events (Section 26-22-120). The proposed changes to the Sonoma County Code would eliminate the prohibition on cannabis use and sales at periodic events allowed under Section 26-22-120 of the Code, but would not affect the frequency of any periodic events currently allowed. There would be no new construction or changes in operation at facilities that could support periodic events, and while cannabis smoking would be allowed it would not present an increased risk to wildfire as compared to smoking of tobacco, as discussed above under "Proposed Allowable Uses in Agricultural and Resources Districts." Therefore, there would be no substantial effects on the potential to increase the risk of wildfire.

Conclusion

As described above, new cannabis uses could be developed under the proposed Cannabis Program Update in areas where there is an existing wildfire risk. As discussed in detail above, wildfire hazard in Sonoma County is substantial and areas that may accommodate new cannabis operations generally contain factors that further increase this risk (i.e., areas designated High and Very High FHSZs). While outdoor cultivation would be substantially similar to other agricultural practices in the County, thus would not increase the risk of wildland fire, other cannabis uses (e.g., indoor cultivation, mixed-light cultivation, centralized processing, cannabis events, and other supply chain uses) would increase the potential for new ignitions because more people would have access to more areas of the County and the associated development would bring the potential for increased ignition sources, including those associated with major fires in Sonoma County, including: electrical power systems, vehicles, and equipment use. The existing wildfire hazard is most pronounced in areas designated as Very High FHSZ where high to extreme fire behavior is likely and site conditions include steep and mixed topography and seasonally extreme conditions of strong winds and dry fuel moistures (see Section 3.17.2, "Environmental Setting," for further discussions on existing hazard).

As shown in Table 3-1, the combined total land area for cultivation and supply chain uses is projected to cover 862 acres over the next 20 years. While this is a small portion of the overall county, which covers over 1.1 million acres, the specific locations of where these facilities may be developed and the access conditions associated with those locations is unknown and cannot be known at a program-level. If wildland fires are ignited within undeveloped areas of the County, there is substantial potential risk of loss, injury, or death if fires are not extinguished before becoming catastrophic. While there is no way to know exactly where or when a potential fire may occur, the wildfire history in Sonoma County and the known conditions within the County indicates a strong likelihood that more large fires can be expected. State and local regulations that address building standards, roadway improvements, and vegetation management have been developed by agencies charged with reducing catastrophic fires (e.g., Board of Forestry); however, these regulations do not extend to all projects that could be approved under the Cannabis Program Update. Development of cannabis uses under the proposed Cannabis Program Update would be required to comply with the County Fire Code and CBC to minimize fire risks; however, this impact would be **potentially significant** for

allowable cannabis land uses other than outdoor cultivation within the county due to the increase potential for fuels and ignition sources.

Mitigation Measures

Mitigation Measure 3.17-1a (UPC, DRH, and ZPC): Limitation of Use Types in Very High Fire Hazard Severity Zones

The following requirements shall be included as new performance standards for all parcels supporting a cannabis use within the Very High FHSZs in SRA or VHFHSZ in LRA.

- ▶ Only outdoor cultivation and accessory processing are allowed.
- ▶ Accessory processing activities conducted within structures are limited to storage, drying, and curing of cannabis.
- ▶ Defensible space and building hardening are required, consistent with the requirements set forth under Mitigation Measures 3.17-1b and 3.17-1c.
- ▶ No new extension of electricity power lines is allowed.

Mitigation Measure 3.17-1b (UPC and DRH): Require All Structures to Meet Defensible Space

The following requirements shall be included as conditions of approval for issuance of a use permit or approval under the design review with hearing processes.

All structures irrespective of occupancy type shall meet the defensible space standards outlined below:

- ▶ 0 to 5 feet from a structure:
 - Only hardscape materials (e.g., gravel, pavers, concrete)
 - No dead or dying plants, weeds, or debris on roof, gutter, deck, porch stairways, or under structure
 - Remove all branches within 10 feet of any chimney or stovepipe outlet.
 - No combustible outdoor furniture or planters within decks or attached patios
 - No stockpiling of firewood or lumber
 - No attached fencing, gates, or arbors constructed with combustible materials
- ▶ 5-30 feet from a structure:
 - Remove all dead plants, grass, and weeds
 - Remove all dead or dry leaves
 - Trim trees regularly to keep branches a minimum of 10 feet from other trees
- ▶ 30-100 feet from a structure:
 - Cut or mow annual grass down to a maximum height of four inches.
 - Create horizontal space between shrubs and trees.
 - Create vertical space between grass, shrubs and trees.
 - Remove fallen leaves, needles, twigs, bark, cones, and small branches greater than a depth of three inches.
 - Keep 10 feet of clearance around exposed wood piles, down to bare mineral soil, in all directions.
 - Clear areas around outbuildings and propane tanks. Keep 10 feet of clearance to bare mineral soil and no flammable vegetation for an additional 10 feet around their exterior.

Mitigation Measure 3.17-1c (UPC and DRH): Require All Structures to Be Constructed with Noncombustible Materials

The following requirements shall be included as conditions of approval for issuance of a use permit or approval under the design review with hearing processes for all cannabis uses within the unincorporated County, including both the SRA and LRA.

- ▶ The facility would be subject to an annual inspection by either the local fire district or the County Fire Division.
- ▶ Building materials, including siding, decks, doors, and trim, shall consist of noncombustible material, as listed on the State Fire Marshal's Building Materials Listing Program.
- ▶ Roofs shall be constructed with noncombustible or ignition resistant materials, and must meet Class A fire rating.
- ▶ Vents must prevent intrusion of embers and flame (i.e., ember-resistant vents).
- ▶ Windows shall be dual paned tempered glass and constructed with fire-resistant materials.
- ▶ Parking areas shall be designated and consist of noncombustible materials (e.g., poured concrete or gravel).
- ▶ Vegetation shall not be permitted within 10 feet of power poles.
- ▶ Gutters and downspouts shall be noncombustible, and cleared of debris on a monthly basis.
- ▶ No solid wood fencing shall be constructed.
- ▶ A minimum of 30 feet between structures shall be maintained.

Mitigation Measure 3.17-1d (UPC and DRH): Develop and Implement Site-Specific Fire Protection and Prevention Plan

Applicant must prepare a Fire Protection and Prevention Plan that includes site-specific and detailed plans to address increased wildfire risk at the cannabis site. The Fire Protection and Prevention Plan will be subject to review and approval by the County Fire Marshal and the fire district with jurisdiction over the cannabis site before issuance of a permit by the County. The County Fire Marshal shall use the Fire Protection and Prevention Plan to establish conditions of approval for the site that will be incorporated into requirements for issuance of a use permit or design review approval.

The site-specific Fire Protection and Prevention Plan shall include the following minimum components. Additional requirements and inspections may be included in the plan at the discretion of the County Fire Marshal or local fire district.

- ▶ Verification that Mitigation Measures 3.17-1a, 3.17-1b, and 3.17-1c are feasible and incorporated into project plans.
- ▶ Verification that the cannabis site is located within a fire district with adequate capacity to serve the site in the event of unintended fire ignition.
- ▶ Identification of emergency response and evacuation routes. Unless the site is located along a State or federal Highway, a street identified by the County as an arterial or collector, or as otherwise directed by the County Fire Marshal, the adequacy of emergency response shall be determined based on modeling prepared by a traffic engineer. Minimum response objectives shall be evaluated and approved by the local fire district or the County. Unless otherwise established by the County or the local fire district, emergency response standards established by the National Fire Protection Association shall be used to determine if emergency response time of the associated fire district is adequate.
- ▶ Defined staff roles and responsibilities, including staff responsible for communicating with emergency service providers. Communication protocols must also be included to ensure that staff, customers, and vendors are informed of potential emergencies and needed actions due to an emergency, up to and including evacuation of the site.
- ▶ Verification that roadway conditions are consistent with all applicable requirements.
- ▶ Verification that all roads leading up to the individual site and buildings on the site are designated by names or numbers posted on signs clearly visible and legible from the roadway and at interchanges.

- ▶ Identification of emergency water supply that is available, accessible, and maintained in quantities and locations specified consistent with all applicable requirements.
- ▶ Verification that areawide fuel breaks are sufficient and in compliance all applicable requirements.
- ▶ Confirmation that roadways are in compliance with the State and local roadway standards.
- ▶ Identification of operational requirements, including the following:
 - Mowing shall occur before 10 a.m. and never on a hot or windy day, or a red flag warning or a particularly dangerous situation event issued by the National Weather Service.
 - String trimmers shall be used rather than lawnmowers for clearing vegetation wherever feasible.
 - All dead or dying vegetation shall be removed during drought conditions when water use restrictions are in place.

Mitigation Measure 3.17-1e (UPC and DRH): Implement Site-Specific Standards for Events

Standards for cannabis events shall be established to meet the requirements of a specific site. These standards must be developed by the applicant, subject to review and approval by the County Fire Marshal and the local fire district. Requirements for events shall be incorporated into the conditions for approval of a use permit and include the following, at minimum.

- ▶ Standards for water application at the perimeter of the event.
- ▶ Designated smoking areas where incendiaries devices may be used. Such smoking areas must consist of noncombustible materials (e.g., poured concrete or gravel).
- ▶ Installation and maintenance of fire extinguishers.
- ▶ Access to adequate water supply for fire suppression (e.g., hoses, reservoirs, pumps or water tanks).
- ▶ Installation of sprinkler systems in strategic locations to address potential ignition sources.
- ▶ The pertinent emergency evacuation zone, map of the site that clearly shows nearby roadways, and shelter-in-place locations on the subject property shall be posted in a conspicuous location within the cannabis facility or event location.

Significance after Mitigation

Mitigation Measure 3.17-1a limits allowable use types to outdoor cannabis and storage, drying, and curing of cannabis, in areas of the county designated as Very High FHSZ in SRA and VHFHSZ. Defensible space, as outlined in Mitigation Measure 3.17-1b, and structural hardening, as identified in Mitigation Measures 3.17-1c, would be required for any structures associated with these uses. As established in the impact discussion above, cannabis cultivation does not increase fuels or the potential for ignition compared to other agricultural uses or unmanaged lands. The increased potential for ignition would be further reduced through prohibition of new power line extension. With these requirements there would not be a substantial increase in ignition potential or fuels associated with outdoor cannabis and storage, drying, and curing of cannabis, in areas of the county designated as Very High FHSZ in SRA and VHFHSZ.

Mitigation Measure 3.17-1b contains standards for defensible space, which is a buffer that applicants would be required to create and maintain on sites that contain any structures (i.e., building with a roof). The performance standards set forth in this mitigation measure severely limit the plants, brush, or other potential fuel sources that could ignite in the event of a fire. The standards set forth in this mitigation measure limit fuels such that buildings are less likely to ignite and the fuel potential for vegetation substantially reduced. Adequate defensible space acts as a barrier to slow or halt the progress of fire that would otherwise engulf a structure and limit the potential for a fire to cross the ground toward buildings or use structures as a ladder to ignite treetops. Additionally, Mitigation Measure 3.17-1c requires structures to be constructed with noncombustible materials. Noncombustible materials would not behave as a fuel source because they cannot ignite. Both defensible space requirements and building materials

requirements are based on existing requirements, outlined above, but are more stringent and applicable to all structures. Implementation of these mitigation measures would substantially lessen fuel availability on individual project sites.

Mitigation Measure 3.17-1d requires development and implementation of a Fire Protection and Prevention Plan that includes site-specific and detailed plans to address increased wildfire risk at the cannabis site. The site-specific plans would be required to ensure that roadway conditions meet the established standards and that emergency response and evacuation routes are capable of meeting established emergency response standards. The Fire Protection and Prevention Plan will be reviewed by the Fire Marshall and the local fire district to ensure that the site is operated and developed in a way that reduces the potential risk of wildfire and allows for adequate access and egress in the case of an emergency.

Mitigation Measure 3.17-1e creates standards to limit and/or prevent fire ignition during events by requiring designated smoking areas and adequate fire suppression capabilities in the case of an accidental ignition. These requirements would be subject to review and approval by the County Fire Marshall and local fire district to ensure that individual sites do not pose increased risk of wildfire ignition.

As discussed above, conditions affecting wildfires are generally related to fuel, weather, and topography, as well as direct influences, such as ignition and historic fire suppression efforts. Implemented together, Mitigation Measures 3.17-1a through 3.17-1e would limit the potential for ignition through standards for operation of cannabis uses, limit fuels availability in the event that a fire is ignited, and ensure that fire suppression capabilities are adequate to address potential fires before they become catastrophic. Finally, these measures would improve access for emergency services to be better equipped to reach an established fire, while also supporting evacuation efforts necessary for public safety. Upon implementation of these mitigation measures, impacts would be **less than significant**.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

The proposed Cannabis Program Update would allow for uses that may increase the risk of damage and injury from known fire hazards. However, with implementation of Mitigation Measures 3.17-1a through 3.17-1e, potential fuels and ignition sources would be limited within cannabis sites and emergency services access and evacuation egress would be ensured. With implementation of these mitigation measures, the Cannabis Program Update would be consistent with General Plan Policies PS-3a through PS-3m, which establish requirements to minimize wildfire hazards. Specifically, these policies require the County to consider the severity of fire hazards, potential damage from wildland and structural fires, and adequacy of fire protection and mitigation measures when reviewing projects; review, revise, and adopt revisions to the County codes and standards to reflect contemporary fire safe practices; encourage enforcement of State requirements for fire safety; develop a program to improve and standardize the County street addressing system to reduce emergency service response times; promote fire safe practices and the distribution of fire safe educational materials; provide fire hazard information signs in Very High FHSZ or High FHSZ; work with CAL FIRE to identify areas of high fire fuel loads and reduce those fuel loads, particularly in Very High FHSZ or High FHSZ; require automatic fire sprinkler systems or other on-site fire detection and suppression systems in all new commercial structures; and consider additional fees to offset the impact of new development on fire services.

Impact 3.17-2: Substantially Impair an Adopted Emergency Response Plan, Emergency Access, or Emergency Evacuation Plan in Areas in or Near SRAs or Land Classified as Very High Fire Hazard Severity Zones

New cannabis uses would be allowed under the proposed Cannabis Program Update in areas in and near SRAs and lands classified as LRA VHFHSZ. While outdoor cultivation would not create an increased risk of wildland fire, indoor cultivation, mixed-light cultivation, centralized processing, cannabis events, and other supply chain uses would increase the potential for new ignitions. If wildland fires are ignited within undeveloped areas of the County, emergency access and evacuation may be impeded in these areas. This impact would be **potentially significant** for allowable cannabis land uses other than outdoor cultivation within the county.

The following discussion addresses impacts that may occur in and near SRAs and land classified as VHFHSZ. These areas are not limited to particular zoning districts; therefore, the analysis does not consider impacts from the perspective of zoning type or land use type.

Wildfires, particularly those that affect developments in relatively remote locations, may impede the evacuation of communities and emergency access, making it more difficult to ensure public safety and to limit, control, or extinguish wildfire. Additionally, fires in remote locations require substantial fire-fighting resources, as well as mobilization of fire fighters from all over the State. During years with large and numerous fires, there may be downstream effects on the State's fire-fighting capacity as well as the State's budget – which further constrains emergency response (California Office of the Attorney General 2024).

As discussed in Impact 3.17-1, development of new structures and operation of events within the County would increase the risk of wildfire by introducing more people and, thus, more ignition sources in Sonoma County (Figure 3.17-3) into flammable landscapes. Areas designated as SRAs and LRA VHFHSZs often contain roadways with limited access for fire trucks and other emergency vehicles due to road grade, narrow width (i.e., less than 20 feet wide), limited turnout and turnaround features, and deadends. Thus, when presented with an emergency wildfire condition, emergency access and evacuation from these areas may be limited. While it would be speculative to identify a reasonably foreseeable wildfire scenario, regardless of the location and extent of fire, drivers during evacuations are often under a great deal of stress and visibility may be greatly limited due to smoke or darkness. Additionally, fallen wooden poles and electric/utility lines can block evacuation routes. Furthermore, during an evacuation, drivers are likely to use options such as shoulders and lanes needed for emergency vehicles. Certain conditions such as intersections, roundabouts, traffic signals, tunnels, and concrete barriers may also disrupt an otherwise orderly evacuation.

As discussed above under Impact 3.17-1, roadway and access specifications within the SRA and VHFHSZ are addressed in the State's Fire Safe Regulations. Compliance with these standards is required for approvals and permits for development. Areas near the SRA and LRA VHFHSZ would be subject to the County's Fire Safe Standards, which are based largely on the State's Fire Safe Regulations.

Roadways and access standards are addressed in the SRA and LRA VHFHSZ under the State Fire Safe Regulations and within the LRA, outside of the LRA VHFHSZ, under the County Fire Safe Standards. These requirements apply to new development and include:

- ▶ Emergency access provisions that require emergency fire equipment accessibility, all-weather driving surfaces, grades to not exceed 16 percent, and well as other standards related to curves, intersections, and one-way, two-way, and dead-end roads.
- ▶ Signing and building numbers must meet minimum standards to facilitate locating a fire and avoid delays in response
- ▶ Emergency water supply, subject to approval by the county fire marshal
- ▶ Flammable vegetation clearance areas

The State's Fire Safe Regulations set standards for future design and construction of structures, subdivisions and developments in the SRA and LRA VHFHSZ, and provide for basic emergency access and perimeter wildfire protection. They were developed to inhibit the ignition and spread of wildland fires, based on public and expert input consistent with the State's Administrative Procedure Act, which establishes rulemaking procedures and standards for State agencies in California APA requirements for development of a State regulation. Compliance with these standards allows for adequate fire equipment access, developed through public workshops as well as workshops with statewide fire chiefs, county planning directors, and other interested parties.

While the State's Fire Safe Regulations only apply to onsite development and new roads, the County reviews all existing and off-site access roads for conformance with these regulations. In accordance with the Fire Safe Regulations, an exception to the standards may be allowed by the inspection authority where the alternatives provide the same practical effect in applying accepted wildland fire suppression strategies and tactics, and provisions for fire

fighter safety. Alternative measures may apply to access, evacuation, signage, water supplies, and fuel modification. An example could be the establishment or maintenance of adequate turnouts where the access road is of substandard width. The County has separate application procedures for applicants requesting an exception to standards, which requires, in accordance with the Fire Safe Regulations, that the applicant state the sections for which an exception is requested, material facts supporting the request, details of the exception proposed, and a map showing the proposed location and siting of the exception. These are reviewed on a case-by-case basis by the County Fire Marshall, local fire district, and CAL FIRE, with the final decision to approve the exception and incorporate the measures being made by the final decision-making body for the permit.

The County has engaged in significant evacuation planning that has greatly improved evacuation operations since recent major fires in 2017 (Tubbs Fire and Nuns Fire). Following these fires and the Kincade Fire in 2019, the County and other agencies took several actions to ensure more planned and orderly evacuation. This has included better readiness and coordination protocols, wildfire cameras to detect fires, and collaboration between the County and cities to finalize a map that divides each jurisdiction into formally defined, labeled tracts intended to expedite evacuation notices and public action in the event of wildfire or other emergencies. The use of evacuation zones, evacuations warnings, and direct alerts to the public have helped to ensure that evacuation routes are not overloaded and that the public is evacuated prior to a wildfire event reaching their zone. These efforts have proven successful in subsequent wildfire events, such as during the Glass Fire in 2020. Cannabis operations are currently distributed throughout the County. While the specific location of future individual projects is not known at this time, evacuation procedures are based primarily on proximity to an emergency and the emergency response and evacuation plans would continue to be employed on a case-by-case basis. The addition of visitor-serving uses in Very High FHSZs, however, poses the biggest challenge to evacuation because attendees are less likely to be familiar with evacuation routes, which evacuation zone they are in, or have automated alerts set up. As discussed above in Section 3.17.2, "Environmental Setting," Very High FHSZs generally include steep and mixed topography and are located in mountainous areas with dry summers, plenty of fuel, and steep slopes. Because these zones present the greatest hazard according to data-driven state modeling and visitor-serving uses pose higher risks in terms of evacuation, these locations could present greater challenges in terms of emergency access and evacuation.

The specific locations of where these facilities may be developed and the access conditions associated with those location is unknown and cannot be know at a program-level. Because cannabis uses could be located in and near SRAs and VHFHSZs, and these areas have existing wildfire risks, and often contain roadway conditions that limit emergency access and evacuation, implementation of the Cannabis Program Update could impair implementation of an adopted emergency response plan or emergency evacuation plan. This impact would be **potentially significant** for allowable cannabis land uses other than outdoor cultivation within the county.

Mitigation Measures

Mitigation Measure 3.17-1a (UPC, DRH, or ZPC): Limitation of Use Types in Very High Fire Hazard Severity Zones

Mitigation Measure 3.17-1b (UPC, DRH): Require All Structures to Meet Defensible Space

Mitigation Measure 3.17-1c (UPC, DRH): Require All Structures to Be Constructed with Noncombustible Materials

Mitigation Measure 3.17-1d (UPC, DRH): Develop and Implement Site-Specific Fire Protection and Prevention Plan

Mitigation Measure 3.17-1e (UPC, DRH): Implement Site-Specific Standards for Events

Significance after Mitigation

As discussed above, under Impact 3.17-1, implemented together, Mitigation Measures 3.17-1a through 3.17-1e would limit the potential for ignition through standards for operation of cannabis uses, limit fuels availability in the event that a fire is ignited, and ensure that fire suppression capabilities are adequate to address potential fires before they become catastrophic. Finally, these measures would improve access for emergency services to be better equipped to

reach an established fire, while also supporting evacuation efforts necessary for public safety. Therefore, with implementation of these mitigation measures adopted emergency response plans, emergency access, or emergency evacuation plans in areas in or near SRAs or VHFHSZ would not be substantially impaired; thus, impacts would be reduced to a **less-than-significant** level.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

As discussed above, under Impact 3.17-1, upon implementation of the mitigation measures listed above, the Cannabis Program Update would be consistent with General Plan Policies PS-3a through PS-3m. General Plan Policies PS-3d, PS-3e, and PS-3h address the adequacy of emergency response and evacuation.

Impact 3.17-3: Due to Slope, Prevailing Winds, and Other Factors, Exacerbate Wildfire Risks, and Thereby Expose Project Occupants to Pollutant Concentrations from a Wildfire or the Uncontrolled Spread of a Wildfire

The Cannabis Program Update would allow the continued development of cannabis uses, and for the construction and operation of associated infrastructure necessary to support future cannabis operations. During a wildfire, most locations within Sonoma County could experience air pollutant concentration levels that exceed safe levels of exposure (i.e., AQI of 151 or greater). As discussed above in Section 3.17-1, "Regulatory Setting," CCR, Title 8, Section 5141.1 requires employers to take steps to limit workers' exposure to wildfire smoke through feasible methods such as air filtration systems and respiratory protective equipment. Because individual sites would be subject to these standards, which require employers to limit employee exposure of hazard air pollutants during a wildfire, this impact would be **less than significant**.

The following discussion addresses impacts that may occur in and near SRAs and land classified as VHFHSZ. These areas are not limited to particularly zoning districts; therefore, the analysis does not consider impacts from the perspective of zoning type or land use type.

As discussed above, under Section 3.17-1, development of new structures and operation of events within the County would increase the risk of wildfire through introducing more people, and thus typical ignition sources known to occur in Sonoma County into flammable landscapes. During a wildfire, most locations within Sonoma County could experience air pollutant concentration levels that exceed safe levels of exposure (i.e., AQI of 151 or greater). As discussed above in Section 3.17-1, "Regulatory Setting," CCR, Title 8, Section 5141.1 requires employers to take steps to limit workers' exposure to wildfire smoke through feasible methods such as air filtration systems and respiratory protective equipment. Because individual sites would be subject to these standards, which require employers to limit employee exposure of hazard air pollutants during a wildfire, this impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

There are no land use plans, policies, or regulations that pertain to this impact beyond compliance with plans and regulations discussed in the impact above.

Impact 3.17-4: Require the Installation or Maintenance of Associated Infrastructure (such as Roads, Fuel Breaks, Emergency Water Sources) That May Exacerbate Fire Risk or That May Result in Temporary or Ongoing Impacts to the Environment

The Cannabis Program Update would allow for new or expanded commercial cannabis uses in and near the SRA and LRA VHFHSZ. If new development were to occur in these areas, regulation compliance measures would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources). The development of these facilities could result in environmental impacts that could be **potentially significant**.

The following discussion addresses impacts that may occur in and near SRAs and land classified as VHFHSZ. These areas are not limited to particularly zoning districts; therefore, the analysis does not consider impacts from the perspective of zoning type of land use type.

As discussed above under Impact 3.17-1, new development in the County would require compliance with the State's Fire Safe Regulations and the County's Fire Safe Standards. Improvements to roadways would generally involve widening, improving surface conditions, and installation of turnout and turn-arounds. In some cases, development of a cannabis site could contribute to the overall need for fuel break development consistent with the State Fire Safe Regulations. Under the Fire Safe Regulations, when building construction meets the following criteria, the County must determine the need and location for fuel breaks in consultation with the government body responsible for regulating and/or enforcing minimum fire safety standards under the following conditions (Section 1276.03 of the Fire Safe Regulations):

- (1) the permitting or approval of three or more new parcels, excluding lot line adjustments as specified in Government Code (GC) section 66412(d); or
- (2) an application for a change of zoning increasing zoning intensity or density; or
- (3) an application for a change in use permit increasing use intensity or density.

Generally, development of fuel breaks would involve creating strategic control points to allow firefighters to safely engage a wildfire and improve the safety of ingress and egress routes by reducing flammable vegetation along roadways and driveways.

Installation of emergency water supplies would generally require grading of land to support tanks or construction of reservoirs to store water. While the specific locations of these types of infrastructure are unknown at this time, generally this type of construction involves earth-moving activities that may result in significant environmental impacts to resources including unique archaeology or subsurface historical resources, generation of criteria air pollutant emissions and greenhouse gas emissions during construction, and adverse effects on special-status wildfire species individuals or habitat. Because significant environmental effects may be related to future infrastructure or maintenance activities to reduce the risk of wildfire, this impact would be **potentially significant**.

Mitigation Measure 3.17-1a: Require All Structures to Meet Defensible Space Parameter

Mitigation Measure 3.17-1b: Require All Structures to Be Constructed with Noncombustible Materials

Mitigation Measure 3.17-1c: Ensure Roadways Comply with Board of Forestry State Minimum Fire Safe Regulations

Mitigation Measure 3.17-1d: Minimize Wildfire/Ignition Risk during Operations

Mitigation Measure 3.17-1e: Minimize Ignition Risk during Events

Significance after Mitigation

As discussed above under Impact 3.17-1, Mitigation Measures 3.17-1a through 3.17-1e would limit the potential for ignition through standards for operation of cannabis uses and limit fuels availability in the event that a fire is ignited. Finally, these measures would improve access for emergency services to be better equipped to reach an established fire, while also supporting evacuation efforts necessary for public safety. As risk of fire is reduced and roadway continues and evacuation systems are improved, less infrastructure and maintenance activities would be needed to reduce the risk of wildfire. Specific to this impact, Mitigation Measure. 3.17-1d requires verification that all roadways, emergency water supplies, fuel breaks, and other wildfire reduction infrastructure necessary to support the project are in place as part of the application. Thus, no additional infrastructure and maintenance activities would be necessary beyond that required for project approval and this impact would be reduced to a **less-than-significant** level.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

There are no land use plans, policies, or regulations that pertain to this impact beyond compliance with plans and regulations discussed in the impact above.

Impact 3.17-5: 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

The Cannabis Program Update would allow the continued development of cannabis uses, and for the construction and operation of associated infrastructure necessary to support future cannabis operations. These future projects could be located in and near areas designated as SRAs or VHFHSZs. The development and operation of facilities under the Cannabis Program Update would be expected to substantially increase wildfire risk. Due to the existing conditions within Sonoma County, burn scars present a risk of post-fire flooding, landslide, and slope instability; thus, this impact would be **potentially significant**.

The following discussion addresses impacts that may occur in and near SRAs and land classified as VHFHSZ. These areas are not limited to particularly zoning districts; therefore, the analysis does not consider impacts from the perspective of zoning type of land use type.

As discussed in the "Regulatory Setting" section previously, the permitting of waste discharges to surface waters from commercial cannabis cultivation is regulated under SWRCB Order WQ 2023-0102-DWQ, which also contains requirements for soil stability and erosion control for commercial cannabis cultivation sites. These requirements include preparation of plans that address site erosion and sediment control, stabilization of disturbed areas, site closure procedures, and monitoring and reporting requirements. In addition, SWRCB Order WQ 2023-0102-DWQ contains requirements for land development maintenance, erosion control, drainage features, stream crossing installation and maintenance, soil disposal and spoils management, and roadway design and maintenance. For higher risk sites, a Site Erosion and Sediment Control Plan and Disturbed Area Stabilization Plan is required. Therefore, burn scars that may accommodate cultivation must incorporate soil stability and erosion control that could limit post-fire flooding, landslide, and slope instability.

However, due to the County's topography and potential for wildfire (see Impact 3.17-1, above), many areas in the County would be vulnerable to post-fire mudslides, debris flow, soil instability, and other post-fire flooding impacts that can occur during and after precipitation or extreme weather events. Post-fire debris flows and flash floods are generally triggered during high-intensity, short duration storm events. They develop quickly and progress downslope rapidly, often times with little to no lead time to prepare. Water levels during flash floods and debris flows may occur much more rapidly, and may be substantially larger than those produced when the watershed was not burned. Larger, more regional-scale flooding may also be exacerbated by increased post-fire flows (Sonoma County 2020). As discussed above in Section 3.17.1, "Regulatory Setting," Sonoma County has prepared a burn scar contingency plan, which establishes a uniform plan for a joint response by local governments, special districts, and allied agencies in the Sonoma County Operational Area to the threat of or actual soil movement in areas burned in recent wildfires (Sonoma County 2020). Regardless, the development and operation of facilities under the Cannabis Program Update would be expected to substantially increase wildfire risk. Due to the existing conditions within Sonoma County, burn scars present a risk of post-fire flooding, landslide, and slope instability; thus, this impact would be **potentially significant**.

Mitigation Measure 3.17-1a: Require All Structures to Meet Defensible Space Parameter

Mitigation Measure 3.17-1b: Require All Structures to Be Constructed with Noncombustible Materials

Mitigation Measure 3.17-1c: Ensure Roadways Comply with Board of Forestry State Minimum Fire Safe Regulations

Mitigation Measure 3.17-1d: Minimize Wildfire/Ignition Risk during Operations

Mitigation Measure 3.17-1e: Minimize Ignition Risk during Events

Significance after Mitigation

As discussed above under Impact 3.17-1, Mitigation Measures 3.17-1a through 3.17-1e would limit the potential for ignition through standards for operation of cannabis uses and limit fuels availability in the event that a fire is ignited. Finally, these measures would improve access for emergency services to be better equipped to reach an established fire, while also supporting evacuation efforts necessary for public safety. Because the potential for wildland fire associated with cannabis operations would be reduced to a less-than-significant level with implementation of these mitigation measures, the potential for an increased risk of post-fire flooding, landslide, and slope instability due to implementation of the proposed Cannabis Program Update would be **less than significant**.

Consistency with Land Use Plans, Policies, or Regulations Adopted to Avoid or Mitigate Environmental Effects

There are no land use plans, policies, or regulations that pertain to this impact beyond compliance with plans and regulations discussed in the impact above.

4 CUMULATIVE IMPACTS

4.1 CUMULATIVE IMPACTS

4.1.1 CEQA Requirements

Cumulative impacts are defined in State CEQA Guidelines Section 15355 as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” A cumulative impact occurs from “the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time” (State CEQA Guidelines Section 15355[b]).

This chapter provides an analysis of cumulative impacts resulting from implementation of the Cannabis Program Update together with other past, present, and probable future projects producing related impacts, as required by Section 15130 of the State CEQA Guidelines. The goal of such an analysis is twofold: first, to determine whether the overall long-term impacts of all such projects combined would be cumulatively significant; and second, to determine whether the incremental contribution to any such cumulatively significant impacts from adoption and implementation of the proposed Cannabis Program Update would be “cumulatively considerable” (and thus significant). (See State CEQA Guidelines Sections 15130[a]–[b], 15355[b], 15064[h], and 15065[a].) In other words, the required analysis examines the broad context in which cumulative impacts occur and examines whether incremental contributions from project regulated under the Cannabis Program Update would result in new significant cumulative impacts, or significantly add to anticipated cumulative impacts (i.e., “cumulatively considerable”).

Consistent with State CEQA Guidelines Section 15130, the discussion of cumulative impacts in this Draft EIR focuses on significant cumulative impacts. Section 15130(b) of the State CEQA Guidelines provides, in part, the following:

[t]he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

4.1.2 Cumulative Setting

SCOPE OF THE CUMULATIVE ANALYSIS

The geographic area that could be affected from implementation of the Cannabis Program Update varies depending on the type of environmental resource being considered. This geographic area provides the context for consideration of cumulative impacts. The general geographic area associated with various environmental effects defines the boundaries of the area used for compiling the list of projects considered in the cumulative impact analysis. Table 4-1 presents the general geographic areas associated with the different resources addressed in this Draft EIR and evaluated in those sections of this cumulative analysis.

Table 4-1 Geographic Scope of Cumulative Impacts

Resource Topic	Geographic Area
Aesthetics	Sonoma County
Agricultural and Forestry Resources	Sonoma County
Air Quality	Regional for criteria pollutants within the San Francisco Bay Area Air Basin (SFBAAB) and the North Coast Air Basin; generally site specific or within a larger localized area for odor
Biological Resources	Sonoma County
Cultural Resources	Sonoma County
Energy	Regional (Pacific Gas & Electricity Company and Sonoma Clean Power Authority)
Geology and Soils	Site specific
Greenhouse Gas Emissions and Climate Change	Global
Hazards and Hazardous Materials	Site specific
Hydrology and Water Quality	Localized, watershed, and groundwater basins
Land Use and Planning	Sonoma County, specific plan area, and site specific
Noise and Vibration	Site specific and localized (e.g., along transportation corridors)
Public Services and Recreation	Sonoma County and regional
Transportation	Site specific
Tribal Cultural Resources	Sonoma County
Utilities and Service Systems	Sonoma County
Wildfire	Sonoma County and regional

Source: Compiled by Ascent in 2024.

LAND USE CONDITIONS/ACTIVITIES IN THE COUNTY

The following existing and planned land use conditions are related to cumulative setting conditions:

- ▶ According to the California Department of Finance, the current population in Sonoma County, in both incorporated and unincorporated areas, is 479,826 and is projected to decrease to a population to 474,381 by 2044 (DOF 2024).
- ▶ Development of the unincorporated area and communities of the County has resulted in conversion of natural habitat to rural and urban uses and decreased surface water flows to support water supply demands. Residents in the communities of the County would continue to use existing surface water and groundwater supply sources.
- ▶ Existing and planned County and California Department of Transportation (Caltrans) roadway maintenance projects would continue as planned.
- ▶ Historic and ongoing agricultural activities have converted habitat and required diversion of surface water and groundwater supplies for irrigation.
- ▶ Historic and ongoing timber production has resulted in the modification of forest resources, caused impacts on wildlife and associated habitat conditions.
- ▶ Historic and ongoing mining activities have resulted in habitat removal and modification of hydrologic conditions that have affected wildlife and associated habitat conditions and degraded water quality.
- ▶ Forest management activities consisting of fuels management, forest thinning, fuel breaks, and other, similar actions by the California Department of Forestry and Fire Protection (CAL FIRE) and local fire agencies are ongoing and would occur into the future. These forest management activities have the potential to affect special-status plant and wildlife species and habitat, as well as watershed conditions.

- ▶ Commercial cannabis activities occur in Sonoma County and surrounding counties, including Humboldt, Mendocino, and Trinity Counties and will continue in the future.

Sonoma County 2020 General Plan

The 2020 General Plan was adopted on September 23, 2008. Under the General Plan the majority of unincorporated County is designated as Resources and Rural Development (492,305 acres), followed by 329,306 acres designated as diverse agriculture, land extensive agriculture, and land intensive agriculture. Smaller areas of the unincorporated County are designated as residential uses (81,785 acres), commercial (3,966 acres), industrial (2,726 acres), and public/quasi-public (56,425) (Sonoma County 2006). The most recent update to the General Plan is the 2023-2031 Housing Element Update.

The Sonoma County 2020 General Plan EIR examined the impacts associated with projected population in Sonoma County to increase from 458,614 in 2000 to 546,030 residents in 2020 and the increase in housing units from 183,153 in 2000 to 221,640 in 2020. Under the 2020 General Plan, employment was projected to increase from 27,310 to 37,200 in the unincorporated County (Sonoma County 2006). Additional growth may occur in the County as a result of planned land uses within the nine incorporated cities. The General Plan EIR examined the potential for cumulative effects associated with build-out of planned growth in the unincorporated County area and growth in the incorporated cities (see Section 6.2 of the 2020 General Plan EIR).

The County has initiated an update process for the General Plan. A draft audit for the General Plan 2020 was completed in October 2024. The audit identifies recommended changes to align with State law, resolve inconsistencies among planning documents, eliminate redundancies, and reflect current conditions in the county. The audit involved a detailed review of all goals, objectives, policies, and implementation programs from General Plan 2020 to consider whether each item should be recommended for retention, modification, or deletion. It also involved consideration of new policy guidance that may be needed to address gaps in the current policy framework and ensure compliance with current standards and regulations. (Sonoma County 2024.)

Other Long-Range Plans

In addition to the 2020 General Plan, land uses in the County are regulated under the following adopted plans:

- ▶ Airport Industrial Area Specific Plan (currently in an update process)
- ▶ Bennett Valley Area Plan
- ▶ Franz Valley Area Plan
- ▶ Penngrove Area Plan
- ▶ Petaluma Dairy Belt Area Plan
- ▶ Sonoma Mountain Area Plan
- ▶ South Santa Rosa Area Plan
- ▶ West Petaluma Area Plan

The County is in the process of preparing a Springs Specific Plan consisting of an approximately 180-acre area in the southeastern portion of Sonoma County. The proposed Springs Specific Plan includes portions of the unincorporated communities of Agua Caliente, Feters Hot Springs, and Boyes Hot Springs, as well as the Donald Street and Verano Avenue neighborhood north of the City of Sonoma. The Plan area is bounded by Agua Caliente Road at the north and Verano Avenue at the south and is bisected by the Highway 12 commercial corridor. The overall purpose of the Springs Specific Plan is to identify the community's vision for the future growth, development, and community resources within the Specific Plan area in a manner consistent with the quality of life desired by residents and businesses. It includes development standards, design guidelines, distribution of uses, infrastructure requirements, and policy provisions.

The County is also in the process of preparing a Sonoma Developmental Center (SDC) Specific Plan for redevelopment of the site of the oldest state-run residential care facility dedicated to serving individuals with

developmental disabilities. The core campus of the SDC site is located along Arnold Drive between the communities of Glen Ellen and Eldridge. The Board of Supervisors adopted an SDC Specific Plan in December 2022 that provided for a mixed-used development of up to 1,000 units and 410,000 square feet of non-residential development, including a boutique hotel. The Board set aside the Specific Plan in December 2024 following a court ruling, and directed staff to revise the Specific Plan and associated EIR for reconsideration.

4.1.3 Existing Cannabis Cultivation Operations in Sonoma County

The County's first comprehensive Cannabis Land Use Ordinance (Ord. No. 6189) was adopted under a negative declaration on December 20, 2016, and amended in 2018 to make minor changes to allowed uses (e.g., allow adult use) and enhance neighborhood compatibility (e.g., 10-acre minimum parcel size for cultivation) within the scope of the adopted negative declaration. Sonoma County's Code Enforcement Division began tracking illegal cannabis sites after July 1, 2018, when the County began to issue civil penalties for illegal cultivation.

After approval of the first cannabis ordinance, Sonoma County began processing County cannabis permits. Since recreational cannabis was legalized in Sonoma County, the County has approved permits for a total 281 cannabis businesses. As of 2023, active permits within the County consisted of 126 cultivation permits and 38 noncultivation permits (EPS 2024).

The number of illegal cannabis sites documented by year is included in Table 2-1. Since 2020, the number of illegal cannabis sites has been trending downward in number and size.

Generally, throughout the state, historical and ongoing unpermitted/illegal cannabis cultivation practices have resulted in damage to streams and wildlife. Unpermitted cannabis cultivation operations on public and private lands have led to illegal water diversions, unpermitted removal of sensitive vegetation, and direct mortality to protected species from exposure to rodenticides and insecticides. In addition, these practices (e.g., clearing trees, grading, and constructing roads) have been conducted in a manner that causes large amounts of sediment to flow into streams during rains. The unpermitted cannabis cultivators have also discharged pesticides, fertilizers, fuels, trash, and human waste around the sites that then washes into waters of the state. Furthermore, year-round diversion of flows by unpermitted cannabis cultivation operations may have caused adverse effects on stream flows in some areas of the County that impact anadromous fish species that need certain minimum depths in order to travel upstream to spawn. Water quality-related constituents of concern associated with cannabis cultivation discharges include nitrogen, pathogens (represented by coliform bacteria), phosphorus, salinity, and turbidity. Water quality can be affected by excessive use of fertilizer, soil amendments, and other sources. These types of adverse effects have been addressed through the Cannabis Policy under Order WQ 2023-0102-DWQ, General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities, described throughout this EIR.

Cultivation operations that do not obtain licensing from the California Department of Cannabis Control (DCC) and permits from Sonoma County are considered illegal. While unpermitted/illegal cannabis cultivation operations would likely continue to occur in the County, the details on the full extent of the environmental effects of existing unpermitted/illegal cannabis operations are considered speculative and are not assessed in this evaluation of cumulative impacts. Notably, enforcement activities targeting unpermitted cultivation operations are taken by the County in coordination with other agencies, including DCC, with the intent that such cultivation operations would be brought into compliance with County and state standards or closed.

4.2 ANALYSIS OF CUMULATIVE IMPACTS

The following sections contain a discussion of the cumulative effects anticipated from implementation of the project, together with other land use activities in the County and region, for each of the environmental issue areas evaluated in this EIR. The analysis conforms with section 15130(b) of the State CEQA Guidelines, which specifies that the "discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The

discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.”

When considered in relation to other reasonably foreseeable projects, cumulative impacts on some resources would be significant and more severe than those caused by the project alone.

For purposes of this EIR, the project would result in a significant cumulative effect if:

- ▶ the cumulative effects of related land use activities (past, current, and probable future projects) are not significant but the incremental impact of implementing the project would be substantial enough, when added to the cumulative effects of related projects, to result in a new cumulatively significant impact; or
- ▶ the cumulative effects of related land use activities (past, current, and probable future projects) are already significant and implementation of the project would make a considerable contribution to the effect. The standards used herein to determine a considerable contribution are that either the impact must be substantial, or it must exceed an established threshold of significance.

This cumulative analysis assumes that individual commercial cannabis operations comply with DCC and County cannabis regulations and that all mitigation measures identified in Sections 3.1 through 3.17 are adopted and implemented. The analysis herein analyzes whether, after implementation of program-specific mitigation and standards proposed in the Cannabis Program Update that minimize environmental effects, the residual impacts of the project would cause a cumulatively significant impact or would contribute considerably to existing/anticipated (without the project) cumulatively significant effects. Where the project would contribute to existing/anticipated cumulatively significant effects, additional mitigation is recommended where feasible.

Aesthetic Resources

The cumulative context for aesthetic resources is the unincorporated area of Sonoma County. Because of its varied topography, the County offers a range of scenic features, including flat valley floors where vineyards dominate the landscape to the mountain ranges in the northwest and eastern portions of the County. Redwood forests and the coastal mountain range are prominent in the west. Rolling foothills and grazing lands form the visual landscape in the southern portion of the County. However, a notable characteristic of the quality of Sonoma County’s scenic environment is the interface of small rural communities and the natural landscape. Consistent with the analysis provided in Section 3.1, “Aesthetics,” this cumulative impact analysis focuses on whether the environmental effects described for Impacts 3.1-1 through 3.1-4 would be worsened under cumulative conditions.

The 2020 General Plan EIR did not identify significant environmental effects related to scenic resources or effects on visual quality. However, impacts associated with additional sources of lighting, resulting in sky glow; light trespass; and glare were determined to be significant and unavoidable (Impact 4.11-3 in the 2020 General Plan EIR) and cumulatively considerable (Section 6.2, “Cumulative Impacts,” in the 2020 General Plan EIR). Thus, the cumulative aesthetic impacts from the light pollution have been identified by the County.

CUM-1: CONTRIBUTION TO CUMULATIVE IMPACTS ON SCENIC RESOURCES AND SCENIC HIGHWAYS

Potential development of commercial cannabis cultivation and noncultivation operations would introduce structures and features that are similar to those used for other agricultural activities. New cannabis uses would be subject to the County’s design standards, which would minimize adverse visual effects. However, implementation of Mitigation Measures 3.1-1 and 3.1-2 would require tarps to be non-reflective and would prohibit solid fencing within County-designated scenic landscapes, scenic corridors, and community separators. With implementation of this mitigation measure, cannabis operations would appear substantially similar to other agricultural uses in the county, which are a defined feature of the scenic resources identified in the county. Thus, with implementation of Mitigation Measures 3.1-1 and 3.1-2, impacts on scenic resources and visual quality **would not be cumulatively considerable**.

CUM-2: CONTRIBUTION TO CUMULATIVE IMPACTS ON VISUAL CHARACTER AND QUALITY

As discussed in Section 3.1.2, “Environmental Setting,” the visual character of the County contains diverse features throughout its different areas and communities. Overall, the visual character includes natural habitat conditions and waterways; rural and agricultural land uses, such as vineyards, orchards, field crops, rangeland, and supporting agricultural buildings (barns, buildings used for equipment storage and processing of agricultural products, offices, hoop houses, and shipping containers); and rural communities consisting of residential, commercial, office, and light industrial uses. New cannabis uses would be subject to the County’s design standards, which would minimize adverse visual effects. Regardless, depending on the materials used, tarps and security fencing may be visible from a distance and could be considered a dominant and intrusive feature of a scenic vista. However, with implementation of Mitigation Measures 3.1-1 cannabis operations would appear substantially similar to other agricultural uses in the County, which are a defined feature of the visual character of the county. Thus, upon implementation of Mitigation Measure 3.1-1, this impact **would not be cumulatively considerable**.

CUM-3: CONTRIBUTION TO CUMULATIVE IMPACTS ON LIGHT AND GLARE

Commercial cannabis cultivation sites are known to use light sources for cultivation of commercial cannabis plants (on-site nurseries, commercial nurseries, mixed-light cultivation, and indoor cultivation), in addition to nighttime lighting associated with operation and security for all cultivation types. While state licensing requirements would ensure that light and glare sources from outdoor cannabis cultivation is fully shielded and downward casting, there are no State standards and limited County standards for lighting associated with uses other than outdoor cultivation. Therefore, this impact would be potentially significant. However, implementation of Mitigation Measure 3.1-4a would require visible tarps to be non-reflective and Mitigation Measure 3.1-4b would establish new standards for lighting and glare in the county. These measures are consistent with standards typically required for projects subject to a use permit or design review with hearing process. These requirements would prevent spillover of light onto adjacent property, limit the types of materials that may be used on buildings and at cultivation sites. With implementation of these mitigation measures, there would not be substantial new sources of light or glare associated with the proposed Program. Thus, with implementation of Mitigation Measure 3.1-4a and 3.1-4b, the program’s contribution to the cumulative impact on light and glare **would not be cumulatively considerable**.

Agriculture and Forestry Resources

The cumulative setting for agriculture and forestry resources consists of the entire county. As stated in Section 3.2, “Agriculture and Forestry Resources,” agriculture is one of the main industries in the County and provides a substantial base to the County’s economy. In regard to timber production, TP-zoned lands account for 9 percent of the total acreage within the County, or approximately 81,446 acres

The 2020 General Plan EIR does not identify any significant impacts on agriculture or timber resources under General Plan or cumulative conditions. Thus, cumulative impacts associated with the loss of agricultural land from development have not been identified by the County (Section 6.2, “Cumulative Impacts” in the 2020 Draft EIR) (Sonoma County 2006). No cumulative impacts on forestry resources have been identified.

CUM-4: CONTRIBUTION TO CUMULATIVE IMPACTS ON AGRICULTURAL RESOURCES

As described for Impact 3.2-1, cannabis cultivation and supply chain uses within the County. Cannabis is currently defined by the state as an agricultural product and is considered a secondary use of agricultural land by the County. Implementation of the proposed Cannabis Program Update would reclassify cannabis as a controlled agricultural use and allow for development of structures to support non-production accessory uses, such as manufacturing, retail, and distribution, as well as permanent structures for events would involve conversion of farmland to a nonagricultural

use. However, potential new developed uses that could be located on Farmland would not comprise a substantial area of the county's agricultural resources. Furthermore, support uses would be critical to protect the future agricultural use of the county's agricultural lands. Thus, the loss of such a relatively small area would not significantly detract from future agricultural use in the unincorporated area. Thus, the contribution of conversion of farmland to nonagricultural use under the Cannabis Program Update **would not be cumulatively considerable**.

CUM-5: CONTRIBUTION TO CUMULATIVE IMPACTS ON TIMBERLAND AND FORESTRY RESOURCES

The discussion of Impact 3.2-4 states that the proposed Cannabis Program would require future cannabis operations that involve the removal of on-site trees, including those considered forestland, would be required to comply with the requirements of the applicable County tree protection ordinances based on the type and maturity of the on-site trees. Similar to existing regulations, adoption and implementation of the Cannabis Program Update would not permit any new commercial cannabis uses within the TP zone. As identified in Section 26-06-020B5a, the intent of the TP zone is the conservation and protection of land capable of producing timber and forest products. Thus, the proposed Cannabis Program Update would not conflict with timber resource provisions of County Code. For these reason, substantial loss or conversion of forestland is not anticipated under the Cannabis Program Update, compliance with the County's tree protection ordinances would ensure impacts to forestland **would not be cumulatively considerable**.

Air Quality

With respect to criteria air pollutants, the cumulative environment for the project is the North Coast Air Basin (NCAB) and the San Francisco Bay Area Air Basin (SFBAAB). Descriptions of the NCAB and SFBAAB can be found in Section 3.3.2 in Section 3.3, "Air Quality." The cumulative setting for criteria air pollutants includes all past, present, and future projects within Sonoma County and the growth assumptions provided in the 2017 Clean Air Plan as overseen by the Bay Area Air Quality Management District (BAAQMD) given the programmatic nature of the Cannabis Program Update.

The 2020 General Plan EIR indicated there would be significant and unavoidable air quality impacts related to ozone precursor emissions (Impact 4.3-1 in the 2020 General Plan EIR) and cumulatively considerable air quality impacts related to automobile traffic, wood stove emissions, construction dust, and aircraft emissions (Section 6.2, "Cumulative Impacts," in the 2020 General Plan EIR). Thus, the cumulative air quality impacts have been identified by the County.

Odor impacts tend to not to be cumulative in nature with odor issues generally limited to within 1 to 4 miles of an odor-emitting source.

CUM-6: CONTRIBUTION TO CUMULATIVE IMPACTS ON CONSTRUCTION CRITERIA AIR POLLUTANTS

BAAQMD's thresholds of significance (the more stringent thresholds applied in the analysis presented in Section 3.3, "Air Quality") apply at the project level and are cumulative in nature; that is, they identify the level of project-generated emissions above which impacts would be cumulatively considerable. Thus, they represent the level at which emissions of a given project would impede the air basin from achieving ambient air quality standards, considering anticipated growth and associated emissions in the region.

The SFBAAB is in nonattainment for ozone and respirable particulate matter (PM₁₀) with respect to the California Ambient Air Quality Standards (CAAQS) and for ozone and fine particulate matter (PM_{2.5}) with respect to the National Ambient Air Quality Standards (NAAQS). The NCAB is in attainment for all pollutants. Construction activities in the region would emit additional particulate matter and ozone precursors that may conflict with attainment efforts in the County. Because the region is in nonattainment for the ozone, PM₁₀, and PM_{2.5} NAAQS and the ozone and PM_{2.5}

CAAQS, the existing cumulative condition is adverse, and any additional emissions would exacerbate that condition. However, BAAQMD has established construction emission thresholds for development projects that determine whether a particular project’s emissions would be cumulatively considerable. The Cannabis Program Update’s construction emissions for each commercial cannabis use type would not exceed BAAQMD’s thresholds of significance (see Impact 3.3-1); however, the Cannabis Program Update does not include BAAQMD’s basic best management practices for construction as described under Impact 3.3-2; therefore, Mitigation Measure 3.3-2 is recommended. This mitigation measure would comply with BAAQMD’s guidance and reduce fugitive dust impacts to a less-than-significant level. All other criteria air pollutants would remain below the BAAQMD screening thresholds. Therefore, the Cannabis Program Update’s construction-related contribution to criteria air pollutant or precursor emissions **would not be cumulatively considerable**.

For analysis and disclosure purposes, this EIR estimated permitted commercial cannabis cultivation and noncultivation operations that may occur in the County over the next 20 years for cumulative conditions. Since the proposed Cannabis Program Update does not entitle any new individual commercial cannabis uses upon its approval, it is not known how many new commercial cannabis uses would be constructed at the same time. Construction and operation air pollutant emission modeling used the California Emissions Estimator Model (CalEEMod) Version 2022.1.1.28 computer program. Cumulative modeling was based on assumptions of the number and size of these new facilities, which are identified in Table 3-1, as well as climatic conditions in the county. Construction-related emissions were estimated for individual permitted types and scaled based on the number of cultivation and noncultivation sites that could be constructed simultaneously. This EIR estimates that a total of 208 acres of permitted cannabis cultivation canopy and 235 supply chain uses (supply chain uses may be freestanding or accessory uses to other cannabis uses) may occur over the next 20 years (see Table 3-1 for additional assumptions).

To estimate the number of new commercial cannabis sites that could potentially be constructed in a year, it is estimated that as many as 12 commercial cannabis sites could be under construction at the same time. Table 4-2 presents the levels of criteria air pollutants and precursors that would be emitted by this level of construction activity. Refer to Appendix C for detailed modeling input parameters and results.

Table 4-2 Cumulative Criteria Air Pollutant and Precursor Emissions Associated with Construction of 12 New Permitted Commercial Cannabis Sites Simultaneously

Permit Type	ROG (lb/day)	NO _x (lb/day)	CO (lb/day)	SO _x (lb/day)	PM ₁₀ (Exhaust) (lb/day)	PM _{2.5} (Exhaust) (lb/day)
Average Daily Emissions						
Outdoor	24	36	47	<1	1	1
Mixed-light	12	48	72	<1	1	1
Indoor	12	24	36	<1	1	1
Supply Chain Uses	24	36	48	<1	1	1
Total	72	144	203	0	4	4

Notes: lb/day = pounds per day, ROG = reactive organic gases, NO_x = oxides of nitrogen, CO = carbon monoxide, SO_x = sulfur oxides, PM₁₀ = respirable particulate matter, PM_{2.5} = fine particulate matter.

Source: Modeling performed by Ascent in 2024 (Appendix C).

CUM-7: CONTRIBUTION TO CUMULATIVE IMPACTS ON OPERATIONAL CRITERIA AIR POLLUTANTS

Ozone impacts are the result of cumulative emissions from numerous sources in the region and transport from outside the region. Ozone is formed in chemical reactions involving reactive organic gases (ROG), oxides of nitrogen (NO_x), and sunlight. All but the largest individual sources emit ROG and NO_x in amounts too small to have a measurable effect on ambient ozone concentrations by themselves. However, when all sources throughout the region are combined, they can result in cumulative ambient concentrations of ozone that exceed the NAAQS and CAAQS.

PM₁₀ and PM_{2.5} have similar regional cumulative impacts when particulates are entrained in the air and build to unhealthful concentrations over time. PM₁₀ and PM_{2.5} also have the potential to cause significant local problems during periods of dry conditions accompanied by high winds and during periods of heavy earth-disturbing activities. PM₁₀ and PM_{2.5} may have cumulative local impacts if, for example, several unrelated grading or earthmoving activities are underway simultaneously at nearby sites. Operations-related sources of PM₁₀ and PM_{2.5} are less likely to result in local cumulative impacts because operations sources of PM₁₀ and PM_{2.5} tend to be spread throughout the region (i.e., vehicles traveling on roads) and thus not concentrating at one receptor.

BAAQMD has established operations emission thresholds of significance for individual projects beyond which a particular project's emissions would be cumulatively considerable. A project that operates below the threshold levels is generally considered not to contribute to a cumulatively significant air quality impact, and those that operate above the thresholds would contribute to a cumulative impact.

Overall emissions associated with the Cannabis Program Update would increase over existing conditions. The analysis included in Impact 3.3-3 in Section 3.3, "Air Quality," shows that the operation of individual cannabis cultivation and noncultivation sites under the Cannabis Program Update would result in the generation of additional ROG, NO_x, PM₁₀, and PM_{2.5}, which are criteria air pollutants and precursors that form the basis for the SFBAAB's nonattainment status and the existing adverse cumulative condition in the air basin. However, these emissions would not exceed BAAQMD's average daily thresholds of significance, which are inherently cumulative by design.

For analysis and disclosure purposes, this EIR estimated permitted commercial cannabis cultivation and noncultivation operations that may occur in the County over the next 20 years for cumulative conditions (see Table 3-1). Table 4-3 presents total levels of criteria air pollutants and precursors associated with operation of assumed new commercial cannabis sites under the Cannabis Program Update based on Table 3-1. Refer to Appendix C for detailed modeling input parameters and results.

Table 4-3 Cumulative Criteria Air Pollutant and Precursor Emissions Associated with Operation of New Commercial Cannabis Sites in 2044

Permit Type	ROG (lb/day)	NO _x (lb/day)	CO (lb/day)	SO _x (lb/day)	PM ₁₀ (Exhaust) (lb/day)	PM _{2.5} (Exhaust) (lb/day)
Average Daily Emissions						
Outdoor	24	12	84	1	12	1
Mixed-light	84	36	228	1	36	1
Indoor	12	12	60	1	12	1
Supply Chain Uses	48	36	240	1	36	12
Total	168	96	612	4	96	15

Notes: lb/day = pounds per day, ROG = reactive organic gases, NO_x = oxides of nitrogen, CO = carbon monoxide, SO_x = sulfur oxides, PM₁₀ = respirable particulate matter, PM_{2.5} = fine particulate matter.

Source: Modeling performed by Ascent in 2024 (Appendix C).

The BAAQMD's "plan level" thresholds of significance are applied to this cumulative impact analysis given the programmatic nature of the project. Table 3-3 of the BAAQMD 2022 CEQA Guidelines identifies the following thresholds for plan level (BAAQMD 2022):

- ▶ consistency with current air quality control measures and
- ▶ project vehicle miles traveled (VMT) or a vehicle trip increase less than or equal to the projected population increase.

As described above, future permitted commercial cannabis cultivation and noncultivation sites would be required to implement Mitigation Measure 3.3-2, which would amend Section 26-18-115(C), 26-18-270(C), 26-20-025(C), 26-20-040(C), 26-20-080(C), and 26-20-165(C) of the Sonoma County Code under the Cannabis Program Update to require implementation of BAAQMD's Best Management Practices to control fugitive dust emissions during construction.

Additionally, operations would be required to comply with applicable BAAQMD rules and policies, state cannabis regulations, and CCR requirements that address air quality. Section 3.14, "Transportation" identifies increased VMT to the County overall due to the establishment of new businesses. As stated in Section 3.14, "Transportation," individual projects may result in substantial increases to VMT, which could affect the cumulative air quality conditions of the SFBAAB. Thus, the contribution of new permitted commercial cannabis cultivation and noncultivation sites to cumulative operational impacts on air pollutant emissions **would be cumulatively considerable and significant and unavoidable**.

CUM-8: CONTRIBUTION TO CUMULATIVE IMPACTS ON ODORS

While it is acknowledged that the Cannabis Program Update would result in significant odor impacts at individual sites permitted under the program, these impacts would be limited to the area surrounding the commercial cannabis facility and would not create a countywide odor impact. All commercial cannabis operations would be subject to the County's standards for cannabis cultivation. In addition, Mitigation Measure 3.3-4 is recommended to include more stringent provisions of Section 26-18-115(C)(1)(a) of the County's standards for cannabis cultivation. Furthermore, due to economic constraints (see Section 3.0, "Approach to the Environmental Analysis," the total projected outdoor cultivation would be limited to approximately 188 acres. While there may be odors associated with cannabis uses, they would be localized and dissipate over distance. Thus, this impact **would not be cumulatively considerable** for the Cannabis Program Update.

Biological Resources

The cumulative setting for biological resources includes the Program area and adjacent migration and movement corridors, including rivers and streams and the Pacific Flyway for migratory birds. In addition, the cumulative context includes the Pacific Ocean to account for migration of anadromous fish (e.g., steelhead, Chinook salmon, coho salmon). Although the Program area has a fair amount of rural areas, past development in the region, including timber harvest (beginning in the mid-19th century) and illegal cannabis cultivation, has resulted in substantial loss and degradation of native habitat, including old-growth redwood and Douglas-fir forest, and the degradation of aquatic habitat and water quality of County watersheds.

The 2020 General Plan EIR identified significant and unavoidable impacts on biological resources related to loss of special status species, sensitive natural communities, and wildlife habitat and movement under General Plan and cumulative conditions (Impacts 4.6-1, 4.6-2, and 4.6-4 and Section 4.2, "Cumulative Impacts," in the 2020 General Plan EIR) (Sonoma County 2006). Thus, the cumulative biological resources impacts have been identified by the County.

CUM-9: CONTRIBUTION TO CUMULATIVE IMPACTS ON SPECIAL-STATUS PLANT SPECIES AND HABITAT

The development of permitted cannabis cultivation and noncultivation facilities could involve ground disturbance, vegetation removal, and conversion of wetland habitat, which could result in the direct loss of special-status plants or their habitat (see Section 3.4, "Biological Resources," Impact 3.4-1). This would contribute to significant cumulative impacts in the Program area. Implementation of Mitigation Measures 3.4-1a, 3.4-1b, and 3.4-1c, as well as compliance with SWRCB Order WQ 2023-0102-DWQ, and Sonoma County General Plan policies, and Sonoma County Code (e.g., Chapter 11 [Construction Grading and Drainage], Article 14 [Standards], Section 11.14.090 [Setbacks for Lakes, Ponds, and Reservoirs], Section 11.14.100 [Setbacks for Streams], and Section 11.14.110 [Setbacks for Wetlands]) would offset the Cannabis Program Update's contribution to this impact because it would require applicants to identify and avoid special-status plants and avoid the establishment of invasive species. Thus, upon implementation of these mitigation measures, the contribution of cannabis cultivation and supply chain uses to cumulative impacts on special-status plant species and habitat **would be less than cumulatively considerable**.

CUM-10: CONTRIBUTION TO CUMULATIVE IMPACTS ON SPECIAL-STATUS WILDLIFE SPECIES AND HABITAT

Permitted cannabis cultivation and noncultivation activities could result in impacts related to disturbance to or loss of special-status wildlife species and habitat (see Section 3.4, "Biological Resources," Impact 3.4-2). This would contribute to significant cumulative impacts because the Cannabis Program Update could involve ground disturbance, vegetation removal, and overall conversion of wildlife habitat in the Program area where adverse effects on special-status wildlife species and habitat would be significant. Mitigation Measures 3.4-1a and 3.4-2a through 3.4-2q would address these impacts because they would require predevelopment surveys, establishment of protective buffers, and other avoidance measures consistent with the protection measures set forth in SWRCB Order WQ 2023-0102-DWQ, Sonoma County General Plan policies and requirements under the Sonoma County Code (e.g., Chapter 11 [Construction Grading and Drainage], Article 14 [Standards], Section 11.14.090 [Setbacks for Lakes, Ponds, and Reservoirs], Section 11.14.100 [Setbacks for Streams], and Section 11.14.110 [Setbacks for Wetlands]). These mitigation measures would offset the Cannabis Program Update's contribution to cumulative special-status wildlife species and habitat impacts. Thus, upon implementation of these mitigation measures, the contribution of permitted cannabis cultivation and noncultivation operations to cumulative impacts on special-status wildlife species and habitat **would be less than cumulatively considerable**.

CUM-11: CONTRIBUTION TO CUMULATIVE IMPACTS ON SPECIAL-STATUS FISHERIES

Permitted cannabis cultivation and noncultivation activities could result in impacts related to disturbance to or loss of special-status fisheries (see Section 3.4, "Biological Resources," Impact 3.4-3). Cannabis cultivation would be subject to SWRCB Order WQ 2023-0102-DWQ, and all cannabis-related project activities would be subject to CDFW Lake and Streambed Alteration Agreement requirements therein (Term 3), Sonoma County General Plan policies, as well as Sonoma County Code. As such, this impact would be less than significant with no mitigation required. Thus, the contribution of permitted cannabis cultivation and noncultivation activities to cumulative impacts on special-status fisheries **would be less than cumulatively considerable**.

CUM-12: CONTRIBUTION TO CUMULATIVE IMPACTS ON SENSITIVE NATURAL COMMUNITIES, RIPARIAN HABITAT, OLD-GROWTH HABITAT, OR OTHER SENSITIVE HABITATS

Permitted cannabis cultivation and noncultivation activities could adversely affect riparian habitat, old-growth habitat, and other sensitive natural communities if they are present on the cannabis operation sites (see Section 3.4, "Biological Resources," Impact 3.4-4). Implementation of Mitigation Measure 3.4-4, as well as compliance with SWRCB Order WQ 2023-0102-DWQ, Sonoma County General Plan policies, and Sonoma County Code would offset the Cannabis Program Update's contribution to this significant cumulative impact on sensitive natural communities, riparian habitat, and wetland vegetation. This is because it would require applicants to identify and avoid sensitive resources or provide compensation for the loss of habitat through enhancement, creation and management, conservation easements, and other appropriate measures. Thus, upon implementation of these mitigation measures, the contribution of permitted cannabis cultivation and noncultivation activities to cumulative impacts on habitat **would be less than cumulatively considerable**.

CUM-13: CONTRIBUTION TO CUMULATIVE IMPACTS ON STATE OR FEDERALLY PROTECTED WETLANDS

Permitted cannabis cultivation and noncultivation activities could adversely affect waters of the United States and waters of the state, such as streams, rivers, lakes, and wetlands. This would contribute to significant cumulative impacts in the Program area (see Section 3.4, "Biological Resources," Impact 3.4-5). Implementation of Mitigation Measures

3.4-1a, 3.4-1c, and 3.4-5, as well as compliance with SWRCB Order WQ 2023-0102-DWQ, Sonoma County General Plan policies, and Sonoma County Code would offset the Cannabis Program Update's contribution to this significant cumulative impact because it would require avoidance of impacts on waters of the United States and waters of the state. Thus, upon implementation this mitigation measure, the contribution of permitted cannabis cultivation and noncultivation activities to cumulative impacts to wetlands **would be less than cumulatively considerable**.

CUM-14: CONTRIBUTION TO CUMULATIVE IMPACTS ON MIGRATORY WILDLIFE CORRIDORS OR NATIVE WILDLIFE NURSERY SITES

Permitted cannabis cultivation and noncultivation activities could adversely affect resident or migratory wildlife corridors through habitat fragmentation, degradation of aquatic habitat (e.g., streams and rivers), blockage of important wildlife migration paths, as well destruction or abandonment of nursery sites (see Section 3.4, "Biological Resources," Impact 3.4-6). This would contribute to significant cumulative impacts in the Program area. Implementation of Mitigation Measures 3.4-6a through 3.4-6d and compliance with SWRCB Order WQ 2023-0102-DWQ, Sonoma County General Plan policies, as well as Sonoma County Code would offset the Cannabis Program Update's contribution to this significant cumulative impact because it would retain features critical for habitat connectivity, protect wildlife from fencing and other material that could cause mortality, and protect wildlife nursery sites. Thus, after implementation of Mitigation Measures 3.4-6a through 3.4-6d and other policies, the contribution of permitted cannabis cultivation and noncultivation activities to significant cumulative impacts on migratory corridors and nursery sites **would be less than cumulatively considerable**.

CUM-15: CONTRIBUTION TO CUMULATIVE IMPACTS ON CONFLICTS WITH ANY LOCAL POLICIES OR ORDINANCES PROTECTING BIOLOGICAL RESOURCES

Permitted cannabis cultivation and noncultivation activities could conflict with local policies and ordinances protecting biological resources (see Section 3.4, "Biological Resources," Impact 3.4-7). This would contribute to significant cumulative impacts in the Program area. Cannabis-related activities would be required to follow the Sonoma County General Plan policies, as well as Sonoma County Code, and cultivation activities would need to comply with SWRCB Order WQ 2023-0102-DWQ, which would offset the Cannabis Program Update's contribution to this significant cumulative impact, and no conflict with the policies protecting biological resources would occur; therefore, this impact would be less than significant. Thus, the contribution of permitted cannabis cultivation and noncultivation activities to significant cumulative impacts from conflicts with local policies **would be less than cumulatively considerable**.

CUM-16: CONTRIBUTION TO CUMULATIVE IMPACTS ON CONFLICTS WITH PROVISIONS OF AN ADOPTED LOCAL HABITAT CONSERVATION PLAN

Permitted cannabis cultivation and noncultivation activities could conflict with the Santa Rosa Plain Conservation Strategy (see Section 3.4, "Biological Resources," Impact 3.4-8). This would contribute to significant cumulative impacts in the Program area. Implementation of Mitigation Measures 3.4-1a, 3.4-1b, 3.4-2a, and 3.4-8 would offset the Program Update's contribution to this significant cumulative impact, and no conflict with the Santa Rosa Plain Conservation Strategy would occur; therefore, this impact would be less than significant. Thus, the contribution of permitted cannabis cultivation and noncultivation activities to significant cumulative impacts from conflicts with local policies **would be less than cumulatively considerable**.

Cultural Resources

The cumulative context for archaeological and historical resources is Sonoma County, where common patterns of historic-era settlement have occurred over roughly the past two centuries.

The 2020 General Plan EIR identified a less-than-significant impact to historical resources, upon implementation of mitigation measures, and significant and unavoidable impacts on disruption of subsurface archaeological resources under General Plan and cumulative conditions (Impact 4.10-2 in the 2020 General Plan EIR) (Sonoma County 2006). Thus, cumulative cultural resource impacts from development and land uses activities have been identified for the County.

CUM-17: CONTRIBUTION TO CUMULATIVE IMPACTS ON HISTORICAL RESOURCES

Historical (or architectural) resources include standing buildings (e.g., houses, barns, cabins) and intact structures (e.g., dams, bridges). Sonoma County contains several known historical resources, including federally recognized and state-recognized resources. Damage to or destruction of a building or structure that is a designated historical resource, that is eligible for listing as a historical resource, or that has not yet been evaluated could result in a change in its historical significance. However, implementation of Mitigation Measure 3.5-1 would reduce potentially significant impacts to historical resources because actions would be taken to record, evaluate, avoid, or otherwise treat the resource appropriately in accordance with pertinent laws and regulations. Implementation of this mitigation measure would offset the contribution to cumulative historical resources such that impacts **would not be cumulatively considerable**.

CUM-18: CONTRIBUTION TO CUMULATIVE IMPACTS ON ARCHAEOLOGICAL RESOURCES AND HUMAN REMAINS

Under the proposed Cannabis Program Update, existing state and local regulations address requirements for discovery of archaeological resources and human remains. Compliance with the requirements, as defined in State CEQA Guidelines, Section 15064.5. However, new cannabis sites would be required to comply with Sonoma County Code Sections 11.14.050 and 36.20.040, and Attachment A (Section 1, General Requirements and Prohibitions) of SWRCB Order WQ 2023-0102-DWQ, which includes protection measures to archaeological resources. Nevertheless, ground-disturbing activities could result in the accidental discovery and damage to archeological sites. Potentially significant impact would be reduced through implementation of Mitigation Measures 3.5-2a and 3.5-2b, which would require an archaeologist to prepare a plan that would identify and avoid potential archeological resources within a site, and through implementation of Mitigation Measures 3.5-2c, which would ensure that impacts to tribal cultural resources for projects that are approved as crop swap application are addressed by requiring avoidance of known tribal cultural resources and archaeological resources and retainment of a tribal cultural monitor during crop removal and initial ground disturbance if requested by a local tribe. Additionally, if the cultural resource survey prepared under Mitigation Measure 3.5-2a or tribal consultation under Mitigation Measure 3.5-3a indicate the potential presence of human remains, and if deemed appropriate by the County and Tribe, canine forensics teams would be employed to identify the location of human remains, as required by Mitigation Measure 3.5-3b. With application of these requirements, the proposed Cannabis Program Update's contribution to cumulative impacts on archaeological resources and human remains **would be less than cumulatively considerable**.

Energy

IMPACT CUM-19: CONTRIBUTION TO CUMULATIVE ENERGY IMPACTS

The cumulative context for energy is Sonoma County and the Pacific Gas & Electricity Company and Sonoma Clean Power Authority. Energy consumption is related to construction activities and operation-related energy demand from existing and new land uses. Construction-related energy would be used during construction activities, which would not represent a long-term increase in energy demand. The 2020 General Plan EIR identified less-than-significant energy impacts to energy consumption from local land uses patterns under General Plan and cumulative conditions. However, significant and unavoidable impacts on increased energy demand associated with future land uses and transportation systems were identified for general plan and cumulative conditions (Impact 4.12-3 and Section 6.2,

"Cumulative Impacts," in the 2020 General Plan EIR) (Sonoma County 2006). Thus, a significant cumulative energy use impact is identified under the 2020 General Plan.

The proposed Cannabis Program Update does not include any provisions that address renewable energy or energy efficiency. Therefore, future cannabis cultivation and supply chain uses could conflict with the direction provided in energy related goals of the County's Climate Change Action Resolution. These measures generally align with the statewide direction provided by CEC in the most recent 2023 IEPR, which prioritizes building decarbonization and energy efficiency mechanisms as overarching goals of future building code updated. Implementation of Mitigation Measure 3.6-2 would improve the energy efficiency and renewable energy potential of permitted commercial cannabis cultivation and noncultivation sites through the incorporation of renewable energy systems and offset its contribution to this cumulative impact. Thus, the contribution to cumulative energy impacts associated with the proposed Cannabis Program Update **would not be cumulatively considerable**.

Geology, Soils, and Mineral Resources

Geotechnical and soil resource impacts tend to be site specific rather than cumulative in nature. Each site would be subject to SWRCB Order WQ 2023-0102-DWQ, the California Building Code, and Sonoma County's Grading and Drainage Regulation and Vineyard Erosion Prevention and Sediment Control Ordinance.

The 2020 General Plan EIR identified significant and unavoidable impacts related to seismic ground shaking, seismic-related ground failure, landsliding, subsidence and settlement, tsunamis and seiches, and soil erosion under General Plan and cumulative conditions (Impacts 4.7-1, 4.7-2, 4.7-3, 4.7-4, 4.7-5, and 4.7-6 and Section 6.2, "Cumulative Impacts") (Sonoma County 2006). Thus, cumulative geology and soil impacts from development and land use activities have been identified for the County.

With regard to geology and soils discussions, it's important to note that analyses under CEQA generally are not required to analyze the impacts of existing environmental conditions on a project's future users or residents unless the proposed project might cause or risk exacerbating environmental hazards or conditions that already exist (State CEQA Guidelines, Section 15126.2[a]). In those specific instances, it is the project's impact on the environment and not the environment's impact on the project that compels an evaluation of how future residents or users may be affected by exacerbated conditions (*California Building Industry Association v. Bay Area Air Quality Management District* [2015] 62 Cal.4th 369). This court direction was issued after certification of the 2020 General Plan EIR.

IMPACT CUM-20: CONTRIBUTION TO CUMULATIVE IMPACTS ON GEOLOGIC AND SOIL RESOURCES

As noted above, cannabis facility development and operation would be subject to compliance with SWRCB Order WQ 2023-0102-DWQ, the California Building Code, and Sonoma County's Grading and Drainage Regulation for construction (Chapter 11) and agriculture (Chapter 36). Compliance with existing regulations would ensure that activities at permitted commercial cannabis sites would not result in contribution to cumulative operational soil erosion and sedimentation impacts. As a result, the contribution of permitted commercial cannabis cultivation and noncultivation sites to cumulative geologic and soil stability impacts **would not be cumulatively considerable**.

IMPACT CUM-21: CONTRIBUTION TO CUMULATIVE IMPACTS ON PALEONTOLOGICAL RESOURCES

The cumulative context for the paleontological resources covers a broad regional system of which the resources are a part. Because all significant paleontological resources are unique and nonrenewable members of finite classes, all adverse effects erode a dwindling resource base. The loss of any one site affects all others in a region because these resources are best understood in the context of the entirety of the system of which they are a part. Permitted commercial cannabis cultivation and noncultivation operations, in combination with other development in the region, could cause damage to or destruction of undiscovered paleontological resources (see Impact 3.7-4).

The 2020 General Plan EIR identified significant and unavoidable impacts related to paleontological resources (Sonoma County 2006). Thus, cumulative geology and soil impacts from development and land uses activities have been identified for the County.

Permitted commercial cannabis facility sites are not subject to any requirements to address the potential discovery of a unique paleontological resource. If work is not stopped upon discovery of a paleontological resource, it may become damaged. However, implementation of Mitigation Measure 3.7-4, would protect accidentally discovered paleontological resources by requiring retention of a Qualified Professional Paleontologist to prepare a project-specific PRMMP that would include a pre-construction paleontological site assessment and develop procedures and protocol for paleontological monitoring and recordation, construction worker awareness training, and procedures for discovery of paleontological resources. This would offset the project's contribution to this cumulative impact. Thus, the contribution of adverse effects on paleontological resources **would be less than cumulatively considerable**.

Greenhouse Gas Emissions and Climate Change

IMPACT CUM-22: CONTRIBUTION TO CUMULATIVE IMPACTS ON GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE IMPACTS

The 2020 General Plan did not address greenhouse gas emissions (GHG) and climate change impacts.

The geographic scope of the cumulative impact analysis for GHG emissions and climate change is global. Climate change is an inherently cumulative issue and relates to development in the region, California, and most of all, the world. Whereas most pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any GHG molecule depends on multiple variables and cannot be determined with any certainty, it is understood that more carbon dioxide is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. The combination of GHG emissions from past, present, and future projects contribute substantially to the phenomenon of global climate change and its associated environmental impacts. Therefore, the impacts discussed in Section 3.8, "Greenhouse Gas Emissions and Climate Change," are also the cumulative effects of the project. Thus, implementation of the proposed Cannabis Program Update would result in impacts on GHG emissions and climate change that **would be cumulatively considerable and significant and unavoidable** even with implementation of Mitigation Measures 3.6-2 that would require provisions that address renewable energy or energy efficiency to be incorporated to improve the energy efficiency and renewable energy potential of new cannabis cultivation and supply chain uses and Mitigation Measure 3.14-2 that would identify measures to reduce VMT and associated GHG emissions.

Hazards and Hazardous Materials

IMPACT CUM-23: CONTRIBUTION TO CUMULATIVE IMPACTS ON HAZARDOUS AND HAZARDOUS MATERIALS IMPACTS

Although some hazardous materials releases can cover a large area and interact with other releases (e.g., atmospheric contamination, contamination of groundwater aquifers), incidents of hazardous materials contamination are more typically isolated to a small area, such as leaking underground storage tank sites or release at individual businesses. The cumulative context for hazards and hazardous materials includes historical and existing land uses and existing unpermitted/illegal commercial cannabis cultivation countywide that contribute to the potential for contamination and other hazardous conditions. These relatively isolated areas of contamination typically do not interact in a cumulative manner with other sites of hazardous materials contamination. The potential for airport hazards is associated with site-specific conditions in relation to particular airports and are not considered cumulative impacts.

The 2020 General Plan EIR identified less-than-significant hazard impacts under General Plan and cumulative conditions (Sonoma County 2006). Thus, no significant cumulative hazard impacts are currently expected.

Permitted commercial cannabis cultivation and noncultivation operations impacts related to hazards and hazardous materials, as discussed in Section 3.9, "Hazards and Hazardous Materials," are associated with the transport, use, or disposal of hazardous materials; exposure to existing on-site hazardous conditions; and hazards to the public or environment related to upset and accident conditions. Permitted commercial cannabis facilities would be required to comply with existing state and local regulations (such as Title 26 of the CCR, as well as the US Department of Transportation, California Highway Patrol, and Caltrans, and the Federal Motor Carrier Safety Association regulations). However, there may be contamination from previous or historical practices from certain land uses (e.g., agricultural use of pesticides and herbicides), placement of undocumented fill, presence of naturally occurring asbestos, or even authorized disposal of hazardous wastes from prior land uses. Potential contribution to cumulative hazard impacts would be offset through implementation of Mitigation Measure 3.9-3, which establishes soil investigation requirements that would ensure avoidance and proper treatment of hazardous conditions on a site. Thus, the contribution of permitted commercial cannabis sites to hazard impacts **would be less than cumulatively considerable**.

Hydrology and Water Quality

The cumulative context for hydrology and water quality is the surface water (the Gualala River, Austin Creek, Dry Creek, Big Sulphur Creek, and Mayacamas Creek, Russian River, Petaluma River, and Sonoma Creek) and groundwater in Sonoma County. As discussed in Section 3.10, "Hydrology and Water Quality," waters within the County are considered impaired due to many reasons, including the presence of indicator bacteria, sedimentation, metals, and low levels of dissolved oxygen (see Table 3.10-6). Within Sonoma County, there are four approved total maximum daily loads, as described below. These water quality impacts have been the result of historical timber activities, road construction, agricultural activities, and development activities in the County and region.

The cumulative condition for groundwater consists of current and potential future uses of groundwater by local community service districts and individual users. There are two programs that address groundwater availability in the County: (1) the California Department of Water Resources (DWR) identified 14 groundwater basins and subbasins in Sonoma County and assigned prioritization to address population levels and groundwater production; and (2) the County identified groundwater availability classifications that indicate large areas as having marginal or low/highly variable groundwater availability.

The 2020 General Plan EIR identified significant and unavoidable impacts to water quality from agricultural and resource use, groundwater-level decline, well interference, streambank erosion from changed drainage patterns, and potential flood damage from impeded or redirected flood flows (Impacts 4.5-3, 4.5-5, 4.5-7, 4.5-8, and 4.5-11 in the 2020 General Plan EIR). In addition, impacts related to water quality, groundwater, drainage, and flooding were determined to be cumulatively considerable (Section 6.2, "Cumulative Impacts," in the 2020 General Plan EIR) (Sonoma County 2006). Thus, cumulative hydrology and water quality impacts from development and land uses activities have been identified for the County.

IMPACT CUM-24: CONTRIBUTION TO CUMULATIVE IMPACTS ON WATER QUALITY

As identified in the discussion of Impact 3.10-1, development of commercial cannabis uses may include ground disturbance, vegetation removal, and grading, which could lead to accelerated erosion and sedimentation that causes poor water quality from high turbidity, total suspended solids, and total dissolved solids in local waterways, thus contributing to further degraded conditions in already impaired waterways and to alteration of floodplain conditions. However, compliance with relevant water quality regulations and best management practices (BMPs) would offset the project's risk of water degradation from soil erosion and other pollutants related to construction and operational activities. Compliance with these requirements (e.g., Chapters 11 and 11A of the Sonoma County Code and SWRCB Order WQ 2023-0102-DWQ) would offset contributions to cumulative water quality impacts. Thus, the contribution of commercial cannabis sites to water quality and floodplain impacts **would be less than cumulatively considerable**.

IMPACT CUM-25: CONTRIBUTION TO CUMULATIVE IMPACTS ON GROUNDWATER RESOURCES

As identified in Impact 3.10-2, there are existing groundwater resources identified in the County's groundwater basins. As identified in Section 3.10, "Hydrology and Water Quality," of the 14 groundwater basins in Sonoma County, DWR has designated two as medium-priority basins (Santa Rosa Plain and Petaluma Valley) and one as a high-priority basin (Sonoma Valley). Additionally, the County has implemented a groundwater availability classification system. While these programs are intended to address groundwater sustainability, it cannot be stated with certainty that operation of new cannabis facilities relying on groundwater would not decrease groundwater supplies such that adverse environmental impacts occur, including reduced groundwater levels and interference with nearby wells, reduced streamflow, altered habitat of interconnected surface waters, and degraded groundwater quality. However, implementation of Mitigation Measures 3.10-2a requires applicants to demonstrate that adequate groundwater supplies are available to meet the demand of cannabis facilities and ensure that a cannabis permit would not be granted to applicants if groundwater use would result in or exacerbate an overdraft condition in basin or aquifer, reduced critical flow in nearby streams, or well interference at offsite wells. Further, metering and monitoring are required to ensure that groundwater production for applications approved through the crop swap requirements, per Mitigation Measures 3.10-2b. These mitigation measures would ensure that long-term maintenance of groundwater supplies remain sustainable. Because Mitigation Measures 3.10-2a and 3.10-2b would ensure that groundwater use would be produced in a manner that allows for groundwater sustainability, the Cannabis Program Update's contribution to this cumulative impact **would be less than cumulatively considerable**.

IMPACT CUM-26: CONTRIBUTION TO CUMULATIVE IMPACTS ON SURFACE WATER DIVERSION

As identified in the discussion of Impact 3.10-3, cannabis cultivation sites would be subject to compliance with the flow standards and diversion requirements set forth under SWRCB Order WQ 2023-0102-DWQ standards for water diversions. SWRCB's flow standards and diversion requirements were developed to protect fish spawning, migration, and rearing for endangered anadromous salmonids, as well as flows needed to maintain natural flow variability within each watershed. The diversion requirements would ensure that the individual and cumulative effects of water diversions and discharges associated with commercial cannabis cultivation do not affect instream flows necessary for fish spawning, migration, and rearing for endangered anadromous salmonids, as well as flows needed to maintain natural flow variability (SWRCB 2017a). The policy was scientifically peer-reviewed by four experts. The peer review determined that water quality, instream flow, and diversion requirements of the policy were based on sound scientific knowledge, methods, and data (SWRCB 2017b). The effectiveness of compliance with numeric flow standards, associated curtailment of water diversions during flow periods, and the use of water storage is supported by research conducted by the UC Berkeley Cannabis Research Center of 91 watersheds in Humboldt and Mendocino Counties. This research identified that permitted cannabis cultivation sites generated substantially less impact on watershed flow conditions than unpermitted cannabis cultivation sites, as well as residential uses, and consist of 1 to 4 percent of available surface water flows depending on the extent of water storage used (Dillis et al. 2024).

Thus, the contribution of permitted commercial cannabis cultivation and noncultivation sites to surface water resource impacts **would be less than cumulatively considerable**.

IMPACT CUM-27: CONTRIBUTION TO CUMULATIVE IMPACTS ON ALTERATION OF DRAINAGE PATTERNS

Figure 3.10-5 shows the extent of floodplain conditions in the unincorporated area of the County, which is generally located along State Route 16, US Highway 101, and areas north of San Pablo Bay that includes most of the agricultural areas (i.e., areas associated with the Napa-Sonoma Marshes Area, the Russian River, and the Petaluma River). Future land use activities and agricultural operations could create new impervious surfaces, buildings, and other

improvements that could affect drainage flows that could alter and increase the extent of flooding conditions under cumulative conditions.

In areas where new construction for commercial cannabis facilities would take place, the peak flow and volume of storm water runoff generated from such areas would be affected by development through conversion of vegetated or otherwise pervious surfaces to impervious surfaces (e.g., roofs, driveways, walkways) and by the development of drainage systems that might more effectively connect these impervious surfaces to streams or other water bodies. The County requires compliance with the applicable municipal separate storm sewer system General Permit and Low-Impact Development Manual be demonstrated during the grading permit application phase. Additionally, on-site development and any associated off-site improvements greater than one acre in size would be required to comply with the National Pollutant Discharge Elimination System Construction General Permit, which requires the development of a stormwater pollution prevention plan. Furthermore, agricultural grading and construction or modification of drainage facilities would involve preparatory land clearing, vegetation removal, or other ground disturbance, which would be required to meet the permitting requirements and standards outlined in Articles 10, 12, and 20, of Chapter 36 of the County Code (as required by proposed Code Section 26-18-020[B][1]). Additionally, as part of the building permit requirements, projects must be consistent with grading and drainage requirements in Chapter 11 and stormwater requirements in Chapter 11A. Thus, the contribution of permitted commercial cannabis cultivation and noncultivation sites to impacts associated with flooding **would be less than cumulatively considerable**.

Land Use and Planning

IMPACT CUM-28: CONTRIBUTION TO CUMULATIVE IMPACTS ON LAND USE AND PLANNING IMPACTS

The cumulative setting for land use is Sonoma County. It is anticipated that any development and public projects that are subject to design review with hearing or a use permit would be reviewed for consistency with adopted land use plans, policies, and regulations by the County in accordance with the requirements of CEQA, and the state zoning and planning laws all of which require findings of plan and policy consistency before approval of entitlements for development. Most land use impacts are localized impacts that affect individual communities, neighborhoods, and specific sites and are not generally considered cumulative in nature. Impacts related to dividing a community are an example of this. The potential for growth inducement impacts is addressed in Chapter 6, "Other CEQA-Mandated Sections."

The 2020 General Plan EIR identified significant impacts on land use under General Plan and cumulative conditions associated with land use conflicts between agricultural and residential/urban uses, as well as incompatible land uses in the rural area (see Impacts 4.1-2 and 4.1-3 in the 2020 General Plan EIR). In addition, cumulatively considerable impacts on population growth and land use incompatibility were determined to be significant and cumulatively considerable (see Section 6.2, "Cumulative Impacts," in the 2020 General Plan EIR) (Sonoma County 2006). Thus, there are existing significant cumulative impacts on land use.

Permitted commercial cannabis uses would be required to comply with Chapter 26 of the County Code, specifically, proposed changes associated with Sections 26-18-115, 26-18-270, and 26-20-025, which provide land use and development standards for commercial cannabis uses, as well as the establish the zoning districts that allow for commercial cannabis uses. In many instances, State and County regulations, in combination with the proposed Cannabis Program Update, would be sufficient to minimize environmental impacts; however, mitigation measures are provided through Chapter 3 of this EIR to address potentially significant impacts. Additionally, cannabis cultivation is an agricultural use that is compatible with other agricultural uses and accessory supply chain uses are supportive of agricultural uses. Overall, allowable uses under the Cannabis Program Update would be similar and compatible with existing land uses within the proposed zoning districts where cannabis uses could be developed and operated (e.g., commercial and industrial uses). Thus, cumulative land use impacts **would not be cumulatively considerable**.

Noise and Vibration

The geographic context for cumulative noise impacts related to implementation of the Cannabis Program Update includes Sonoma County. Cumulative noise impacts could occur if sensitive receptors are exposed to elevated noise and vibration levels simultaneously from multiple projects that are in proximity (i.e., 500 feet) to one another. Noise impacts are based on factors related to site-specific and project-specific characteristics and conditions, including distance to noise sources, barriers between land uses and noise sources, and other factors (e.g., geography). Noise and vibration impacts are typically site-specific and only combine when cumulative development projects are near one another. Implementation of the Cannabis Program Update would not result in the exposure of people to excessive noise levels associated with airport activity or adverse operational vibration effects on off-site receptors. Therefore, the Cannabis Program Update would not combine to create considerable changes and cumulative impacts related to these issues.

The 2020 General Plan EIR identified significant impacts on noise under the General Plan and cumulative conditions associated with increased traffic and rail noise (see Impact 4.4-1, Impact 4.4-3, and Section 6.2, “Cumulative Impacts,” in the 2020 General Plan EIR) (Sonoma County 2006). Thus, there are existing significant cumulative impacts on noise.

IMPACT CUM-29: CONTRIBUTION TO CUMULATIVE IMPACTS ON CONSTRUCTION-RELATED NOISE AND VIBRATION

Construction Noise

Because construction noise is a localized effect, only construction projects that occur close to one another could combine to result in a cumulative noise effect. Cumulative impacts from construction-generated noise could result if other future planned construction activities were to take place within 500 feet of individual cannabis sites associated with the Cannabis Program Update and are of primary concern within proximity of sensitive land uses. As discussed under Impact 3.12-1, noise associated with the construction of new cannabis facilities would be intermittent and temporary and would fluctuate over the years as new facilities are constructed across the unincorporated County. Mitigation Measure 3.12-1a contains requirements that would regulate the overall construction noise associated with cannabis facilities, including establishing permissible construction noise hours; ensuring proper equipment use; notifying nearby land uses of upcoming construction; locating equipment away from sensitive land uses; and requiring the use of temporary acoustic barriers (e.g., noise curtains). Mitigation Measure 3.12-1b consists of Sonoma County review and required approval of a noise analysis for construction projects anticipated to last longer than one year. There are no other known feasible measures for reducing construction impacts that are not already include in the Cannabis Program Update. However, the extent of these construction-related noise impacts would be short-term and limited to the individual cannabis site and adjacent areas and would not create a regional or countywide cumulative noise effect. Therefore, when combined with past, present, and reasonably foreseeable future projects, the Cannabis Program Update’s contribution to cumulative construction-related noise impacts **would not be cumulatively considerable**.

Construction Vibration

Construction-related vibration is typically considered a localized impact, affecting only receptors closest to construction activities. Therefore, unless construction of cumulative projects in close proximity to each other (i.e., within 500 feet) occurs at the same time, vibration from individual construction projects have little chance of combining to create cumulative impacts. For these reasons, cumulative vibration impacts from construction are generally less than significant. Vibration associated with construction of new cannabis facilities would be intermittent and temporary and would fluctuate over the years as new facilities are constructed. The extent of these construction vibration impacts would be limited to the individual cannabis site and adjacent areas and would not create a regional or countywide cumulative vibration impact. Therefore, when combined with past, present, and reasonably foreseeable future projects, the Cannabis Program Update’s contribution to cumulative construction vibration impacts **would not be cumulatively considerable**.

IMPACT CUM-30: CONTRIBUTION TO CUMULATIVE IMPACTS ON LONG-TERM OPERATIONAL TRAFFIC NOISE

The Cannabis Program Update would allow for cannabis facilities and temporary events to operate in agricultural and resource districts and industrial and commercial districts. The areas in which cannabis facilities would be permitted is extensive; thus, the daily trips generated by operation of such facilities are anticipated to be widely spread across the County roadway network such that they are not anticipated to result in a doubling of traffic volumes that would create a significant traffic noise increase or impact. Therefore, because the Cannabis Program Update would not induce a substantial increase in vehicular trips in the County, it would not result in increased transportation-related ambient noise levels under project or cumulative conditions. Therefore, the Cannabis Program Update's contribution to cumulative traffic noise impacts **would not be cumulatively considerable**.

IMPACT CUM-31: CONTRIBUTION TO CUMULATIVE IMPACTS ON LONG-TERM OPERATIONAL STATIONARY NOISE

Implementation of the Cannabis Program Update would provide a framework for licensing cannabis facilities in specific zones of the unincorporated County, which would have the potential to introduce permanent noise associated with the operation of each facility. Specific building footprints, layouts, and the locations of stationary equipment are currently unknown; thus, it is possible that noise associated with mechanical equipment, cannabis events, and cannabis lounges could be located within distances that expose existing sensitive receptors to noise levels that exceed County noise standards and result in public health effects (e.g., sleep disturbance) at nearby sensitive receptors. Adoption and implementation of Mitigation Measures 3.12-4a, 3.12-4b, and 3.12-4c would ensure that noise levels associated with cannabis facilities are in compliance with General Plan Policy NE-1c and Table NE-2. Through attainment of these noise standards, the cumulative noise impacts related to long-term operational activities would not be significant, and implementation of the Cannabis Program Update would not contribute substantially to a cumulative impact related to stationary noise. The cumulative impact **would not be cumulatively considerable**.

Public Services and Recreation

The cumulative context for public services and recreation is Sonoma County. Changes in County land use conditions, maintenance activities, and needs for upgrades of law enforcement, local fire protection services, and recreational facilities and parks could result in the need for physical alterations and construction of facilities. This significant cumulative impact is addressed by the County and local fire districts when such projects are proposed. However, it is acknowledged that cannabis cultivation operations have created increased fire risk in the County through the creation of new fuel sources (e.g., storage of equipment fuel and debris piles) and ignition sources (e.g., lighting and power facilities and wiring that are not installed to applicable electrical and fire requirements).

The 2020 General Plan EIR identified significant and unavoidable impacts associated with the need for expansion or construction of new public services facilities under General Plan and cumulative conditions (Impacts 4.9-7, 4.9-9, 4.9-10, 4.9-11, 4.9-12, and 4.9-13 and Section 6.2, "Cumulative Impacts," in the 2020 Draft EIR) (Sonoma County 2006). Thus, cumulative public service impacts from development and land uses activities have been identified for the County.

IMPACT CUM-32: CONTRIBUTION TO CUMULATIVE IMPACTS ON FIRE PROTECTION SERVICES

As identified in Section 3.13, "Public Services and Recreation," under the proposed Cannabis Program Update, commercial cannabis cultivation sites and noncultivation operations would be subject to compliance with PRC Sections 4290 and 4291, and CCR, Title 24, Section 701A.3 (additional building standards for new building construction located in any Fire Hazard Severity Zone within State Responsibility Areas (SRAs), any local agency Very-High Fire Hazard Severity Zone, or any Wildland-Urban Interface Fire Area), local fire protection agency requirements,

and California Fire Code to minimize hazards of fire. In addition, cannabis cultivation and noncultivation sites would be required to comply with the Sonoma County Fire Safety Ordinance within the LRA (outside of the VHFHSZ), and the Fire Safe Regulations inside the SRA and LRA VHFHSZ, which establishes minimum fire safe standards for development within the unincorporated County. Furthermore, the County Multi-Jurisdictional Hazard Mitigation Plan also includes provisions for the maintenance and vegetation of evacuation routes. Cannabis cultivation sites would be required to comply with CCR Title 4, Division 9, Section 15011 regarding the notification of the cannabis use to the local fire department. CCR Title 4, Division 9, Section 17202.1 and 17205 include requirements for cannabis manufacturing facilities that use a volatile solvent, flammable liquid, solvents that creates an asphyxiant gas, or ethanol to ensure compliance with Chapter 35 of the California Fire Code, CCR Title 8, Sections 5416 through 5420 that address ventilation and control of ignition sources, Division of Occupational Safety and Health regulations, and all applicable fire, safety, and building codes related to the processing, handling, and storage of solvents and gas.

Compliance with these requirements would ensure the provision of on-site fire protection measures do not exacerbate existing fire hazards that would contribute to the need for additional fire service needs or new fire protection facilities (e.g., fire stations). As a result, the proposed Cannabis Program Update's contribution to cumulative fire protection impacts **would not be cumulatively considerable**.

IMPACT CUM-33: CONTRIBUTION TO CUMULATIVE IMPACTS ON LAW ENFORCEMENT SERVICES

To meet the requirements under CCR Title 4, Division 9, Section 15042 it is expected that fencing or other types of site-specific security measures would be implemented to ensure that no unauthorized individuals may enter the premises. In addition, CCR Title 4, Division 9, Section 15042.1 requires a security plan for permitted manufacturing facilities; Section 15043 requires licensee employee badges for retail sales or participants in temporary cannabis events; Section 15045 requires security personnel to provide onsite security services for licensed microbusinesses and retailers; and Sections 15046 and 15047 require commercial-grade locks and alarm systems, respectively, to be installed on all points of entry and exit for cannabis facilities, except for at cultivation activities and microbusinesses. In addition, specific security requirements would be required for temporary cannabis events under CCR Title 4, Division 9, Section 15601. These standards would address safety of the facilities and therefore would not require increased law enforcement services that would contribute to the need for new or altered facilities that could create environmental impacts. As a result, the proposed Cannabis Program Update's contribution to cumulative law enforcement impacts **would not be cumulatively considerable**.

Transportation

The cumulative context for transportation is Sonoma County. The 2020 General Plan EIR identified significant and unavoidable level of service operational impacts under General Plan and cumulative conditions (Sonoma County 2006). As described in Section 3.14, "Transportation," Senate Bill (SB) 743, passed in 2013, requires the California Governor's Office of Planning and Research (OPR) to develop new State CEQA guidelines that address traffic metrics under CEQA. As stated in the legislation, upon adoption of the new guidelines, "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any." OPR published its proposal for the comprehensive updates to the State CEQA Guidelines in November 2017, which included proposed updates related to analyzing transportation impacts pursuant to SB 743. These updates indicated that VMT would be the primary metric used to identify transportation impacts. In December 2018, OPR and the California Natural Resources Agency submitted the updated CEQA Guidelines to the Office of Administrative Law for final approval to implement SB 743. The Office of Administrative Law subsequently approved the updated State CEQA Guidelines and, as of July 1, 2020, implementation of Section 15064.3 of the updated State CEQA Guidelines applies statewide. The 2020 General Plan EIR did not address VMT impacts.

IMPACT CUM-34: CONTRIBUTION TO CUMULATIVE IMPACTS ON VEHICLE MILES TRAVELED

The VMT impact analysis considers the net effect of the proposed Cannabis Program Update in terms of total daily VMT. As discussed in Impact 3.14-2, it is anticipated that the majority of future commercial cannabis projects would be of a size that would not create a VMT impact and would therefore would not be cumulatively considerable. However, due to the programmatic nature of the project, individual projects could potentially result in a significant increase in VMT. As noted above, the 2020 General Plan EIR does not address VMT. However, the Comprehensive Transportation Plan (CTP) projects total VMT to increase but at a slower rate than population and employment growth in the County. That is, VMT and GHG emissions trend downward on a per capita basis: Although total VMT is expected to increase, VMT per person, total GHG emissions and GHG/capita are expected to decrease due to more efficient development patterns, CTP projects, and vehicle fuel efficiency improvements (STCA 2021). Although most individual projects under the Cannabis Program Update are anticipated to be located within VMT Efficient Areas, implementation of Mitigation Measure 3.14-2 would address project-specific details about individual potential projects that are unknown. Mitigation Measure 3.14-2 would reduce VMT impacts by requiring the development of a TDM Program that would incentivize employees to choose alternative modes of transportation. Furthermore, the proposed Cannabis Program Update does not proposed changes to land use designations or zoning districts within the County and would not include any transportation projects. Rather, the proposed Cannabis Program Update would allow for cannabis businesses to operate in the County within agricultural, resource, industrial, and commercial zoning districts. That is, the types of businesses associated with the cannabis industry are similar to the those currently allowed within the respective zoning districts under consideration (e.g., crop production in agricultural districts, retail in commercial districts, laboratory facilities in industrial districts). However, as discussed in Chapter 6, "Other CEQA-Mandated Sections," some growth in the cannabis industry is anticipated in the County, in response to implementation of the proposed Cannabis Program Update. Therefore, by allowing new uses and implementing the proposed Cannabis Program Update, there are likely to be more trips in the County overall. For the reasons discussed in Section 3.14, "Transportation," individual projects may result in substantial increases to VMT. No mitigation beyond that discussed in Mitigation Measures 3.14-2 is available to reduce this contribution of VMT. Thus, the contribution to cumulative total VMT **would be cumulatively considerable and significant and unavoidable**.

Tribal Cultural Resources

IMPACT CUM-35: CONTRIBUTION TO CUMULATIVE IMPACTS ON TRIBAL CULTURAL IMPACTS

The cumulative context for tribal cultural resources is Sonoma County. The 2020 General Plan EIR did not address tribal cultural resources.

New cannabis uses under the proposed project could allow for brush removal, grading, and irrigation to facilitate the development of cannabis uses. Large structures could be constructed for processing and manufacturing activities, and smaller sheds could be constructed to store materials. While the potential exists for tribal cultural resources to be discovered when soils are disturbed, compliance with SWRCB Order WQ 2023-0102-DWQ require notification to tribes of any new permitted commercial cannabis cultivation and operation activities on tribal lands or tribal cultural resources or within 600 feet of these lands. In addition, compliance with Terms 21 and 22 would reduce impacts to known tribal cultural resources through requiring a sacred lands inventory search through the Native American Heritage Commission, consultation with the tribe(s) affiliated with the area, and implementation of necessary measures to ensure the conservation of tribal cultural resources. In addition, if human remains or suspected human remains are discovered, the permittee shall notify the county coroner and comply with all state law requirements, including Health and Safety Code Section 7050.5 and PRC Section 5097.98, to ensure proper disposition of the human remains or suspected human remains, including those identified to be Native American remains. Additionally, Mitigation Measures 3.15-1a through 3.15-1e would reduce potentially significant impacts because tribal cultural resource would be identified and avoided or managed consistent with State law, local policies, and the wishes of the affected tribe. These

procedures would offset cumulative impacts to tribal cultural resources and ensure consistency with all state law requirements. Therefore, impacts to tribal cultural resources **would not be cumulatively considerable**.

Utilities and Service Systems

Public utilities (water supply and wastewater services) provided by community service districts and other local service providers are limited to the local service districts and are generally not considered a cumulative impact. Solid waste services are provided countywide and could have cumulative impacts.

The 2020 General Plan EIR identified significant and unavoidable domestic and agricultural water supply, wastewater treatment demand, solid waste disposal, and new or expansion of water supply facilities under General Plan and cumulative conditions (Sonoma County 2006). Thus, cumulative utility impacts from development and land uses activities have been identified for the County.

IMPACT CUM-36: CONTRIBUTION TO CUMULATIVE INFRASTRUCTURE IMPROVEMENT IMPACTS

As identified in Section 3.16, “Utilities and Service Systems,” commercial cannabis facilities sites may construct or improve water, wastewater, stormwater drainage, electric power, natural gas, and telecommunication facilities as needed based on site-specific conditions. Extension of these infrastructure facilities are expected to be limited because they are generally available along roadway frontage of the parcels or may be accommodated on the site (e.g., drainage ditches, detention basins, solar energy generation) and would not contribute to cumulative conditions. As a result, the proposed Cannabis Program Update’s contribution to cumulative infrastructure impacts **would not be cumulatively considerable**.

IMPACT CUM-37: CONTRIBUTION TO CUMULATIVE IMPACTS ON WASTEWATER SERVICE

As identified in the discussion of Impact 3.16-1, commercial cannabis cultivation would be prohibited from discharging cannabis wastewater into on-site wastewater treatment systems (Term 27 of Attachment A of SWRCB Order WQ 2023-0102-DWQ) and indoor commercial cannabis cultivation uses would discharge cannabis wastewater through a connection to a permitted wastewater treatment collection system that accepts cannabis wastewater. If the permitted wastewater treatment collection system cannot accept cannabis wastewater, the indoor commercial cannabis operation must collect the cannabis wastewater in storage tanks and disposed of it through a permitted wastewater handler at a permitted wastewater treatment facility that accepts cannabis wastewater (Term 38 of Attachment A of SWRCB Order WQ 2023-0102-DWQ). In addition, as required under Sonoma Water’s Sanitation Code Section 3.13, a sewer service permit would be required for installation, alteration, or repair of public sewer and sanitation facilities. Section 3.14 of the Sanitation Code requires sewer services to be granted solely for the specific use for which an application was made. That is, a new commercial cannabis use would be required to submit an application to Sonoma Water to establish service. Thus, the contribution of permitted commercial cannabis sites to wastewater service impacts **would not be cumulatively considerable**.

IMPACT CUM-38: CONTRIBUTION TO CUMULATIVE IMPACTS ON WATER SUPPLY SUFFICIENCY

According to available UWMPs within the County, some water suppliers (e.g., Valley of the Moon, Town of Windsor, and Sonoma Water) are not projected to have sufficient water supplies during a single dry year scenario, and there is not sufficient water supply to meet increased demand under normal and multiple dry-year scenarios through 2045. In addition, information on supply and demand for the majority of the water retailers within the County is not available, in part because the UWMPA limits requirements for preparation of UWMPs to urban water suppliers that provide water to 3,000 or more customers, or that provides more than 3,000 af of water annually (see Section 3.16, “Utilities

and Service System,” for further detail). Due to this lack of sufficient water supplies during normal, dry, and multiple dry years, there is an existing cumulative impact on water supply in the County.

As identified in the discussion of Impact 3.16-2, permitted commercial cannabis cultivation sites would be subject to the water supply documentation, verification of adequate source of supply, and use restrictions requirements provided under CCR, Title 4, Section 16311 and SWRCB Order WQ 2023-0102-DWQ Attachment A, Section 3, Numeric and Narrative Instream Flow Requirements. These standards would ensure that water supply sources are adequate and provided to commercial cannabis cultivation facilities. With regard to noncultivation cannabis facilities, it is unknown what amount of this projected water demand would be met by surface water, groundwater, or municipal water sources for new commercial cannabis facilities. As identified in Section 3.16.2, “Environmental Setting,” according to relevant UWMPs, some areas of the County are not expected to have sufficient water during under all dry year scenarios. Therefore, it cannot be stated with certainty that adequate water supply would be available to new cannabis uses. However, implementation of Mitigation Measure 3.16-1 would reduce potential impacts on water supply under project conditions because an applicant would be required to either not increase water demand above levels of an existing building or obtain verification from a water supplier that water is available for the project in normal, dry, and multiple-dry years. If these conditions cannot be met, a project will not be approved.

Impact 4.9-1 in the Sonoma County General Plan EIR notes that sufficient water supplies may not be available to serve all future land uses and development, consistent with the 2020 General Plan. As discussed therein, while individual suppliers can provide the basis for County denial of a project or project until additional water supplies are available, impacts to water supply were identified as significant and unavoidable due to the long-term uncertainty of water supplies and the lack of direct County jurisdiction over public water suppliers (Sonoma County 2006: 4.9-28 – 4.9-29). Thus, because there is an existing cumulative impact on water supply in the County, as identified in the Sonoma County General Plan EIR, and allowable cannabis uses could be located within areas where supplies are not sufficient during all water year conditions, the Cannabis Program Update’s contribution on cumulative water supply availability **would be considerable and significant and unavoidable**.

IMPACT CUM-39: CONTRIBUTION TO CUMULATIVE IMPACTS ON SOLID WASTE SERVICE

As identified in the discussion of Impact 3.16-3, of the Cannabis Program Update would allow for an increase in acreage of cannabis cultivation and noncultivation uses, the construction and operation of which would generate solid waste that would be required to comply with state regulations related to cannabis waste. There are various cannabis waste disposal facilities available in the County, which may be contracted to develop a cannabis waste management plan and support the state’s track-and-trace system. In addition, because of the availability of these facilities and CCR, Title 4, Section 17223 regulations, it is not expected that implementation of the project would require construction or expansion of solid waste facilities that could trigger environmental impacts under cumulative conditions. As a result, commercial cannabis sites’ contribution to cumulative infrastructure impacts **would not be cumulatively considerable**.

Wildfire

IMPACT CUM-40: CONTRIBUTION TO CUMULATIVE IMPACTS ON WILDFIRE IMPACTS

The cumulative context for wildfire hazards consists of the forest conditions of Sonoma County, including the wildland-urban interface (WUI). Figure 3.17-1 shows the areas designated as Moderate, High, and Very High FHSZs in the unincorporated County. The unincorporated County also includes several areas within the WUI, which are areas where development is located close to open space or lands with native vegetation and habitat prone to brush fires. The WUI creates an environment in which fire can move readily between structural and vegetation fuels. Once homes are built within (or adjacent to) natural habitat settings, the complexity of fighting wildland fires is increased because

the goal of extinguishing the wildland fire is often superseded by protecting human life and private property. As indicated in Table 3.17-1, Sonoma County has experienced many large fires (i.e., burn areas greater than 1,000 acres), including over the past 10 years. Notably, in 2017, the Sonoma Complex fires (the Tubbs, Nuns, Adobe, and Pocket and Young fires) killed 24 residents and burned 110,716 acres. It is acknowledged that illegal cannabis cultivation operations have created increased fire risk in the County, which may not reflect existing regulatory requirements such as vegetation treatment and through the creation of new fuel sources (e.g., storage of equipment fuel and debris piles) and ignition sources (e.g., lighting and power facilities and wiring that are not installed to applicable electrical and fire requirements). Exposure to wildfire hazards under cumulative conditions would be significant.

The 2020 General Plan EIR does not address wildfire (Sonoma County 2006).

As discussed in Impact 3.17-1, the county as a whole contains conditions associated with fuels, terrain, and weather that provide for wildfire hazards. As detailed under Impact 3.17-1, based on the existing wildfire risk in the county and the introduction of additional people into more areas of the unincorporated county, it stands to reason that ignition from arson, electrical power incidents, and equipment use may increase with implementation of the Cannabis Program Update. Because there may be increased fuels and potential for ignition, operation of cannabis projects could increase the risk of wildfires. However, Mitigation Measures 3.17-1a through 3.17-1e place additional limits to uses within sites and requires additional development standards and operational requirements, developed with consideration by the County Fire Marshal and local fire districts, beyond the established State and local obligations. Additionally, these measures would improve access for emergency services to be better equipped to reach an established fire, while also supporting evacuation efforts necessary for public safety. Through these mitigation measures, the incremental increase in fire risk would be reduced to a less-than-significant level because each site would be evaluated individually by the County Fire Marshal and local fire districts to require evaluation and requirements to reduce the potential for ignition through standards for operation of cannabis uses, limit fuels availability in the event that a fire is ignited, and ensure that fire suppression capabilities are adequate to address potential fires before they become catastrophic. With these requirements in place, the contribution of the proposed Cannabis Program Update on cumulative wildfire hazard impacts **would not be cumulatively considerable**.

The indirect impacts of wildfire include: impairment of adopted or adopted emergency response plan, emergency access, or emergency evacuation plan; exposure of occupants to pollutant concentration from wildfire due to slope, prevailing winds, and other factors; installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources) and exposure of people or structures to substantial risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. These impacts tend to be site specific and would not combine such that a cumulative condition could occur across this county.

This page is intentionally left blank.

5 ALTERNATIVES

5.1 INTRODUCTION

The State CEQA Guidelines Section 15126.6(a) requires EIRs to describe “a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather, it must consider a range of potentially feasible alternatives that will avoid or substantially lessen the significant adverse impacts of a project and foster informed decision making and public participation. An EIR is not required to consider alternatives that are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.” This section of the State CEQA Guidelines also provides guidance regarding what the alternatives analysis should consider. Subsection (b) further states the purpose of the alternatives analysis is as follows:

Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code [PRC] Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

The State CEQA Guidelines require that the EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative must be discussed, but in less detail than the significant effects of the project as proposed (State CEQA Guidelines Section 15126.6[d]).

The State CEQA Guidelines further require that the “no project” alternative be considered (State CEQA Guidelines Section 15126.6[e]). The purpose of describing and analyzing a no-project alternative is to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving the proposed project. If the no-project alternative is the environmentally superior alternative, CEQA requires that the EIR “shall also identify an environmentally superior alternative among the other alternatives” (State CEQA Guidelines Section 15126.6[e][2]).

In defining “feasibility” (e.g., “feasibly attain most of the basic objectives of the project...”), State CEQA Guidelines Section 15126.6(f)(1) states, in part:

Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

In determining what alternatives should be considered in the EIR, it is important to consider the objectives of the project, the project’s significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of “potentially feasible” alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by the lead agency’s decision-making body, here Sonoma County Board of Supervisors (See PRC Sections 21081.5, 21081[a][3].)

5.2 CONSIDERATIONS FOR SELECTION OF ALTERNATIVES

5.2.1 Attainment of Project Objectives

The overall purpose of the Cannabis Program Update is to address requirements set forth under the Resolution of Intention and Cannabis Program Update Framework. The Program Update would provide standards to regulate the size, location, and intensity of cannabis uses in agricultural areas to limit conflicts with traditional agriculture, ensure agriculturally zoned lands remain available for agricultural production by limiting structural development, and to provide separation between cannabis production and existing residential areas. These updates aim to provide opportunities for farmers to diversify and obtain additional income, including allowing marketing and visitor-serving activities that promote agricultural products to include cannabis agricultural products.

The primary objectives of the Cannabis Program Update are identified as follows:

1. Protect environmental resources and minimize environmental impacts.
2. Ensure cannabis uses are compatible with areas of concentrated residential uses.
3. Ensure compatibility between cannabis and existing non-residential uses.
4. Regulate cannabis located on agricultural lands more similarly to other agricultural uses, while recognizing its Federal classification, legal history, crop value, transaction security, distinct odor, and energy and water requirements.
5. Regulate cannabis supply chain uses and cultivation located in industrial and commercial areas more similarly to other industrial and commercial uses.
6. Reduce barriers to entry by allowing by right uses where appropriate and eliminating duplicative regulations that unnecessarily bog down permitting without adding value in order to streamline permit processes.
7. Increase business opportunities for the cannabis industry and supporting industries by allowing an expansion in cannabis uses including cultivation, supply chain, additional support and accessory uses. Allow for multiple cannabis uses within a single operation i.e., vertical integration.
8. Recognize competing and evolving community values and interests related to the cannabis industry when implementing the above objectives.
9. Consider the protection of public health and safety and racial and socio-economic equity when implementing the above objectives.

5.2.2 Environmental Impacts of the Cannabis Program Update

Sections 3.1 through 3.17 and Chapter 4 of this Draft EIR address the environmental impacts of implementation of the proposed Cannabis Program Update. Potentially feasible alternatives were developed with consideration of avoiding or lessening the significant, and potentially significant, adverse impacts of the project, as identified in Chapter 3 of this Draft EIR and summarized below. If an environmental issue area analyzed in this Draft EIR is not addressed below, it is because no significant impacts were identified for that issue area. The following significant and unavoidable environmental impacts resulting from the proposed Cannabis Program Update were identified.

SIGNIFICANT AND UNAVOIDABLE IMPACTS

Air Quality

- Expose a Substantial Number of People to Odors Considered Objectionable
- Contribution to Cumulative Impacts on Operational Criteria Air Pollutants

Greenhouse Gas Emissions and Climate Change

- ▶ Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases
- ▶ Contribution to Cumulative Impacts on Greenhouse Gas Emissions and Climate Change Impacts

Noise and Vibration

- ▶ Result in Excessive Short-Term Construction Noise Impacts

Transportation

- ▶ Conflict or Be Inconsistent with CEQA Guidelines Section 15064.3(b) Regarding Vehicle Miles Traveled (VMT)
- ▶ Contribution to Cumulative Impacts on Vehicle Miles Traveled

Utilities and Service Systems

- ▶ Contribution to Cumulative Impacts on Water Supply Sufficiency

Chapter 3 of the Draft EIR also identifies potentially significant impacts that would be reduced to a less-than-significant level through implementation of mitigation measures. These impacts are listed below.

POTENTIALLY SIGNIFICANT IMPACTS REDUCED TO A LESS-THAN-SIGNIFICANT LEVEL WITH MITIGATION

Aesthetics

- ▶ Have a Substantial Adverse Effect on a Scenic Vista or Viewshed
- ▶ Damage Scenic Resources Including, but Not Limited to, Trees, Rock Outcroppings, and Historical Buildings within a State Scenic Highway or County-Designated Scenic Roadway
- ▶ Substantially Degrade the Existing Visual Character or Quality
- ▶ Create a New Source of Substantial Light or Glare that Would Adversely Affect Day or Nighttime Views

Air Quality

- ▶ Generate Short-Term Construction-Related Emissions of ROG, NO_x, PM₁₀, and PM_{2.5}

Biological Resources

- ▶ Result in Disturbance to or Loss of Special-Status Plant Species and Habitat
- ▶ Result in Disturbance to or Loss of Special-Status Wildlife Species and Habitat
- ▶ Result in Disturbance to or Loss of Sensitive Natural Communities, Riparian Habitat, Old-Growth Habitat, or Other Sensitive Habitats
- ▶ Result in Disturbance to or Loss of State or Federally Protected Wetlands and Other Waters
- ▶ Interfere with Resident or Migratory Wildlife Corridors or Native Wildlife Nursery Sites
- ▶ Conflict with Provisions of an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or Other Approved Local, Regional, or State Habitat Conservation Plan

Cultural Resources

- ▶ Cause a Substantial Adverse Change in the Significance of a Historical Resource
- ▶ Cause a Substantial Adverse Change in the Significance of Unique Archaeological Resources

Energy

- ▶ Conflict with or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency

Geology, Soils, and Mineral Resources

- ▶ Directly or Indirectly Destroy a Unique Paleontological Resource or Site

Hazards and Hazardous Materials

- ▶ Be Located on a Site Included on a List of Hazardous Material Sites Compiled Pursuant to Government Code Section 65962.5, Which Would Create a Significant Hazard to the Public or Environment or Create a Significant Hazard to the Public or Environment through Reasonably Foreseeable Upset and/or Accident Conditions Involving Release of Hazardous Materials

Hydrology and Water Quality

- ▶ Decrease of Groundwater Supplies or Interfere Substantially with Groundwater Recharge Such That the Project May Impede Sustainable Groundwater Management of the Basin

Noise and Vibration

- ▶ Cause Excessive Long-Term Operational Stationary Noise Levels

Tribal Cultural Resources

- ▶ Change the Significance of a Tribal Cultural Resource

Utilities and Service Systems

- ▶ Result in Insufficient Water Supplies

Wildfire

- ▶ Expose People or Structures, Either Directly or Indirectly, to a Significant Risk of Loss, Injury, or Death Involving Wildland Fires
- ▶ Substantially Impair an Adopted Emergency Response Plan, Emergency Access, or Emergency Evacuation Plan in Areas in or Near SRAs or Land Classified as Very High Fire Hazard Severity Zones
- ▶ Require the Installation or Maintenance of Associated Infrastructure (such as Roads, Fuel Breaks, Emergency Water Sources) That May Exacerbate Fire Risk or That May Result in Temporary or Ongoing Impacts to the Environment
- ▶ 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

5.2.3 Alternatives Considered but Not Evaluated Further

As described above, State CEQA Guidelines Section 15126.6(c) provides that the range of potential alternatives for the project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. Alternatives that fail to meet the fundamental project purpose need not be addressed in detail in an EIR (*In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* [2008] 43 Cal.4th 1143, 1165–1167).

In determining what alternatives should be considered in the EIR, it is important to acknowledge the objectives of the project, the project's significant effects, and the unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by lead agency decision maker(s). (See PRC Section 21081[a][3].) At the time of action on the project, the decision maker(s) may consider evidence beyond that found in this EIR in addressing such determinations. The decision maker(s), for example, may conclude that a particular alternative is infeasible (i.e., undesirable) from a policy standpoint and may reject an alternative on that basis provided that the decision maker(s) adopts a finding, supported by substantial evidence, to that effect, and provided that such a finding reflects a

reasonable balancing of the relevant economic, environmental, social, and other considerations supported by substantial evidence (*City of Del Mar v. City of San Diego* [1982] 133 Cal.App.3d 401, 417; *California Native Plant Society v. City of Santa Cruz* [2009] 177 Cal.App.4th 957, 998).

The EIR should also identify any alternatives that were considered by the lead agency but were rejected during the planning or scoping process and briefly explain the reasons underlying the lead agency's determination. The following alternatives were considered as alternatives but ultimately removed for the reasons described below.

5.2.4 Countywide Cannabis Ban

Under this alternative, the County would implement a ban on commercial cannabis activities. No new commercial cannabis activities, including retail, cultivation, manufacturing, distribution, testing, microbusinesses, temporary events, or on-site consumption, would be allowed. This alternative would also result in the cessation of the existing cannabis ordinance (County Code Sections 26-88-250 through 26-88-258). Under this alternative, the existing commercial cannabis facilities would be restored to their preexisting conditions after zoning and use permits have termed out. Enforcement activities would be undertaken by the County and other agencies, if necessary, to ensure proper closure of existing commercial cannabis operations.

This alternative was determined early on to be infeasible. While the County is not required to permit commercial cannabis activities, a cannabis prohibition would be inconsistent with the passage of state Proposition 64 (Marijuana Legalization in 2016) where voters approved commercial cannabis use and activities in California and with Sonoma County voter passage of Measure A (Cannabis Business Tax in 2017). Measure A created a framework for taxation that set maximum allowable rates for all operator types and granted authority to the County to, among other things, set lower rates, tax certain operator types, and establish various tax administration policies. Additionally, this alternative would not meet most of the project objectives, which include reduced barriers for permitting and increased business opportunities for the cannabis industry in Sonoma County. Because this alternative would not be consistent with Proposition 64 and Measure A and would not be consistent with any of the project objectives listed above, it is not considered further.

5.3 ALTERNATIVES SELECTED FOR DETAILED ANALYSIS

The following alternatives are evaluated in this Draft EIR.

Alternative 1: No Project–Continuation of Existing Cannabis Program: Alternative 1 assumes that the existing regulation would remain in place.

Alternative 2: Commercial and Industrial Zones Only Alternative: Alternative 2 would only allow commercial cannabis uses within the commercial and industrial zoning districts, which would limit cultivation to indoor only, and events would not be allowed.

Alternative 3: Ministerial Only Alternative: Alternative 3 would allow future non-cultivation and cultivation facilities without further discretionary review, either by right or with a ministerial permit. Ministerial zoning permits require review of the permit application for permit eligibility and verification of the proposed project's conformance with set standards prior to approval. If the proposed project does not conform to the applicable standards, the permit would not be eligible for approval and would be denied by the County. If applicable standards are met, the permit is issued without project-specific discretionary review and without public notice.

Alternative 4: Reduced Scope Alternative: Under Alternative 4, proposed changes to the General Plan would be the same as under the proposed Cannabis Program Update, including redefining cannabis as controlled agriculture and limiting structural development to being secondary and incidental to outdoor agricultural production. The allowable uses in industrial and commercial districts would remain the same, but the allowable uses in agricultural and resources districts would be reduced compared to the proposed program.

Alternative 5: No New Development: Crop Swap and Shop Swap Only Alternative: Alternative 5 would limit new outdoor cannabis cultivation sites within agricultural or resources zoning districts to those meeting the crop swap criteria of the Cannabis Program Update. That is, cultivation would involve the replacement of active cultivation and of perennial or row crops with outdoor cannabis cultivation or the reuse of an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation, involving no or negligible expansion of use. Cannabis cultivation operations would be subject to a ministerial permit that would meet the requirements of the crop swap, as detailed in the proposed Cannabis Program Update Code Section 26-18-115. No new indoor or mixed-light facilities could be developed under the crop swap provisions, cannabis cultivation would be not allowed on agricultural or resources zoning districts that have not been in production within the 5 years prior to application for a permit.

5.3.1 Alternative 1: No-Project Alternative

Alternative 1 assumes that the existing regulation would remain in place and would not be repealed or otherwise modified from existing conditions.

For the purposes of this analysis, it is assumed that there would be fewer commercial cannabis facilities in the County because the regulations under Alternative 1, including those pertaining to allowable uses, setbacks, and parcel size, are more stringent than under the proposed Cannabis Program Update. It is assumed that there would be fewer cultivation uses developed and operated in the County under the No-Project Alternative compared to the proposed Cannabis Program Update due to the limits on canopy (one acre versus 10 percent of the parcel in Agricultural and Resource zones and by building lot coverage in Industrial zones) and minimum parcel size (10 acres versus 5 acres) and because accessory retail and events would be prohibited. Alternative 1 includes a limited ministerial permitting pathway for outdoor, indoor, and mixed-light cultivation of up to 10,000 square feet, 500 square feet, and 2,500 square feet respectively. All other cultivation and supply chain uses are subject to a discretionary use permit.

AESTHETICS

As discussed in Section 3.1, "Aesthetics," under the proposed Cannabis Program Update, mitigation measures are available to reduce potentially significant impacts on scenic vistas or viewsheds and scenic resources within a state scenic highway or County-designated scenic roadway, and impacts related to degradation of the existing visual character through requirements for tarps and fences. Additionally, under the proposed Program, mitigation measures are available to reduce potentially significant impacts related to light and glare to a less-than-significant level. Under the No-Project Alternative, the existing cannabis ordinance would remain in place. Under this alternative, there would be a cap of 1 acre per site and a minimum parcel size of 10 acres for cultivation, which would provide fewer opportunities for cultivation in the County compared to the proposed Cannabis Program Update, which limits canopy to 10 percent of a minimum 5-acre parcel. Compared to the proposed Cannabis Program Update, Alternative 1 would also have smaller setback requirements for indoor uses and would not have a specific setback standard from residential zones and incorporates city boundaries. Overall, Alternative 1 would result in fewer cannabis uses and eligible cultivation sites that would be located farther from each other. In addition, Alternative 1 places limits on the size of indoor cultivation and mixed-light activities on agriculture and resources districts. For this reason, the potential to alter the existing visual character or quality would be less than under the proposed Cannabis Program Update. Similarly, with more spread out development, there would be less potential for adverse effects on scenic vistas and state scenic highways or County-designated scenic roadways and fewer new lights installed. For these reasons, impacts on aesthetics resources would be **less** under Alternative 1 than the proposed Cannabis Program Update.

AGRICULTURAL AND FORESTRY RESOURCES

As discussed in Section 3.2, "Agricultural and Forestry Resources," under the proposed Cannabis Program Update, there would be no impacts to agricultural or forestry resources. Under Alternative 1, cannabis would not be redefined as controlled agriculture as it would under the proposed Cannabis Program Update. Thus, development of cannabis cultivation and accessory structures on lands zoned for agricultural uses may convert farmland to nonagricultural

uses. However, under Alternative 1, commercial indoor and mixed-light cultivation facilities are prohibited from removing agricultural production within Important Farmlands, including Prime, Unique, and Farmlands of Statewide Importance as designated by the state Farmland Mapping and Monitoring Program, unless offset by relocating agricultural production on a 1:1 ratio. Because cannabis would continue to be a commercial use and not an agricultural use, it would not serve to further General Plan policies related to promoting agricultural uses on agricultural lands as much as the Cannabis Program Update. Thus, impacts on agricultural and forestry resources would be **greater** under Alternative 1 than the proposed Cannabis Program Update.

AIR QUALITY

As discussed in Section 3.3, "Air Quality," under the proposed Cannabis Program Update, potentially significant impacts associated with construction-generated air emissions would be reduced to a less-than-significant level with implementation of mitigation measures; however, the proposed Cannabis Program Update would result in significant and unavoidable impacts related to odors. Additionally, under cumulative conditions, the Cannabis Program Update would make a considerable contribution to cumulative operational criteria air pollutant emissions. Alternative 1 would be more stringent in terms of allowable cannabis uses than the proposed Cannabis Program Update. While this may decrease the development potential in the County, mitigation measures would reduce potential construction-related emissions to a less-than-significant level under either Alternative 1 or the proposed Cannabis Program Update. With regard to odor impacts, Alternative 1 requires smaller setbacks from residential zones (100 to 300 feet versus 600 feet); however, the 300 foot setback from individual residences would be retained and the sensitive use setback requirements in agricultural and resources zones would be greater (measured from property line to property line, rather than property line of the sensitive use to the cannabis premises). As discussed under Impact 3.3-4, the furthest distance cannabis odors may be recognizable or detectable is approximately 2 miles, depending on topography and meteorology (Kern County 2017). However, recognition of an odor does not imply that the odor is a nuisance, only that it can be identified or detected as cannabis. Typically, the odor is detectable much closer to the source, such as adjacent to or on a commercial cannabis cultivation site. The distance for odor detection is site-specific and can be affected by many variables, including meteorology, topography, and stages of plant growth. In addition, human perception of cannabis plant odors may be influenced by personal views regarding cannabis. Whether the odor is acceptable and the level at which it should be defined as objectionable varies by the individual sensitive receptor depending on various strengths and distances. Overall, while some setbacks would be greater under Alternative 1, others would be smaller and the amount of cultivation at an individual grow site and countywide is expected to increase under the Cannabis Program Update, presenting greater potential for nuisance odor effects. Thus, impacts related to odors would be **less** under Alternative 1 than the proposed Cannabis Program Update.

BIOLOGICAL RESOURCES

As discussed in Section 3.4, "Biological Resources," the proposed Cannabis Program Update would result in potentially significant impacts on special-status plant species and habitat; special-status wildlife species and habitat; special-status fisheries; riparian habitat, old-growth habitat, and other sensitive natural communities; state or federally protected wetlands; and migratory wildlife corridors or native wildlife nursery sites, which would be reduced to a less-than-significant level through implementation of mitigation measures. Although Alternative 1 contains requirements for biotic resources assessments and setback criteria from riparian corridor stream conservation areas, these requirements are duplicative of other County standards for cannabis projects subject to a Use Permit as well as State Water Resources Control Board (SWRCB) Order WQ 2023-0102-DWQ. While Alternative 1 may result in less development than under the proposed Cannabis Program Update, compliance with state and County requirements and mitigation measures would reduce potentially significant impacts for the same reasons as discussed in Section 3.4, "Biological Resources." Thus, impacts related to biological resources would be **similar** under Alternative 1 as under the proposed Cannabis Program Update.

CULTURAL RESOURCES

As discussed in Section 3.5, “Cultural Resources,” compliance with state requirements (e.g., SWRCB Order WQ 2023-0102-DWQ) would minimize potentially significant impacts related to disturbance of human remains and archeological resources. While the proposed Cannabis Program Update would result in potentially significant impacts on historic resources and unique archaeological resources, mitigation measures would reduce these impacts to a less-than-significant level. Although Alternative 1 contains development standards for cultural and historic resources (e.g., records requests), these are duplicative of other state requirements. Compliance with state and County requirements and mitigation measures would reduce potentially significant impacts for the same reasons as discussed in Section 3.5, “Cultural Resources.” Thus, impacts related to cultural resources would be **similar** under Alternative 1 as under the proposed Cannabis Program Update.

ENERGY

As discussed in Section 3.6, “Energy,” while the proposed Cannabis Program Update would not increase energy consumption associated with the construction and operation of commercial cannabis facilities in a way that would be considered wasteful, inefficient, or unnecessary, it could conflict with the County Climate Change Action Resolution. However, implementation of Mitigation Measure 3.6-2 would improve the energy efficiency and renewable energy potential of licensed commercial cannabis cultivation and noncultivation sites through the incorporation of renewable energy systems and limits to on-site natural gas usage. While Alternative 1 may result in less development than the proposed Cannabis Program Update, compliance with state and County requirements and mitigation measures would reduce potentially significant impacts for the same reasons as discussed in Section 3.6, “Energy.” Thus, impacts related to energy would be **similar** under Alternative 1 as under the proposed Cannabis Program Update.

GEOLOGY, SOILS, AND MINERAL RESOURCES

As discussed in Section 3.7, “Geology, Soils, and Mineral Resources,” cannabis facility development and operation would be subject to compliance with SWRCB Order WQ 2023-0102-DWQ, the California Building Code, and Sonoma County’s Grading and Drainage requirements (i.e., Chapter 36 pertains to outdoor cultivation, and Chapter 11 pertains to construction grading and drainage for other development). These requirements would be the same under Alternative 1 as the proposed Cannabis Program Update. In addition, for the reasons described in Section 3.7, “Geology, Soils, and Mineral Resources,” mitigation measures are available to reduce potentially significant impacts on paleontological resources to a less-than-significant level. While Alternative 1 may result in less development than the proposed Cannabis Program Update, mitigation measures would reduce potentially significant impacts for the same reasons as discussed in Section 3.7, “Geology, Soils, and Mineral Resources.” Thus, impacts related to geologic and paleontological resources would be **similar** under Alternative 1 as under the proposed Cannabis Program Update.

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

As discussed in Section 3.8, “Greenhouse Gas Emissions and Climate Change,” given the rural nature of portions of the County, it may be infeasible for future licensed cannabis cultivation sites to fully decarbonize due to inadequate access to the electrical grid. Thus, the proposed Cannabis Program Update would result in significant and unavoidable impacts associated with conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions under program and cumulative conditions. While Alternative 1 may result in less development than the proposed Cannabis Program Update, the same issues would generally persist. While parcel size requirements and canopy size limits could require more sites in the County to accommodate the demand for cultivation, thus increasing VMT, the prohibition on accessory retail under Alternative 1 in Agricultural and Resource zones could decrease VMT compared to the proposed Program because retail uses would be located closer to urban centers in Industrial and Commercial zones. Additionally, the prohibition on events under Alternative 1 would limit visitor-serving uses and decrease visitor-related VMT. This reduction in VMT would reduce GHG emissions

under Alternative 1 compared to the proposed Program. Thus, impacts related to greenhouse gas emissions and climate change would be **less** under Alternative 1 as under the proposed Cannabis Program Update.

HAZARDS AND HAZARDOUS MATERIALS

As discussed in Section 3.9, "Hazards and Hazardous Materials," commercial cannabis facilities would be required to comply with existing state and local regulations (such as Title 26 of the California Code of Regulations [CCR], as well as the US Department of Transportation [DOT], the California Highway Patrol [CHP], and the California Department of Transportation [Caltrans], and the Federal Motor Carrier Safety Association [FMCSA] regulations). While there may be contamination from previous or historical practices from certain land uses (e.g., agricultural use of pesticides), implementation of mitigation measures would reduce potentially significant impacts of the Cannabis Program Update to a less-than-significant level. While Alternative 1 may result in less development than the proposed Cannabis Program Update, mitigation measures would reduce potentially significant impacts for the same reasons as discussed in Section 3.9, "Hazards and Hazardous Materials." Thus, impacts related to hazards and hazardous materials would be **similar** under Alternative 1 as under the proposed Cannabis Program Update.

HYDROLOGY AND WATER QUALITY

As identified in Section 3.10, "Hydrology and Water Quality," compliance with state and County requirements (would reduce potentially significant impacts related to water quality and surface water diversion to a less-than-significant level. New cannabis facilities that rely on groundwater could deplete aquifers, and subsequently result in interference with sustainable management of a basin or impedance of implementation of a sustainable groundwater management plan. Increased groundwater extraction may result in adverse environmental impacts, including reduced groundwater levels, interference with nearby wells, reduced streamflow, altered habitat of interconnected surface waters, and degraded groundwater quality. As identified in Section 3.10, "Hydrology and Water Quality," mitigation measures are available that would reduce impacts related to groundwater to a less-than-significant level by ensuring that a cannabis permit would not be granted to applicants if groundwater use would result in or exacerbate an overdraft condition in basin or aquifer, reduced critical flow in nearby streams, or well interference at offsite wells. While Alternative 1 may result in less development than the proposed Cannabis Program Update, mitigation measures would reduce potentially significant impacts related to groundwater use by creating standards to address these impacts, as identified in Section 3.10, "Hydrology and Water Quality." Because the minimum parcel size for cultivation would be larger under Alternative 1, cannabis cultivation-related groundwater wells are likely to operate at farther distances and would support less cannabis uses per site as compared to the proposed Cannabis Program Update. Due to the increased distance between wells, the potential for well interference would be less under Alternative 1 than under the proposed Cannabis Program Update. For these reasons, impacts related to hydrology and water quality would be **less** under Alternative 1 than under the proposed Cannabis Program Update.

LAND USE AND PLANNING

No significant land use and planning impacts were identified as a result of implementation of the Cannabis Program Update. Cannabis facilities would be subject to state and County land use regulations and policies that protect the environment.

Permitted commercial cannabis uses would be required to comply with the respective code requirements associated with Alternative 1 and the proposed Cannabis Program Update. The code for each alternative provides land use and development standards for commercial cannabis uses, as well as establishes the zoning districts that allow for commercial cannabis uses. Additionally, zoning districts where cannabis uses are allowed are similar to those allowed under the proposed Cannabis Program Update, except that Alternative 1 would continue to not allow retail uses in the General Commercial zone. For this reason, impacts on land use and planning would be **similar** under Alternative 1 as under the proposed Cannabis Program Update.

NOISE AND VIBRATION

As discussed in Section 3.12, “Noise and Vibration,” under the proposed Cannabis Program Update construction-related and operational noise from individual cannabis projects could exceed noise standards; however, mitigation is available to reduce potentially significant impacts to a less-than-significant level with the exception of construction noise impacts. While Alternative 1 may result in less development than the proposed Cannabis Program Update, mitigation measures would reduce potentially significant impacts as discussed in Section 3.12, “Noise and Vibration.” With regard to operational noise, Alternative 1 would not allow events to operate. Amplified noise from cannabis events and cannabis lounges could be located within distances that expose existing sensitive receptors to noise levels that exceed County noise standards and result in public health effects (e.g., sleep disturbance) at nearby sensitive receptors. Because events would not be allowed under Alternative 1, the potential for adverse noise effects would be **less** than under the proposed Cannabis Program Update.

PUBLIC SERVICES AND RECREATION

Consistent with state and County requirements (e.g., Public Resources Code 4290 and 4291, California Fire Code, CCR Title 4, Division 9, Section 15042, 15042, 15043, 15045, 15046, and 15047) discussed in Section 3.13, “Public Services,” no substantial effects on fire protection or law enforcement services would occur, such that development of new or altered facilities would be necessary. Because the same standards apply to both Alternative 1 and the proposed Cannabis Program Update, impacts related to public services would be **similar** under Alternative 1 as under the proposed Cannabis Program Update.

TRANSPORTATION

Construction associated with future commercial cannabis facilities would be required to meet all County requirements related to construction, including the County Construction Standards adopted as County Ordinance 38-2020-0446, as well as obtain encroachment permits under Section Chapter 15, Article III, Section 15-8 of the County Municipal Code. Compliance with these requirements would address the site-specific conditions associated with cannabis facilities; and, thus, the severity between Alternative 1 and the proposed Cannabis Update would be similar. The proposed Cannabis Program Update would result in significant and unavoidable VMT impacts under project and cumulative conditions. As discussed above under “Greenhouse Gas Emissions and Climate Change,” while parcel size requirements and canopy size limits could require more sites in the County to meet the demand for cultivation, thus increasing VMT, the prohibition on accessory retail under Alternative 1 in Agricultural and Resource zones could decrease VMT compared to the proposed Program because retail uses would be located closer to urban centers in Industrial and Commercial zones. Additionally, the prohibition on events under Alternative 1 would limit visitor-serving uses and decrease visitor-related VMT. This reduction in VMT would reduce GHG emissions under Alternative 1 compared to the proposed Program. While a significant and unavoidable effect cannot be ruled out, because an individual project may be considered to have a significant level of VMT, overall travel in the County associated with licensed cannabis uses would be less under Alternative 1 than the proposed Cannabis Program Update. Thus, impacts related to transportation would be **less** under Alternative 1 than under the proposed Cannabis Program Update.

TRIBAL CULTURAL RESOURCES

Requirements for new cannabis uses would be subject to SWRCB Order WQ 2023-0102-DWQ, Health and Safety Code Section 7050.5, and PRC Section 5097.98, which would reduce impacts to tribal cultural resources. Additionally, feasible mitigation measures are available to identify and avoid or manage tribal cultural resources, to ensure consistency with all state laws. Because a similar level of development would occur under Alternative 1 as under the proposed Cannabis Program Update, impacts would be **similar**.

UTILITIES AND SERVICE SYSTEMS

As discussed in Section 3.16, “Utilities and Service Systems,” while compliance with state and County requirements would result in less-than-significant impacts to wastewater and solid waste services, mitigation measures would be necessary to ensure that there are sufficient water supplies available to support new cannabis uses in the County. However, the proposed Cannabis Program Update would make a considerable contribution to cumulative water supply impacts resulting in a significant and unavoidable impact. Under Alternative 1, because accessory retail and manufacturing would be prohibited in Agricultural and Resource Districts, there could be more retail and manufacturing uses in urban areas where water service is available to meet these supply chain uses. This could result in an increase in municipal and retail water supply under Alternative 1 compared to the proposed Cannabis Program Update, which would tend to rely more on water supply from groundwater well and septic systems. However, under Alternative 1, operating standards for cultivation are required to provide proof of adequate water and wastewater service. Overall, because of the restrictions on supply chain uses in Agricultural and Resource zones, there would be less potential for extension of services because less cannabis uses would be allowed. Thus, impacts related to utilities and service systems would be **less** under Alternative 1 than under the proposed Cannabis Program Update.

WILDFIRE

As discussed in Section 3.17, “Wildfire,” new cannabis uses would be allowed under the proposed Cannabis Program Update in areas where existing risk of wildland fire has been established. While outdoor cultivation would not create an increased risk of wildland fire, indoor cultivation, mixed-light cultivation, centralized processing, cannabis events, and other supply chain uses would increase the potential for new ignitions. If wildland fires are ignited within undeveloped areas of the County, there is substantial potential risk of loss, injury, or death because emergency access and evacuation may be impeded in these areas. In turn, wildfires in Sonoma County may impair emergency response and access or expose people or structures to substantial risks and new development may require associated infrastructure that could result in environmental impacts. Alternative 1 would result in similar levels of potentially significant impacts as under the Cannabis Program Update because development would be allowed to expand to new areas of the county; thus providing new fuels and increased potential for ignition. Alternative 1 would reduce the risk of wildfire because events would be prohibited. However, mitigation measures are available that would reduce potentially significant impacts through design features, operational requirements, and coordination with the County Fire Marshall and local fire districts. Further, mitigation measures under the Program Update would include prohibiting all uses except for outdoor cultivation and processing within the Very High FHSZ, whereas Alternative 1 would continue to allow mixed-light and indoor cultivation and centralized processing. With these requirements in place, impacts related to wildfire would be **similar** under Alternative 1 as under the proposed Program Update.

5.3.2 Alternative 2: Commercial and Industrial Zones Only Alternative

Alternative 2 would limit commercial cannabis uses to the commercial and industrial zoning districts only. No cultivation or other cannabis uses would be allowed in agricultural or resource zones. Cultivation within industrial districts would be limited to indoor. Cultivation would not include a canopy limit, and all uses would be allowed by right, similar to the Program Update. Existing cultivation sites in agricultural and resource zoning district would phase out as permits expire. Under this alternative, cannabis would not be considered a controlled agricultural crop and would instead remain a commercial use. Neither cannabis events nor periodic special events involving cannabis would be allowed.

Based on the assumptions presented in Table 3-1 of this Draft EIR, the projected total cannabis cultivation area of 208 acres would require a total of 31,363,200 square feet (sf) of building (20,000 sf of building for every 6,000 sf of canopy) and a footprint of 416 acres of developed use footprint (2 acres of footprint per acre of canopy) for parking, storage buildings, and other operational buildings. This represents a nearly 8-fold increase in cultivation-related developed building space than under the proposed Cannabis Program. However, because several harvests may occur

per year in indoor facilities, the market would support less area for cultivation than under the proposed Program. For reference, indoor cultivation facilities can support at least five harvests per year versus one or two harvests for outdoor cultivation. Using this assumption, indoor building area demand may be projected to reach approximately 6 million sf, which remains greater than the total building area projected for the proposed Cannabis Program (approximately 4.4 million sf, as shown in Table 3-1 of this Draft EIR).

AESTHETICS

As discussed in Section 3.1, “Aesthetics,” under the proposed Cannabis Program Update, mitigation measures are available to reduce potentially significant impacts on scenic vistas or viewsheds and scenic resources within a state scenic highway or County-designated scenic roadway, and impacts related to degradation of the existing visual character through requirements for tarps and fences. Additionally, under the proposed Program, mitigation measures are available to reduce potentially significant impacts related to light and glare to a less-than-significant level. Under Alternative 2, cannabis uses would not be allowed in agricultural and resource zones, thereby reducing impacts to scenic resources without needing to implement the identified measures. This alternative would likely lead to greater development within commercial and industrial zones to accommodate expected cannabis uses. While this additional development presents the potential for impacts related to lighting and glare, mitigation measures are available and can be implemented through the design review with hearing process. Overall, because new development would not be permitted within the rural areas of the County, aesthetics impacts would be **less** under Alternative 2 than under the proposed Cannabis Program Update.

AGRICULTURAL AND FORESTRY RESOURCES

As discussed in Section 3.2, “Agricultural and Forestry Resources,” under the proposed Cannabis Program Update, use of agricultural land for cultivation and agricultural-serving uses would be less-than-significant. Because Alternative 2 would not allow development within the agricultural zones, there would be no impact to agricultural resources or existing forestland or timberland production. There may be more development within commercial and industrial zones that could involve tree removal, however, compliance with the County’s tree protection regulations would ensure future cannabis operations would provide replacement or payment for the removal of any on-site protected trees. For these reasons, impacts to agricultural and forestry resources would be **less** under Alternative 2 as the proposed Cannabis Program Update.

AIR QUALITY

As discussed in Section 3.3, “Air Quality,” under the proposed Cannabis Program Update, potentially significant impacts associated with construction-generated air emissions would be reduced to a less-than-significant level with implementation of mitigation measures; however, the proposed Cannabis Program Update would result in significant and unavoidable impacts related to odors. Additionally, under cumulative conditions, the Cannabis Program Update would make a considerable contribution to cumulative operational criteria air pollutant emissions. Under Alternative 2, there would be more construction and, thus, greater construction-related emissions; however, mitigation measures would reduce potential construction-related emissions to a less-than-significant level under either Alternative 2 or the proposed Cannabis Program Update. Because Alternative 2 would not allow for outdoor cannabis cultivation, all cannabis operations would be contained within a building and would be subject to Cannabis Program Update 26-18-115(C)(1)(a), which requires that structures containing cannabis must be equipped with a filtration and ventilation system to control odors. These requirements would reduce odor emissions for indoor and mixed-light cultivation and supply chain uses to a less-than-significant level, thus eliminating the significant and unavoidable impact associated with the proposed Cannabis Program Update. Because cannabis would be grown inside and cannabis facilities would be equipped with odor control systems under Alternative 2, there would be less odor emissions than under the proposed Program. Thus, impacts related to odors would be **less** under Alternative 2 than the proposed Cannabis Program Update. *(Eliminates significant and unavoidable odors impacts.)*

BIOLOGICAL RESOURCES

As discussed in Section 3.4, "Biological Resources," the proposed Cannabis Program Update would result in potentially significant impacts on special-status plant species and habitat; special-status wildlife species and habitat; special-status fisheries; riparian habitat, old-growth habitat, and other sensitive natural communities; state or federally protected wetlands; and migratory wildlife corridors or native wildlife nursery sites, which would be reduced to a less-than-significant level through implementation of mitigation measures. While Alternative 2 may result in more structural development than the proposed Cannabis Program Update, new development is less likely to occur in environmentally sensitive areas and it is not clear if less ground disturbance would occur because both land development and cultivation require grading and other earthmoving; regardless, compliance with state and County requirements and mitigation measures would reduce potentially significant impacts for the same reasons as discussed in Section 3.4, "Biological Resources." Thus, impacts related to biological resources would be **less** under Alternative 2 as under the proposed Cannabis Program Update.

CULTURAL RESOURCES

As discussed in Section 3.5, "Cultural Resources," compliance with state requirements would minimize potentially significant impacts related to disturbance of human remains and archeological resources. While the proposed Cannabis Program Update would result in potentially significant impacts on historic and archaeological resources, mitigation measures would reduce these impacts to a less-than-significant level. While Alternative 2 may result in more development than under the proposed Cannabis Program Update, it is not clear if less ground disturbance would occur because both land development and cultivation require grading and other earthmoving. Regardless, compliance with state and County requirements and mitigation measures would reduce potentially significant impacts for the same reasons as discussed in Section 3.5, "Cultural Resources." Thus, impacts related to cultural resources would be **similar** under Alternative 2 as under the proposed Cannabis Program Update.

ENERGY

As discussed in Section 3.6, "Energy," while the proposed Cannabis Program Update would not increase energy consumption associated with the construction and operation of commercial cannabis facilities in a way that would be considered wasteful, inefficient, or unnecessary, it could conflict with the County Climate Change Action Resolution. However, implementation of Mitigation Measure 3.6-2 requires that provisions that address renewable energy or energy efficiency be incorporated to improve the energy efficiency and renewable energy potential of new cannabis cultivation and supply chain uses. These requirements would align with the measures of the Sonoma County Climate Action Resolution. Because Alternative 2 would involve more development and operation of buildings for cannabis uses than the proposed Cannabis Program Update, impacts related to energy would be **greater** under Alternative 2 than under the proposed Cannabis Program Update.

GEOLOGY, SOILS, AND MINERAL RESOURCES

As discussed in Section 3.7, "Geology, Soils, and Mineral Resources," cannabis facility development and operation would be subject to compliance with SWRCB Order WQ 2023-0102-DWQ, the California Building Code, and Sonoma County Code requirements. While state and County requirements for outdoor cannabis cultivation would not apply under Alternative 2, development requirements would be the same under Alternative 2 as under the proposed Cannabis Program Update. In addition, for the reasons described in Section 3.7, "Geology, Soils, and Mineral Resources," mitigation measures are available to reduce potentially significant impacts on paleontological resources to a less-than-significant level. While Alternative 2 may result in more development than the proposed Cannabis Program Update, mitigation measures would reduce potentially significant impacts for the same reasons as discussed in Section 3.7, "Geology, Soils, and Mineral Resources." Thus, impacts related to geologic and paleontological resources would be **similar** under Alternative 2 as under the proposed Cannabis Program Update.

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

As discussed in Section 3.8, “Greenhouse Gas Emissions and Climate Change,” given the rural nature of portions of the County, it may be infeasible for future licensed cannabis cultivation sites to fully decarbonize due to inadequate access to the electrical grid. Thus, the proposed Cannabis Program Update would result in significant and unavoidable impacts associated with conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions under program and cumulative conditions. Under Alternative 2, development would be limited to commercial and industrial zones where it would be feasible for cannabis uses to fully decarbonize. Further, events would not be allowed, thereby reducing VMT and greenhouse gas emissions. However, because VMT impacts are site-specific and mitigation effectiveness is uncertain, it would not reduce this impact from significant and unavoidable. Still, impacts related to greenhouse gas emissions and climate change would be **less** under Alternative 2 than under the proposed Cannabis Program Update.

HAZARDS AND HAZARDOUS MATERIALS

As discussed in Section 3.9, “Hazards and Hazardous Materials,” commercial cannabis facilities would be required to comply with existing state and local regulations (such as Title 26 of the CCR, as well as DOT, CHP, and Caltrans, and the FMCSA regulations). While there may be contamination from previous or historical practices from certain land uses (e.g., agricultural use of pesticides and herbicides), implementation of mitigation measures would reduce potentially significant impacts of the Cannabis Program Update to a less-than-significant level. While Alternative 2 may result in more development than under the proposed Cannabis Program Update, it is not clear whether less ground disturbance would occur because both land development and cultivation require grading and other earthmoving; regardless, mitigation measures would reduce potentially significant impacts for the same reasons as discussed in Section 3.8, “Hazards and Hazardous Materials.” Thus, impacts related to hazards and hazardous materials would be **similar** to those under the proposed Cannabis Program Update.

HYDROLOGY AND WATER QUALITY

As identified in Section 3.10, “Hydrology and Water Quality,” compliance with state and County requirements (would reduce potentially significant impacts related to water quality and surface water diversion to a less-than-significant level. New cannabis facilities that rely on groundwater could deplete aquifers, and subsequently result in interference with sustainable management of a basin or impedance of implementation of a sustainable groundwater management plan. Increased groundwater extraction may result in adverse environmental impacts, including reduced groundwater levels, interference with nearby wells, reduced streamflow, altered habitat of interconnected surface waters, and degraded groundwater quality. As identified in Section 3.10, “Hydrology and Water Quality,” mitigation measures are available that would reduce impacts related to groundwater to a less-than-significant level by ensuring that a cannabis permit would not be granted to applicants if groundwater use would result in or exacerbate an overdraft condition in basin or aquifer, reduced critical flow in nearby streams, or well interference at offsite wells. Under Alternative 2, cannabis uses would only be permitted in industrial zones. While indoor cultivation has a higher water demand than outdoor cannabis cultivation (see Table 3.10-7), these sites would be much less likely to rely on groundwater. Therefore, impacts related to hydrology and water quality would be **less** under Alternative 2 than under the proposed Cannabis Program Update.

LAND USE AND PLANNING

No significant land use and planning impacts were identified as a result of implementation of the Cannabis Program Update. Cannabis facilities would be subject to state and County land use regulations and policies that protect the environment.

Permitted commercial cannabis uses would be required to comply with the respective code requirements associated with Alternative 2 and the proposed Cannabis Program Update. The code for each alternative provides land use and development standards for commercial cannabis uses, as well as establishes the zoning districts that allow for

commercial cannabis uses. Zoning districts where cannabis uses are allowed under Alternative 2 are much more limited than those allowed under the proposed Cannabis Program Update, but would similarly not create a conflict with any plan, policy, or regulation adopted for the purpose of avoiding an environmental impact. For this reason, impacts on land use and planning would be **similar** under Alternative 2 as under the proposed Cannabis Program Update.

NOISE AND VIBRATION

As discussed in Section 3.12, "Noise and Vibration," under the proposed Cannabis Program Update, construction-related and operational noise from individual cannabis projects could exceed noise standards; however, mitigation is available to reduce potentially significant impacts to a less-than-significant level with the exception of construction noise impacts that would be significant and unavoidable. While Alternative 2 may result in more development than under the proposed Cannabis Program Update, mitigation measures would reduce potentially significant impacts for the same reasons as discussed in Section 3.12, "Noise and Vibration." Additionally, a similar number of supply-chain uses would be expected under Alternative 2 as under the proposed Program and mitigation measures are available to reduce potentially significant impacts to a less-than-significant level. Alternative 2 would differ from the proposed Program because there would be an increased number of indoor cultivation facilities, which require the use of loud noise sources (e.g., heating, ventilation, and air conditioning (HVAC) equipment). While setback requirements in agricultural and resource zoning districts would allow for attenuation of noise from HVAC systems to an imperceptible level at sensitive receptor locations, noise emitted from site in industrial and commercial areas could be substantial because setbacks are limited to the underlying zoning district requirements. However, mitigation is available to reduce potentially significant impacts on nearby sensitive land uses. Alternative 2 also differs from the proposed Program in that events would not be allowed, thereby reducing potential noise impacts associated with events. Overall, because mitigation measures would address ambient noise and exceedance of noise thresholds on a site-by-site basis, impacts would be **similar** under Alternative 2 compared to the proposed Program.

PUBLIC SERVICES AND RECREATION

Consistent with state and County requirements (e.g., Public Resources Code 4290 and 4291, California Fire Code, CCR Title 4, Division 9, Section 15042, 15042, 15043, 15045, 15046, and 15047) discussed in Section 3.13, "Public Services," no substantial effects on fire protection or law enforcement services would occur, such that development of new or altered facilities would be necessary. Because the same standards apply to both Alternative 2 and the proposed Cannabis Program Update, impacts related to public services and recreation would be **similar** under Alternative 2 as under the proposed Cannabis Program Update.

TRANSPORTATION

Construction associated with future commercial cannabis facilities would be required to meet all County requirements related to construction, including the County Construction Standards adopted as County Ordinance 38-2020-0446, as well as obtain encroachment permits under Section Chapter 15, Article III, Section 15-8 of the County Municipal Code. Compliance with these requirements would address the site-specific conditions associated with cannabis facilities as well as impacts associated with traffic safety, as discussed in Section 3.14, "Transportation." Because cannabis uses under Alternative 2 would be limited to commercial and industrial zones where much of the area is previously developed, impacts are expected be less severe. The proposed Cannabis Program Update would result in significant and unavoidable VMT impacts under program and cumulative conditions. Under Alternative 2, demand for supply chain uses would be the same as under the proposed Program; however, there would be more indoor facilities because outdoor facilities would be prohibited. Indoor facilities allow for year-round cultivation, creating more harvests per facility and, thus, increased employment opportunities that would be sustained throughout the year rather than seasonal. As noted in Table 3-1, approximately 8.5 employees are required for outdoor and mixed-light cultivation, while 9.3 employees are required for indoor cultivation. Thus, more employees would be required to support Alternative 2 versus the proposed Cannabis Program (1,768 versus up to 1,934 total employees). While

development under Alternative 2 may be concentrated in less remote areas of the County, the location of future facilities is unknown and cannot be known at this time, and so an increase in employment may relate to greater VMT. At the same time, Alternative 2 would not allow for events, which would VMT impacts. Overall, impacts related to transportation would be **similar** under Alternative 2 as under the proposed Cannabis Program Update.

TRIBAL CULTURAL RESOURCES

Requirements for new cannabis uses would be subject to SWRCB Order WQ 2023-0102-DWQ, Health and Safety Code Section 7050.5, and PRC Section 5097.98, which would reduce impacts to tribal cultural resources. Additionally, feasible mitigation measures are available to identify and avoid or manage tribal cultural resources, to ensure consistency with all state laws. Because a similar level of development would occur under Alternative 2 as under the proposed Cannabis Program Update, impacts would be **similar**.

UTILITIES AND SERVICE SYSTEMS

As discussed in Section 3.16, "Utilities and Service Systems," while compliance with state and County requirements would result in less-than-significant impacts to wastewater and solid waste services, mitigation measures would be necessary to ensure that there are sufficient water supplies available to support new cannabis uses in the County. However, the proposed Cannabis Program Update would make a considerable contribution to cumulative water supply impacts that would be significant and unavoidable. As noted above under "Hydrology and Water Quality," because more indoor cannabis businesses would be expected under Alternative 2, there would be greater demand on water than under the proposed Cannabis Program Update. Further, because all cannabis uses would be in commercial and industrial zoning, they would be more likely to be served by public sewer and water. Thus, impacts related to utilities and service systems would be **greater** under Alternative 2 than under the proposed Cannabis Program Update.

WILDFIRE

As discussed in Section 3.17, "Wildfire," new cannabis uses would be allowed under the proposed Cannabis Program Update in areas where existing risk of wildland fire has been established. While outdoor cultivation would not create an increased risk of wildland fire, indoor cultivation, mixed-light cultivation, centralized processing, cannabis events, and other supply chain uses would increase the potential for new ignitions. If wildland fires are ignited within undeveloped areas of the County, there is substantial potential risk of loss, injury, or death because emergency access and evacuation may be impeded in these areas. In turn, wildfires in Sonoma County may impair emergency response and access or expose people or structures to substantial risks and new development may require associated infrastructure that could result in environmental impacts. Because Alternative 2 allows only indoor cultivation, there could be more new power supplies extended for cultivation in the County, thus increasing the potential for ignition. However, commercial and particularly industrial zones are much less likely to be high and very high FHSZs and less rural areas of the County with better emergency access. Still for all areas, mitigation measures presented in Section 3.17 would require building hardening, vegetation management, and detailed site-specific plans that would prevent accidental ignition from becoming a catastrophic wildfire. With the location requirements under Alternative 2 and these requirements in place, impacts related to wildfire would be **less** under Alternative 2 than under the proposed Program Update.

5.3.3 Alternative 3: Ministerial Only Alternative

The Ministerial Only Alternative would allow future cultivation and supply chain uses without further discretionary review, either by right or with a ministerial permit. Individual projects would not be subject to discretionary site-specific review, CEQA, or public notice and hearings. Ministerial zoning permits require review of the permit application for permit eligibility and verification of the proposed project's conformance with set standards prior to approval. If the proposed project does not conform to the applicable standards, the permit would not be eligible for

approval and would be denied by the County. Proposed changes to the General Plan, Uniform Rules, and periodic special events would be the same as under the proposed Cannabis Program. Requirements associated with proposed County Code Sections 26-18-020, 26-20-025, 26-20-040, 26-20-080, 26-20-165, and 26-22-120 would remain the same as under the proposed Cannabis Program Update, with changes to the zoning districts in which uses are allowed as listed in Table 5-1. Alternative 3 would include the opportunity for small-scale cultivation in rural residential zoning (Agriculture and Residential and Rural Residential) on parcels that meet the 5-acre minimum parcel size. Mitigation measures identified in Sections 3.1 through 3.17 would be incorporated into this alternative and would be modified to apply to ministerial actions by the County.

Under this alternative, cannabis cultivation facilities would be permitted with a ministerial zoning permit, while supply chain uses in industrial and commercial zones would be allowed by right. Centralized processing would only be allowed in Industrial Park (MP), Limited Urban Industrial (M1), Heavy Industrial (M2), Limited Rural Industrial (M3), and General Commercial (C3) districts. Additionally, no cannabis events, as defined under proposed County Code Section 26-18-270, would be allowed in any zoning district. Although land use permits would not be required for uses allowed by right, proposed cannabis uses would be subject to applicable zoning code standards and various ministerial permits, such as building permits and grading permits. Cannabis uses in industrial and commercial zones would be limited to reuse of existing buildings as any new construction that would require a discretionary design review with hearing approval would be prohibited. In addition, all uses would require a county cannabis license.

Table 5-1 Alternative 3 – Ministerial Only Permit Alternative Allowable Cannabis Uses within County Zoning Districts

Zone	RR	AR	LEA	LIA	DA	RRD	MP	M1	M2	M3	C1	C2	C3	LC
Cannabis Cultivation	P*	P*	P*	P*	P*	P*	P	P	P	P	—	—	—	—
Cannabis Wholesale Nursery	P*	P*	P*	P*	P*	P*	P	P	P	P	—	—	—	—
Testing Laboratories	—	—	—	—	—	—	P	P	P	P	—	—	—	—
Cannabis Storefront Retail (Dispensary)	—	—	—	—	—	—	—	—	—	—	P	P	P	P
Cannabis Non-Storefront Retail (Delivery Only)	—	—	—	—	—	—	P	P	P	P	—	—	P	—
Cannabis Distribution	—	—	—	—	—	—	P	P	P	P	—	—	P	—
Cannabis Centralized Processing	—	—	—	—	—	—	P	P	P	P	—	—	P	—
Manufacturing	—	—	—	—	—	—	P	P	P	P	—	—	P	—
Cannabis Events	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Periodic Special Events	P	P	P	P	P	P	P	P	P	P	P	P	P	P

Notes: P = Permitted Use; P* = Permitted Use, subject to discretionary approval criteria; C = Conditional Use; —=Prohibited Use; RR= Rural Residential; AR=Agriculture and Residential; LIA=Land Intensive Agriculture; LEA=Land Extensive Agriculture; DA=Diverse Agriculture; RRD=Resources and Rural Development; MP=Industrial Park, M1=Limited Urban Industrial, M2=Heavy Industrial; M3=Limited Rural Industrial; C1=Neighborhood Commercial; C2=Retail and Business Service; C3=General Commercial; and LC=Limited Commercial Zones.

Source: Compiled by Ascent in 2025.

STANDARDS FOR CANNABIS FACILITIES

While approval of noncultivation activities would be the same under the Ministerial Only Alternative as under the proposed Cannabis Program Update, along with the relevant code sections listed above, cultivation within Agricultural and Resources zoning districts would also be subject to a ministerial process. The ministerial process would include standards similar to the limited ministerial pathway in Alternative 1, while allowing for larger canopy sizes and increased accessory uses similar to the Cannabis Update, such as processing, manufacturing, and retail.

Under Alternative 3, setbacks in agricultural and resource districts would be the same as under the proposed program except that the setback from residential zoning would apply to urban residential zoning districts only (R1, R2, and R3, but not AR and RR). Development of new structures would be limited to 25 percent of the permitted outdoor cannabis cultivation canopy. Existing structures could remain and not be accounted for the structural area limitations. No cannabis uses would be allowed in critical habitat areas or within the Santa Rosa Plain Conservation Strategy Area.

Crop Swap as defined under the proposed County Code Section 26-18-115(C)(4)(h) would apply as a more streamlined ministerial pathway for permitting in the agriculture and resource zones and would be the same as under the proposed Program. Cultivation that does not qualify for a crop swap, and accessory uses to cannabis cultivation, as defined in proposed County Code Section 26-18-115(C)(1)(c), would be allowed subject to the standards in proposed County Code Section 26-18-115(C)(4) as well as the following additional standards in the agricultural and resource zones.

- ▶ A biological assessment, prepared by a qualified biologist, which finds it is not reasonably foreseeable that the project would result in the take of listed species, which may be accomplished through avoidance measures.
- ▶ A cultural resources study would be submitted that indicates there would be no adverse effects on known archeological or historical resources. Review of the site would include all features subject to permitting under the Cannabis Program, and would be implemented consistently with the standards set forth under SWRCB Order WQ-2023-0102-DWG, Terms 19, 20, 21, 22, and 23. A tribal monitor will be required for initial soil disturbance if requested by a tribe.
- ▶ Adequate water supply would be identified and established, as follows:
 - Municipal water and municipal recycled water supply must be determined adequate through a will-serve letter provided by the pertinent agency. Trucked water is prohibited.
 - Groundwater supply must be determined adequate through preparation of a study based on the designation groundwater conditions, as follows.
 - For a site served by water supply wells located within medium- and high-priority groundwater basins, as defined under the Sustainable Groundwater Management Plan, a study must demonstrate consistency with applicable sustainable groundwater management programs and demonstrating that groundwater use of the project does not decrease the likelihood of achieving sustainability in the underlying basin.
 - For a site served by water supply wells located within a County-designation Class 3 or 4 groundwater availability area, a report must demonstrate the groundwater supply is adequate to meet the need of the proposed use and the operation would not result in or exacerbate an overdraft condition in basin or aquifer, result in reduction of critical flow in nearby streams or result in well interference at offsite wells.
 - Surface water supply must be determined adequate through preparation of a study that demonstrated through a hydrological study that concludes sheet flow has enough capacity to support the cannabis use.
 - Appropriative water rights must be determined adequate through preparation of a study that demonstrates the water right can adequately support the use.

AESTHETICS

As discussed in Section 3.1, "Aesthetics," under the proposed Cannabis Program Update, mitigation measures are available to reduce potentially significant impacts on scenic vistas or viewsheds and scenic resources within a state scenic highway or County-designated scenic roadway, and impacts related to degradation of the existing visual character through requirements for tarps and fences. Additionally, under the proposed Program, mitigation measures are available to reduce potentially significant impacts related to light and glare to a less-than-significant level. Under Alternative 3, while there would be some restriction on where cannabis may be approved, setbacks and the types of permitted uses would be the same in agricultural and resources lands. Therefore, impacts to those proposed for the

Cannabis Program Update would be substantially similar to those that would occur under Alternative 3. Where mitigation measures would apply through conditions of approval, similar mitigation measures could be required through modifications to the proposed Code. While centralized processing would only be allowed in MP, M1, M2, M3, and C3 and cannabis events would not be allowed in the county, these types of development would not be discernable from an aesthetics perspective compared to other built cannabis uses and would not present a substantial change to how allowable uses would appear under Alternative 3 versus the proposed Program. Thus, because development, and the associated light and glare impacts, would be similar under Alternative 3 as the proposed Program and the same mitigation measures are available to reduce potentially significant impacts on aesthetic resources, impacts would be **similar** under Alternative 3 and the proposed Cannabis Program Update.

AGRICULTURAL AND FORESTRY RESOURCES

As discussed in Section 3.2, "Agricultural and Forestry Resources," under the proposed Cannabis Program Update, use of agricultural land for cultivation and agricultural-serving uses would be less-than-significant. Under both Alternative 3 and the proposed Program, compliance with the County's tree protection regulations would ensure future cannabis operations would provide replacement or payment for the removal of any on-site protected trees, including those contained in existing forestland, and would not affect timberland production. The development potential under Alternative 3 would be the same as under the proposed Program, except that centralized processing would be limited to zones MP, M1, M2, M3, and C3 and cannabis events would not be allowed. Regardless, impacts to agricultural resources would be the same under Alternative 3 as under the proposed Program because cannabis cultivation would be considered agriculture and because agricultural support uses would comprise a relatively small area and would not significantly detract from future agricultural use in the unincorporated area. However, because development related to centralized processing and events would not be located on farmland, there would be less developed uses constructed on agricultural land. Therefore, the impact of converting farmland to nonagricultural uses would be **less** under Alternative 3 than under the proposed Cannabis Program Update.

AIR QUALITY

As discussed in Section 3.3, "Air Quality," under the proposed Cannabis Program Update, potentially significant impacts associated with construction-generated air emissions would be reduced to a less-than-significant level with implementation of mitigation measures; however, the proposed Cannabis Program Update would result in significant and unavoidable impacts related to odors. Additionally, under cumulative conditions, the Cannabis Program Update would make a considerable contribution to cumulative operational criteria air pollutant emissions. Mitigation measures are available to reduce construction-related emissions to a less-than-significant impact. Where mitigation measures would apply through conditions of approval, similar mitigation measures could be required through modifications to the proposed Code. Under Alternative 3, ministerial standards could be applied to reduce odors; however, no feasible mitigation measures for completely avoiding the potential for occasional odor nuisance impacts under all atmospheric conditions during harvest season are available. Alternative 3 would allow small-scale cannabis cultivation in rural residential and agriculture and residential zoning where other small-scale agricultural uses are also allowed. While these grows would likely be smaller than those in other zones due to smaller parcel sizes and the 10 percent canopy cap, they would be closer to more densely populated residential areas, presenting greater potential for nuisance odor effects related to odor from growing plants. However, Alternative 3 would not allow cannabis events, thereby reducing the potential for odor impacts from attendees smoking cannabis, though smoking may still be allowed at periodic special events and lounges. Overall, odor impacts would be **greater** than under the proposed Cannabis Program Update.

BIOLOGICAL RESOURCES

As discussed in Section 3.4, "Biological Resources," the proposed Cannabis Program Update would result in potentially significant impacts on special-status plant species and habitat; special-status wildlife species and habitat; special-status fisheries; riparian habitat, old-growth habitat, and other sensitive natural communities; state or federally

protected wetlands; and migratory wildlife corridors or native wildlife nursery sites, which would be reduced to a less-than-significant level through implementation of mitigation measures. Under Alternative 3, the development potential would be the same as under the proposed Program.

As discussed above, applications submitted under Alternative 3 would be required to include a biological assessment that finds that it would not be reasonably foreseeable to cause take of a listed species. This is consistent with existing regulations. For example, federal agencies, including the US Army Corps of Engineers and the US Fish and Wildlife Service, may not issue permits for activities associated with cannabis activities. Consequently, operations applying for new cannabis approvals under the Cannabis Program Update would be required to avoid federally regulated resources, including plant and wildlife species listed under the federal Endangered Species Act and waters of the United States, as required under Attachment A (General Requirements and Prohibitions) of the SWRCB Order WQ 2023-0102-DWQ. After implementation of these requirements, the potential for adverse effects on biological resources would be the same under Alternative 3 as the proposed Program. While mechanisms to apply conditions of approval on cannabis permits would not be available, the proposed Cannabis Code could be amended to contain explicit and detailed requirements for biological resources assessment and standards for no adverse effects could be applied. Mitigation measures provided in Section 3.4 would be applied to cannabis use under Alternative 3. Thus, while mitigation measures would be applied differently under Alternative 3, impacts would be **similar** to those described for the proposed Program because the development potential would be the same.

CULTURAL RESOURCES

As discussed in Section 3.5, "Cultural Resources," compliance with state requirements would minimize potentially significant impacts related to disturbance of human remains and archeological resources. While the proposed Cannabis Program Update would result in potentially significant impacts on historic and archaeological resources, mitigation measures would reduce these impacts to a less-than-significant level. Under Alternative 3, the development potential would be the same as under the proposed Program. As described above, under Alternative 3, a cultural resources study would be required to be submitted that indicates there would be no adverse effects on known archeological or historical resources. Review of the site would include all features subject to permitting under the Cannabis Program and would be implemented consistently with the standards set forth under SWRCB Order WQ-2023-0102-DWG, Terms 19, 20, 21, 22, and 23.

Mitigation measures to protect historical and archaeological resources would be applied to cannabis uses under Alternative 3. Thus, impacts related to cultural resources would be **similar** under Alternative 3 as under the proposed Cannabis Program Update.

ENERGY

As discussed in Section 3.6, "Energy," while the proposed Cannabis Program Update would not increase energy consumption associated with the construction and operation of commercial cannabis facilities in a way that would be considered wasteful, inefficient, or unnecessary, it could conflict with the County Climate Change Action Resolution. Because the development potential is the same under Alternative 3 as the proposed Program, the potential for impacts related to energy would be the same. Cannabis Program Update mitigation measures would be applied through modifications to the proposed Code under Alternative 3. Because the development potential would be the same under Alternative 3 as the proposed Program, impacts related to energy would be **similar**.

GEOLOGY, SOILS, AND MINERAL RESOURCES

As discussed in Section 3.7, "Geology, Soils, and Mineral Resources," cannabis facility development and operation would be subject to compliance with SWRCB Order WQ 2023-0102-DWQ, the California Building Code, and Sonoma County Code requirements. Development requirements would be the same under Alternative 3 as under the proposed Cannabis Program Update. In addition, for the reasons described in Section 3.7, "Geology, Soils, and Mineral Resources," mitigation measures are available to reduce potentially significant impacts on paleontological

resources to a less-than-significant level. Cannabis Program Update mitigation measures would be applied through modifications to the proposed Code under Alternative 3. Thus, impacts related to geologic and paleontological resources would be **similar** under Alternative 3 as under the proposed Cannabis Program Update.

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

As discussed in Section 3.8, "Greenhouse Gas Emissions and Climate Change," given the rural nature of portions of the County, it may be infeasible for future licensed cannabis cultivation sites to fully decarbonize due to inadequate access to the electrical grid. Thus, the proposed Cannabis Program Update would result in significant and unavoidable impacts associated with conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions under program and cumulative conditions. Alternative 3 would result in similar development potential, however cannabis events would not be permitted thereby reducing VMT and greenhouse gas emissions. Mitigation measures are available to reduce potentially significant impacts. Cannabis Program Update mitigation measures would be applied through modifications to the proposed Code under Alternative 3. Because cannabis sites may not be able to feasibly decarbonize and because mitigation related to VMT is uncertain, it would not reduce this impact from significant and unavoidable. Still, impacts related to greenhouse gas emissions and climate change would be **less** under Alternative 3 compared to the proposed Cannabis Program Update.

HAZARDS AND HAZARDOUS MATERIALS

As discussed in Section 3.9, "Hazards and Hazardous Materials," commercial cannabis facilities would be required to comply with existing state and local regulations (such as Title 26 of the CCR, as well as DOT, CHP, and Caltrans, and the FMCSA regulations). While there may be contamination from previous or historical practices from certain land uses (e.g., agricultural use of pesticides and herbicides), implementation of mitigation measures would reduce potentially significant impacts of the proposed Cannabis Program Update to a less-than-significant level. Where mitigation measures would apply through conditions of approval, they would be required through modifications to the proposed Code under Alternative 3. Thus, impacts related to hazards and hazardous materials would be **similar** under Alternative 3 as those under the proposed Cannabis Program Update.

HYDROLOGY AND WATER QUALITY

As identified in Section 3.10, "Hydrology and Water Quality," compliance with state and County requirements (would reduce potentially significant impacts related to water quality and surface water diversion to a less-than-significant level. New cannabis facilities that rely on groundwater could deplete aquifers and subsequently result in interference with sustainable management of a basin or impedance of implementation of a sustainable groundwater management plan. Increased groundwater extraction may result in adverse environmental impacts, including reduced groundwater levels, interference with nearby wells, reduced streamflow, altered habitat of interconnected surface waters, and degraded groundwater quality. As identified in Section 3.10, "Hydrology and Water Quality," mitigation measures are available that would reduce impacts related to groundwater to a less-than-significant level by ensuring that a cannabis permit would not be granted to applicants if groundwater use would result in or exacerbate an overdraft condition in basin or aquifer, reduced critical flow in nearby streams, or well interference at offsite wells. Impacts would be substantially similar under Alternative 3 as the proposed Cannabis Program Update because the development potential would be the same. While the mitigation measures that would apply to the proposed Cannabis Program would be implemented through conditions of approval, similar mitigation measures would be required through modifications to the proposed Code under Alternative 3. Therefore, impacts related to hydrology and water quality would be **similar** under Alternative 3 compared to the proposed Cannabis Program Update.

LAND USE AND PLANNING

No significant land use and planning impacts were identified as a result of implementation of the Cannabis Program Update. Cannabis facilities would be subject to state and County land use regulations and policies that protect the environment.

Permitted commercial cannabis uses would be required to comply with the respective code requirements associated with Alternative 3 and the proposed Cannabis Program Update. The code for each alternative provides land use and development standards for commercial cannabis uses, as well as establishes the zoning districts that allow for commercial cannabis uses. Additionally, zoning districts where cannabis uses are allowed are similar to those allowed under the proposed Cannabis Program Update. For this reason, impacts on land use and planning would be **similar** under Alternative 3 as under the proposed Cannabis Program Update.

NOISE AND VIBRATION

As discussed in Section 3.12, "Noise and Vibration," under the proposed Cannabis Program Update, construction-related and operational noise from individual cannabis projects could exceed noise standards; however, mitigation is available to reduce potentially significant impacts to a less-than-significant level with the exception of construction noise impacts that are significant and unavoidable. Mitigation measures would reduce potentially significant construction and operational impacts for the same reasons as discussed in Section 3.12, "Noise and Vibration." While the mitigation measures that would apply to the proposed Cannabis Program would be implemented through conditions of approval, similar mitigation measures would be required through modifications to the proposed Code under Alternative 3. While mitigation measures are available to address event-related noise, Alternative 3 would prohibit cannabis events. Alternative 3 would require new cannabis uses to reuse existing structures in commercial and industrial zones and would not allow new construction in those zones. This would eliminate the significant and unavoidable short-term construction noise impacts in industrial and commercial zones. Therefore, impacts would be **less** under Alternative 3 than under the proposed Cannabis Program.

PUBLIC SERVICES AND RECREATION

Consistent with state and County requirements (e.g., Public Resources Code 4290 and 4291, California Fire Code, CCR Title 4, Division 9, Section 15042, 15042, 15043, 15045, 15046, and 15047) discussed in Section 3.13, "Public Services," no substantial effects on fire protection or law enforcement services would occur, such that development of new or altered facilities would be necessary. Because the same existing regulatory requirements apply to both Alternative 3 and the proposed Cannabis Program Update, impacts related to public services would be **similar** under Alternative 3 as under the proposed Cannabis Program Update.

TRANSPORTATION

Construction associated with future commercial cannabis facilities would be required to meet all County requirements related to construction, including the County Construction Standards adopted as County Ordinance 38-2020-0446, as well as obtain encroachment permits under Section Chapter 15, Article III, Section 15-8 of the County Municipal Code. Compliance with these requirements would address the site-specific conditions associated with cannabis facilities; and thus, the severity between Alternative 3 and the proposed Cannabis Update would be similar. Impacts associated with traffic safety are site-specific and would be of similar severity between Alternative 3 and the proposed Cannabis Update, as discussed in Section 3.14, "Transportation." The proposed Cannabis Program Update would result in significant and unavoidable VMT impacts under program and cumulative conditions. Mitigation measures are available to reduce VMT. Where mitigation measures would apply through conditions of approval, they would be required through modifications to the proposed Code under Alternative 3. Because cannabis events would not be permitted under Alternative 3, VMT impacts would be reduced; however, the effectiveness of mitigation related to VMT from other components of a project is site-specific and uncertain and thus it is not clear this alternative would

eliminate a significant and unavoidable impact. Thus, impacts related to transportation would be **less** under Alternative 3 as under the proposed Cannabis Program Update.

TRIBAL CULTURAL RESOURCES

Requirements for new cannabis uses would be subject to SWRCB Order WQ 2023-0102-DWQ, Health and Safety Code Section 7050.5, and PRC Section 5097.98, which would reduce impacts to tribal cultural resources. Additionally, feasible mitigation measures are available to identify and avoid or manage tribal cultural resources, to ensure consistency with all state laws. While the mitigation measures that would apply to the proposed Program would be implemented through conditions of approval through the use permit or design review with hearing process, similar mitigation measures could be required through modifications to the proposed Code. Because a similar level of development would occur under Alternative 3 as under the proposed Cannabis Program Update, impacts would be **similar** as mitigation measures identified for the proposed Cannabis Program Update would be required through modifications to the proposed Code under Alternative 3.

UTILITIES AND SERVICE SYSTEMS

As discussed in Section 3.16, "Utilities and Service Systems," while compliance with state and County requirements would result in less-than-significant impacts to wastewater and solid waste services, mitigation measures would be necessary to ensure that there are sufficient water supplies available to support new cannabis uses in the County. Alternative 3 includes standards to establish sufficient water supply. However, cumulative water supply impacts would be considerable and significant and unavoidable. Additional mitigation measures are available to address long-term water availability, as identified in Section 3.16, "Utilities and Service Systems." Where mitigation measures would apply through conditions of approval, they would be required through modifications to the proposed Code under Alternative 3. Thus, because development potential would be the same under Alternative 3 as the proposed Cannabis Program Update, impacts related to utilities and service systems would be **similar**.

WILDFIRE

As discussed in Section 3.17, "Wildfire," new cannabis uses would be allowed under the proposed Cannabis Program Update in areas where existing risk of wildland fire has been established. While outdoor cultivation would not create an increased risk of wildland fire, indoor cultivation, mixed-light cultivation, centralized processing, cannabis events, and other supply chain uses would increase the potential for new ignitions. If wildland fires are ignited within undeveloped areas of the County, there is substantial potential risk of loss, injury, or death because emergency access and evacuation may be impeded in these areas. In turn, wildfires in Sonoma County may impair emergency response and access or expose people or structures to substantial risks and new development may require associated infrastructure that could result in environmental impacts. The same types of risks would apply to cannabis facilities approved under Alternative 3 and the proposed Cannabis Program Update for the same reasons as discussed in Section 3.17, "Wildfire." Mitigation measures are available to reduce the potential for catastrophic wildfire. Where mitigation measures described in Section 3.17, "Wildfire," would apply through conditions of approval, they would be required through modifications to the proposed Code under Alternative 3. Cannabis events would not be allowed under Alternative 3, reducing potential ignition sources and impediments related to emergency evacuation. Even though those impacts can be mitigated to a less than significant level, potential impacts under Alternative 3 would be **less**.

5.3.4 Alternative 4: Reduced Scope Alternative

Under the Reduced Scope Alternative, cultivation and supply chain uses would be allowed within the same zoning districts as under the proposed Cannabis Program Update, except that no cannabis event uses (proposed Section 26-18-270, Cannabis Events) or periodic special events that include cannabis would be allowed and only outdoor cultivation with processing would be allowed within the Very High and High Fire Hazard Severity Zones. In addition,

while outdoor, mixed-light, and indoor cultivation would be allowed under the Reduced Scope Alternative, no hoop houses would be allowed. As such, mixed-light cultivation would occur in permanent structures, rather than within temporary tarping of cultivation sites. In addition, setbacks for cultivation would consist of 600 feet from every property line, which would result in cultivation on larger parcels (e.g., 33 acres or greater).

AESTHETICS

As discussed in Section 3.1, “Aesthetics,” under the proposed Cannabis Program Update, mitigation measures are available to reduce potentially significant impacts on scenic vistas or viewsheds and scenic resources within a state scenic highway or County-designated scenic roadway, and impacts related to degradation of the existing visual character through requirements for tarps and fences. Additionally, under the proposed Program, mitigation measures are available to reduce potentially significant impacts related to light and glare to a less-than-significant level. Under Alternative 4, no hoop houses would be allowed; however, fences could still be installed. Mitigation measures are available to reduce aesthetic impacts associated with fences. While the development potential, and the associated potential for light and glare, would be the same under Alternative 4 as under the proposed Program, setbacks would be greater for cultivation than under the proposed Program, which could result in less visibility of cultivation facilities. However, this is inconsequential to the severity of impacts because cannabis cultivation is substantially similar in appearance to other agricultural uses in the county. Thus, aesthetic impacts would be **similar** under Alternative 4 as under the proposed Cannabis Program Update.

AGRICULTURAL AND FORESTRY RESOURCES

As discussed in Section 3.2, “Agricultural and Forestry Resources,” under the proposed Cannabis Program Update, use of agricultural land for cultivation and agricultural-serving uses would be less-than-significant. The development potential would be the same under Alternative 4 as under the proposed Program; thus, impacts to agricultural resources would be the same. Compliance with the County’s tree protection regulations would ensure future cannabis operations would provide replacement or payment for the removal of any on-site protected trees, including those contained in existing forestland, and would not affect timberland production. For these reasons, impacts to agricultural and forestry resources would be **similar** under Alternative 4 as the proposed Cannabis Program Update.

AIR QUALITY

As discussed in Section 3.3, “Air Quality,” under the proposed Cannabis Program Update, potentially significant impacts associated with construction-generated air emissions would be reduced to a less-than-significant level with implementation of mitigation measures; however, the proposed Cannabis Program Update would result in significant and unavoidable impacts related to odors. Additionally, under cumulative conditions, the Cannabis Program Update would make a considerable contribution to cumulative operational criteria air pollutant emissions. Under Alternative 4, development potential would be the same as under the proposed Program; however, mitigation measures would reduce potential construction-related emissions to a less-than-significant level. In contrast to the proposed Program, Alternative 4 would require setbacks of 600 feet from parcel lines, which would reduce the potential for odors from cannabis plants causing nuisance for offsite receptors and would prohibit events, reducing potential odors from onsite smoking. While odor impacts would remain significant and unavoidable, they would be **less** under Alternative 4 than the proposed Cannabis Program Update.

BIOLOGICAL RESOURCES

As discussed in Section 3.4, “Biological Resources,” the proposed Cannabis Program Update would result in potentially significant impacts on special-status plant species and habitat; special-status wildlife species and habitat; special-status fisheries; riparian habitat, old-growth habitat, and other sensitive natural communities; state or federally protected wetlands; and migratory wildlife corridors or native wildlife nursery sites, which would be reduced to a less-than-significant level through implementation of mitigation measures. The development potential under Alternative 4

would be the same as under the proposed Program. Mitigation measures are available to reduce potentially significant impacts to a less-than-significant level. Thus, impacts related to biological resources would be **similar** under Alternative 4 as under the proposed Cannabis Program Update.

CULTURAL RESOURCES

As discussed in Section 3.5, "Cultural Resources," compliance with state requirements would minimize potentially significant impacts on disturbance of human remains and archeological resources. While the proposed Cannabis Program Update would result in potentially significant impacts on historic and archaeological resources, mitigation measures would reduce these impacts to a less-than-significant level. The development potential under Alternative 4 would be the same as under the proposed Program. Mitigation measures are available to reduce potentially significant impacts to a less-than-significant level. Thus, impacts related to cultural resources would be **similar** under Alternative 4 as under the proposed Cannabis Program Update.

ENERGY

As discussed in Section 3.6, "Energy," while the proposed Cannabis Program Update would not increase energy consumption associated with the construction and operation of commercial cannabis facilities in a way that would be considered wasteful, inefficient, or unnecessary, it could conflict with the County Climate Change Action Resolution. The development potential under Alternative 4 would be the same as under the proposed Program. Mitigation measures are available to reduce potentially significant impacts. Thus, impacts related to energy would be **similar** under Alternative 4 as under the proposed Cannabis Program Update.

GEOLOGY, SOILS, AND MINERAL RESOURCES

As discussed in Section 3.7, "Geology, Soils, and Mineral Resources," cannabis facility development and operation would be subject to compliance with SWRCB Order WQ 2023-0102-DWQ, the California Building Code, and Sonoma County Code requirements. The development potential under Alternative 4 would be the same as under the proposed Program. Mitigation measures are available to reduce potentially significant impacts to a less-than-significant level. Thus, impacts related to geology, soils, and mineral resources would be **similar** under Alternative 4 as under the proposed Cannabis Program Update.

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

As discussed in Section 3.8, "Greenhouse Gas Emissions and Climate Change," given the rural nature of portions of the County, it may be infeasible for future licensed cannabis cultivation sites to fully decarbonize due to inadequate access to the electrical grid. Thus, the proposed Cannabis Program Update would result in significant and unavoidable impacts associated with conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions under program and cumulative conditions. The development potential under Alternative 4 would be similar as under the proposed Cannabis Program. However, cannabis events would not be permitted thereby reducing VMT and greenhouse gas emissions. While, mitigation measures could be applied under Alternative 4 to reduce potentially significant impacts, because cannabis sites may not be able to feasibly decarbonize and because mitigation related to VMT is uncertain, it would not reduce this impact from significant and unavoidable. Still, impacts related to greenhouse gas emissions and climate change would be **less** under Alternative 4 than under the proposed Cannabis Program Update.

HAZARDS AND HAZARDOUS MATERIALS

As discussed in Section 3.9, "Hazards and Hazardous Materials," commercial cannabis facilities would be required to comply with existing state and local regulations (such as Title 26 of the CCR, as well as DOT, CHP, and Caltrans, and the FMCSA regulations). While there may be contamination from previous or historical practices from certain land

uses (e.g., agricultural use of pesticides and herbicides), implementation of mitigation measures would reduce potentially significant impacts for the Cannabis Program Update to a less-than-significant level. The development potential under Alternative 4 would be the same as under the proposed Program. Mitigation measures are available to reduce potentially significant impacts. Thus, impacts related to hazards and hazardous materials would be **similar** under Alternative 4 as under the proposed Cannabis Program Update.

HYDROLOGY AND WATER QUALITY

As identified in Section 3.10, "Hydrology and Water Quality," compliance with state and County requirements (would reduce potentially significant impacts related to water quality and surface water diversion to a less-than-significant level. New cannabis facilities that rely on groundwater could deplete aquifers, and subsequently result in interference with sustainable management of a basin or impedance of implementation of a sustainable groundwater management plan. Increased groundwater extraction may result in adverse environmental impacts, including reduced groundwater levels, interference with nearby wells, reduced streamflow, altered habitat of interconnected surface waters, and degraded groundwater quality. As identified in Section 3.10, "Hydrology and Water Quality," mitigation measures are available that would reduce impacts related to groundwater to a less-than-significant level by ensuring that a cannabis permit would not be granted to applicants if groundwater use would result in or exacerbate an overdraft condition in basin or aquifer, reduced critical flow in nearby streams, or well interference at offsite wells. The development potential under Alternative 4 would be the same as under the proposed Program, but projects in agricultural and resource zoning districts (which are most likely to rely on groundwater) would need to be on parcels larger than 33 acres to comply with setbacks. Because the effective minimum parcel size for cultivation would be larger under Alternative 4, cannabis cultivation-related groundwater wells are likely to operate at farther distances compared to the proposed Cannabis Program Update. Due to the increased distance between wells, the potential for well interference would be less under Alternative 4 than under the proposed Cannabis Program Update. While Alternative 4 would prohibit events, the commensurate water demand reduction would be minimal and would not make a substantial difference in the severity of impacts. While, as noted above, mitigation measures are available to reduce potentially significant impacts under the Cannabis Program Update, impacts related to hydrology and water quality would be **less** under Alternative 4.

LAND USE AND PLANNING

No significant land use and planning impacts were identified as a result of implementation of the Cannabis Program Update. Cannabis facilities would be subject to state and County land use regulations and policies that protect the environment.

Permitted commercial cannabis uses would be required to comply with the respective code requirements associated with Alternative 4 and the proposed Cannabis Program Update. The code for each alternative provides land use and development standards for commercial cannabis uses, as well as establishes the zoning districts that allow for commercial cannabis uses. Additionally, zoning districts where cannabis uses are allowed are similar to those allowed under the proposed Cannabis Program Update. For this reason, impacts on land use and planning would be **similar** under Alternative 4 as under the proposed Cannabis Program Update.

NOISE AND VIBRATION

As discussed in Section 3.12, "Noise and Vibration," under the proposed Cannabis Program Update, construction-related and operational noise from individual cannabis projects could exceed noise standards; however, mitigation is available to reduce potentially significant impacts to a less-than-significant level, with the exception of construction noise impacts that would be significant and unavoidable. While Alternative 4 may result in the same development potential as under the proposed Cannabis Program Update, mitigation measures would reduce potentially significant construction-related impacts for the same reasons as discussed in Section 3.12, "Noise and Vibration." With regard to operational noise, mitigation measures are available to reduce noise related to new equipment (i.e., HVAC units);

however, because events would be prohibited under Alternative 4, there would be no associated amplified sound from these uses. Thus, impacts related to noise would be **less** under Alternative 4 than under the proposed Cannabis Program Update.

PUBLIC SERVICES AND RECREATION

Consistent with state and County requirements (e.g., Public Resources Code 4290 and 4291, California Fire Code, CCR Title 4, Division 9, Section 15042, 15042, 15043, 15045, 15046, and 15047) discussed in Section 3.13, "Public Services," no substantial effects on fire protection or law enforcement services would occur, such that development of new or altered facilities would be necessary. Because the same standards apply to both Alternative 4 and the proposed Cannabis Program Update, impacts related to public services and recreation would be **similar** under Alternative 4 as under the proposed Cannabis Program Update.

TRANSPORTATION

Construction associated with future commercial cannabis facilities would be required to meet all County requirements related to construction, including the County Construction Standards adopted as County Ordinance 38-2020-0446, as well as obtain encroachment permits under Section Chapter 15, Article III, Section 15-8 of the County Municipal Code. Compliance with these requirements would address the site-specific conditions associated with cannabis facilities; and, thus, the severity between Alternative 4 and the proposed Cannabis Update would be similar. Impacts associated with traffic safety are site-specific and would be of similar severity between Alternative 4 and the proposed Cannabis Update, as discussed in Section 3.14, "Transportation." The proposed Cannabis Program Update would result in significant and unavoidable VMT impacts under project and cumulative conditions. The development potential under Alternative 4 would be the same as under the proposed Cannabis Program. Mitigation measures are available to reduce potentially significant impacts related to VMT. Because events would not be allowed under Alternative 4, VMT would be reduced. Thus, impacts related to transportation would be **less** under Alternative 4 than under the proposed Cannabis Program Update.

TRIBAL CULTURAL RESOURCES

Requirements for new cannabis uses would be subject to SWRCB Order WQ 2023-0102-DWQ, Health and Safety Code Section 7050.5, and PRC Section 5097.98, which would reduce impacts to tribal cultural resources. Additionally, feasible mitigation measures are available to identify and avoid or manage tribal cultural resources, to ensure consistency with all state laws. Because a similar level of development would occur under Alternative 4 as under the proposed Cannabis Program Update, impacts would be **similar**.

UTILITIES AND SERVICE SYSTEMS

As discussed in Section 3.16, "Utilities and Service Systems," while compliance with state and County requirements would result in less-than-significant impacts to wastewater and solid waste services, mitigation measures would be necessary to ensure that there are sufficient water supplies available to support new cannabis uses in the County. However, the proposed Cannabis Program Update would make a considerable contribution to cumulative water supply impacts and significant and unavoidable. The development potential under Alternative 4 would be the same as under the proposed Program. Mitigation measures are available to reduce potentially significant impacts. While Alternative 4 would prohibit events, the commensurate reduction in utility demand would be minimal and would not make a substantial difference in the severity of impacts. Thus, impacts related to utilities and service systems would be **similar** under Alternative 4 as under the proposed Cannabis Program Update.

WILDFIRE

As discussed in Section 3.17, “Wildfire,” new cannabis uses would be allowed under the proposed Cannabis Program Update in areas where existing risk of wildland fire has been established. While outdoor cultivation would not create an increased risk of wildland fire, indoor cultivation, mixed-light cultivation, centralized processing, cannabis events, and other supply chain uses would increase the potential for new ignitions. If wildland fires are ignited within undeveloped areas of the County, there is substantial potential risk of loss, injury, or death because emergency access and evacuation may be impeded in these areas. In turn, wildfires in Sonoma County may impair emergency response and access or expose people or structures to substantial risks and new development may require associated infrastructure that could result in environmental impacts. Under Alternative 4, restrictions to development would be placed on Very High and High FHSZs. This would reduce the potential for fires to occur in these areas, which would reduce the potential for ignition in these high hazard areas. Additionally, mitigation measures presented in 3.17, “Wildfire,” are available to further decrease the potential for future wildfire ignitions related to cannabis uses. Overall, because, restrictions to development would be placed on Very High and High FHSZs impacts related to wildfire would be **less** under Alternative 4 than under the proposed Program Update.

5.3.5 Alternative 5: No New Development: Crop Swap and Shop Swap Only Alternative

Alternative 5 would limit new outdoor cannabis cultivation sites within agricultural or resources zoning districts to those meeting the crop swap criteria of the Cannabis Program Update. That is, cultivation would involve the replacement of active cultivation and of perennial or row crops with outdoor cannabis cultivation or the reuse of an existing nonresidential structure for an accessory cannabis use or indoor cannabis cultivation, involving no or negligible expansion of use. Cannabis cultivation operations would be subject to a ministerial permit that would meet the requirements of the crop swap, as detailed in the proposed Cannabis Program Update Code Section 26-18-115. No new indoor or mixed-light facilities could be developed under the crop swap provisions, cannabis cultivation would be not allowed on agricultural or resources zoning districts that have not been in production within the 5 years prior to application for a permit. All standards related to events would be the same as under the proposed Cannabis Program Update. Uses that involve built structures (i.e., indoor cultivation, supply chain uses) would only be allowed to occupy existing structures. No new structures may be developed, and no existing structure may be expanded, to specifically accommodate a new cannabis use within agricultural, resources, commercial and industrial zones (i.e., shop swap). For the purposes of this analysis, the development potential is considered to be the same as for the proposed Cannabis Program.

AESTHETICS

As discussed in Section 3.1, “Aesthetics,” under the proposed Cannabis Program Update, mitigation measures are available to reduce potentially significant impacts on scenic vistas or viewsheds and scenic resources within a state scenic highway or County-designated scenic roadway, and impacts related to degradation of the existing visual character through requirements for tarps and fences. Additionally, under the proposed Program, mitigation measures are available to reduce potentially significant impacts related to light and glare to a less-than-significant level. Compared to the proposed Program, there would be less development and new sources of light and glare under Alternative 5. Fewer changes to the overall appearance of the County including light and glare would be considered a decreased level of degradation (i.e., less development in rural/agricultural areas) and therefore **less** impact than under the proposed Cannabis Program Update.

AGRICULTURAL AND FORESTRY RESOURCES

As discussed in Section 3.2, “Agricultural and Forestry Resources,” under the proposed Cannabis Program Update, there would be no impacts to agricultural or forestry resources. Under Alternative 5, cannabis would only be allowed for facilities applications meeting the definition and standards of a crop swap. No new development would be

allowed; thus, there would be no impacts on agricultural and forestry resources. This impact would be **less** under Alternative 5 than under the proposed Cannabis Program Update.

AIR QUALITY

As discussed in Section 3.3, "Air Quality," under the proposed Cannabis Program Update potentially significant impacts associated with construction-generated air emissions would be reduced to a less-than-significant level with implementation of mitigation measures; however, there would be significant and unavoidable impacts related to odors under the proposed Cannabis Program Update. Additionally, under cumulative conditions, the Cannabis Program Update would make a considerable contribution to cumulative operational criteria air pollutant emissions. Under Alternative 5, cultivation would be allowed if it meets the definition of a crop swap, and there would not be substantial construction to support new cultivation facilities. Thus, potential impacts related to short-term construction-related emissions would be eliminated. With regard to odor impacts, Alternative 5 would have similar setback requirements as under the proposed Cannabis Program Update and thus outdoor cultivation would lead to the same odor impacts. Overall, because there would be no new development, impacts related to air quality would be **less** and under Alternative 5 as under the proposed Cannabis Program Update.

BIOLOGICAL RESOURCES

As discussed in Section 3.4, "Biological Resources," under the proposed Cannabis Program Update, there would be potentially significant impacts on special-status plant species and habitat; special-status wildlife species and habitat; special status fisheries; riparian habitat, old-growth habitat, and other sensitive natural communities; state or federally protected wetlands; and migratory wildlife corridors or native wildlife nursery sites, which would be reduced to a less-than-significant level through implementation of mitigation measures. Under Alternative 5, standards for crop swap would apply, including focused species assessment in federal-designated critical habitat, thus lessening potentially significant impacts on biological resources. Although there would be no changes to the existing conditions (beyond change in crop type), under Alternative 5, certain special-status wildlife species are likely to be present within agricultural areas (crops). Therefore, activities associated with the implementation of a cannabis cultivation site under crop swap conditions could have a potentially significant impact on some special-status wildlife, although less than under the proposed Cannabis Program Update because there would not be new areas of disturbance compared to the existing conditions. Due to the habitat conditions that may be attributed to activities in agricultural use, impacts to special-status amphibians, northern spotted owl, Crotch's bumble bee, monarch and other special-status butterflies, American badger, Northern California ringtail, special-status bats, and Sonoma tree vole would be less-than-significant because their habitat would not be affected; and, noise-related impacts on special-status species would be less-than-significant because there would not be substantial changes to noise levels compared to the existing conditions (i.e., similar types of equipment would be used for other crops). Because there would be no new areas of cultivation or construction, potentially significant impacts identified under the Proposed Cannabis Program Update related to fisheries, sensitive natural communities, state- and federally protected wetlands, wildlife corridors, and conflicts with adopted habitat conservation plans, would be less-than-significant. Thus, while mitigation measures are presented in Section 3.4, "Biological Resources," that would render all potentially significant impacts to biological resources to a less-than-significant level, there would be less mitigation required under Alternative 5 to establish the same finding. Thus, impacts to special-status plants, impacts related to biological resources would be **less** under Alternative 5 than under the proposed Cannabis Program Update.

CULTURAL RESOURCES

As discussed in Section 3.5, "Cultural Resources," compliance with state requirements would minimize potential impacts on disturbance of human remains and archeological resources. Under Alternative 5, there would be no new development; thus, there would be no potential impacts on historic and archaeological resources. While there would not be grading or other construction-related earth-moving activities, continued cultivation of the land may result in discovery of archaeological resources. However, mitigation measures are available to potentially significant impacts

for the same reasons as discussed in Section 3.5, “Cultural Resources.” Because the potential to discover previously unknown archaeological resources and because there would be no changes to historic resources, impacts related to cultural resources would be **less** under Alternative 5 than under the proposed Cannabis Program Update.

ENERGY

As discussed in Section 3.6, “Energy,” while the proposed Cannabis Program Update would not increase energy consumption associated with the construction and operation of commercial cannabis facilities in a way that would be considered wasteful, inefficient, or unnecessary, it could conflict with the County Climate Change Action Resolution. However, because there would not be new development under Alternative 5, it would not conflict with the County’s Climate Change Action Resolution because there would be no substantial changes to the existing conditions (i.e., retrofitting is not required). Thus, impacts related to energy would be **less** under Alternative 5 as under the proposed Cannabis Program Update.

GEOLOGY AND SOILS

As discussed in Section 3.7, “Geology and Soils,” cannabis cultivation development and operation would be subject to compliance with SWRCB Order WQ 2023-0102-DWQ and the County’s Erosion Prevention and Sediment Control Ordinance. While proposed Section 26-18-115(c)(4)(h)(4) prohibits deep ripping during crop removal and grading that requires a permit, preparing land for cultivation may still require earth-moving activities that could disturb unique paleontological resources. However, mitigation measures are available to reduce potentially significant impacts for the same reasons as discussed in Section 3.7, “Geology and Soils.” Because there would be less land disturbed under Alternative 5, impacts would be **less** than under the proposed Cannabis Program Update.

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

As discussed in Section 3.8, “Greenhouse Gas Emissions and Climate Change,” there would be significant and unavoidable impacts associated with conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions under the proposed Cannabis Program Update and cumulative conditions because design requirements may not be feasible for all future sites to be fully electric and for VMT to be reduced throughout the county. Because implementation of Alternative 5 would not involve new developed uses, there would not be a change to the use of natural gas; thus, there would be no conflicts with development requirements to eliminate natural gas uses. Additionally, under Alternative 5, the number of trips would be substantially similar because there would be no expanded uses (i.e., a similar level of employees traveling to and from a given site). Thus, impacts related to greenhouse gas emissions and climate change would be **less** under Alternative 5 than under the proposed Cannabis Program Update. *(Eliminates significant and unavoidable impact.)*

HAZARDS AND HAZARDOUS MATERIALS

As discussed in Section 3.9, “Hazards and Hazardous Materials,” commercial cannabis facilities would be required to comply with existing state and local regulations (such as Title 26 of the CCR, as well as the US Department of Transportation, the California Highway Patrol [CHP], and the California Department of Transportation [Caltrans], and the Federal Motor Carrier Safety Association [FMCSA] regulations). While there may be contamination from previous or historical practices from certain land uses (e.g., agricultural use of pesticides and herbicides), implementation of mitigation measures would reduce impacts to a less-than-significant level. While Alternative 5 may result in less development than the proposed Cannabis Program Update, mitigation measures would be necessary to reduce potentially significant impacts for the same reasons as discussed in Section 3.8, “Hazards and Hazardous Materials.” Because there would be no construction, and thus less ground disturbance overall, impacts related to hazards and hazardous materials would be **less** than under the proposed Cannabis Program Update.

HYDROLOGY AND WATER QUALITY

As identified in Section 3.10, “Hydrology and Water Quality,” compliance with state and County requirements (would reduce potentially significant impacts related to water quality and surface water diversion to a less-than-significant level. New cannabis facilities that rely on groundwater could deplete aquifers and subsequently result in interference with sustainable management of a basin or impedance of implementation of a sustainable groundwater management plan. Increased groundwater extraction may result in adverse environmental impacts, including reduced groundwater levels, interference with nearby wells, reduced streamflow, altered habitat of interconnected surface waters, and degraded groundwater quality. As identified in Section 3.10, “Hydrology and Water Quality,” mitigation measures are available that would reduce impacts related to groundwater to a less-than-significant level by ensuring that a cannabis permit would not be granted to applicants if groundwater use would result in or exacerbate an overdraft condition in basin or aquifer, reduced critical flow in nearby streams, or well interference at offsite wells. Under Alternative 5, outdoor cultivation would be limited to areas currently in agricultural production and no new buildings could be constructed to support new cannabis uses. Groundwater use under these conditions (i.e., replacing existing cultivation or commercial/industrial uses) would not substantially increase because they involve similar use types (i.e., cultivation or manufacturing). Because a cultivation project that would meet crop swap requirements would be required to result in a no net increase in groundwater production, impacts related to hydrology and water quality would be **less** under Alternative 5 than under the proposed Cannabis Program Update.

LAND USE AND PLANNING

No significant land use and planning impacts were identified as commercial cannabis uses under the Cannabis Program Update. Cannabis facilities would be subject to state and County land use regulations and policies that provide protections to the environment.

Licensed commercial cannabis uses would be required to comply with the respective code requirements associated with Alternative 5 and the proposed Cannabis Program Update. The code for each alternative provides land use and development standards for commercial cannabis uses, as well as establishes the zoning districts that allow for commercial cannabis uses. Additionally, zoning districts where cannabis uses are allowed are similar to those allowed under the proposed Cannabis Program Update, except that Alternative 5 would continue to not allow retail uses in the General Commercial zone. For this reason, impacts on land use and planning would be **similar** under Alternative 5 as under the proposed Cannabis Program Update.

NOISE

As discussed in Section 3.12, “Noise and Vibration,” under the proposed Cannabis Program Update, construction-related and operational noise from individual cannabis projects could exceed noise standards; however, mitigation is available to reduce potentially significant impacts to a less-than-significant level with the exception of construction noise impacts that would be significant and unavoidable. Under Alternative 5, there would be no construction; thus, there would be no construction-related impacts. Additionally, there would be no changes to operational noise compared to the existing conditions because existing facilities would be used to accommodate new cannabis uses. No mitigation measures would be required to reduce impact under Alternative 5 because there would be no changes to noise or vibration compared to the existing conditions. Thus, noise impacts would be **less** to those under the proposed Cannabis Program Update. (*Eliminate significant and unavoidable impacts*)

PUBLIC SERVICES AND RECREATION

Consistent with state and County requirements (e.g., Public Resources Code 4290 and 4291, California Fire Code, CCR Title 4, Division 9, Section 15042, 15043, 15045, 15046, and 15047) discussed in Section 3.13, “Public Services,” no substantial effects on fire protection or law enforcement services would occur, such that development of new or altered facilities would be necessary. Because the same standards apply to both Alternative 5 and the proposed

Cannabis Program Update, impacts related to public services and recreation would be **similar** under Alternative 5 as under the proposed Cannabis Program Update.

TRANSPORTATION

Construction associated with future commercial cannabis facilities would be required to meet all County requirements related to construction, including the County Construction Standards adopted as County Ordinance 38-2020-0446, as well as obtain encroachment permits under Section Chapter 15, Article III, Section 15-8 of the County Municipal Code. Compliance with these requirements would address the site-specific conditions associated with cannabis facilities; and thus, the severity between Alternative 5 and the proposed Cannabis Update would be similar. Impacts associated with traffic safety are a site-specific condition and would thus be of similar severity between Alternative 5 and the proposed Cannabis Program Update, as discussed in Section 3.14, "Transportation." While there would be significant and unavoidable impacts under project and cumulative conditions related to VMT under the Cannabis Program Update, there would be no new uses associated with Alternative 5. That is, cannabis cultivation would need to be located within areas currently in agricultural production and other uses could only be accommodated within existing buildings. It is anticipated that the number of employees would be substantially the same for cannabis cultivation as other agricultural crops, as well as for uses associated with commercial and industrial buildings. Therefore, because there would not be new development under Alternative 5, there could not be a substantial increase in VMT compared to the existing conditions. Thus, impacts related to transportation would be **less** under Alternative 5 than under the proposed Cannabis Program Update. *(Eliminates significant and unavoidable impact)*

TRIBAL CULTURAL RESOURCES

Requirements for new cannabis uses would be subject to SWRCB Order WQ 2023-0102-DWQ, Health and Safety Code Section 7050.5, and PRC Section 5097.98, which would reduce impacts to tribal cultural resources. Additionally, feasible mitigation measures are available to identify and avoid or manage tribal cultural resources, to ensure consistency with all state laws. Because there would be no new development under Alternative 5, and ground disturbance would be limited to cultivation, impacts would be **less** compared to the Cannabis Program Update.

UTILITIES AND SERVICE SYSTEMS

As discussed in Section 3.16, "Utilities and Service Systems," while compliance with state and County requirements would result in less-than-significant impacts to wastewater and solid waste services, mitigation measures would be necessary to ensure that there are sufficient water supplies available to support new cannabis uses in the County under the Cannabis Program Update. However, there would be cumulatively considerable water supply impacts that would be significant and unavoidable. In contrast, under Alternative 5, there would be no new development, and future cannabis uses would be located within existing buildings or in areas currently in agricultural production. As discussed in Section 3.16, "Utilities and Service System," cannabis uses would demand a similar level of water and generate similar levels of wastewater. Solid waste generation would be required to be consistent with the same regulations as discussed as Section 3.16, "Utilities and Service System." Because there would not be a substantial increase in water demand or wastewater generation, impacts related to utilities and service systems would be **less** under Alternative 5 than under the proposed Cannabis Program Update.

WILDFIRE

As discussed in Section 3.17, "Wildfire," new cannabis uses would be allowed under the proposed Cannabis Program Update in areas where existing risk of wildland fire has been established. While outdoor cultivation would not create an increased risk of wildland fire, indoor cultivation, mixed-light cultivation, centralized processing, cannabis events, and other supply chain uses would increase the potential for new ignitions. If wildland fires are ignited within undeveloped areas of the County, there is substantial potential risk of loss, injury, or death because emergency access and evacuation may be impeded in these areas. In turn, wildfires in Sonoma County may impair emergency

response and access or expose people or structures to substantial risks and new development may require associated infrastructure that could result in environmental impacts. While development of new uses and expansion further into the County could result in increased potential for wildfire, because Alternative 5 would not involve new development or new areas of cultivation, there would not be a substantial change compared to the existing conditions. Thus, impacts related to wildfire would be **less** under Alternative 5 as under the proposed Program Update.

5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 5-2 provides a summary comparison of the alternatives and the proposed project.

Alternative 1 would reduce impacts related to aesthetics, air quality, greenhouse gas emissions and climate change, hydrology and water quality, noise and vibration, transportation, and utilities and service systems because there would be less development and less cannabis cultivation compared with the Cannabis Program Update. However, impacts would be greater for agricultural and forestry resources and noise and vibration due to potential conflicts with agricultural zoning and smaller setback requirements.

Alternative 2 would reduce impacts related to aesthetics, agricultural and forestry resources, biological resources, greenhouse gas emissions and climate change, hydrology and water quality, and wildfire. In addition, impacts related to air quality would be reduced (would eliminate a significant and unavoidable odor impact) because cannabis would only be grown inside, facilities would be equipped with odor control systems. However, impacts would be greater for energy and utilities and service systems due to the increased development of indoor cannabis facilities compared with the Cannabis Program Update.

Alternative 3 would reduce impacts related to agricultural and forestry resources, greenhouse gas emissions and climate change, noise and vibration, transportation, and wildfire because there would be less developed uses constructed on agricultural land, no new development in commercial and industrial zones, and no cannabis events would be allowed. However, impacts would be greater for odors. Otherwise, impacts would be similar to those of the Cannabis Program Update.

Alternative 4 would reduce impacts related to air quality (odors), noise and vibration, transportation, and wildfire because although the overall development potential would be the same, Alternative 4 would require setbacks, would not allow cannabis events, and would restrict development in certain fire hazard severity zones. For other environmental topics, impacts would be similar to those of the Cannabis Program Update.

Alternative 5 would require crop swap only for outdoor cultivation and reuse of existing buildings for other cannabis uses. This would eliminate significant and unavoidable impacts related to greenhouse gas emissions, noise, and transportation. Additionally, Alternative 5 would reduce impacts to all other resources topics, with the exception of land use planning and public services and recreation, which would result in similar impacts.

As illustrated in Table 5-2, only Alternatives 2 and 5 would eliminate significant and unavoidable impacts. Because Alternative 5 would eliminate the most significant and unavoidable impacts, compared to the proposed Cannabis Program Update, it is the environmentally superior alternative.

Table 5-2 Summary of Environmental Effects of the Alternatives Relative to the Proposed Cannabis Program Update

Environmental Topic	Proposed Project	Alternative 1: No Project	Alternative 2: Commercial and Industrial Zones Only	Alternative 3: Ministerial Only	Alternative 4: Reduced Scope	Alternative 5 No New Development
Aesthetics	LTS/M	Less	Less	Similar	Similar	Less
Agricultural and Forestry Resources	LTS	Greater	Less	Less	Similar	Less
Air Quality	SU (Odor only)	Less	Less (Eliminates SU)	Greater	Less	Less
Biological Resources	LTS/M	Similar	Less	Similar	Similar	Less
Cultural Resources	LTS/M	Similar	Similar	Similar	Similar	Less
Energy	LTS/M	Similar	Greater	Similar	Similar	Less
Geology, Soils, and Mineral Resources	LTS/M	Similar	Similar	Similar	Similar	Less
Greenhouse Gas Emissions and Climate Change	SU	Less	Less	Less	Similar	Less (Eliminates SU)
Hazards and Hazardous Materials	LTS/M	Similar	Similar	Similar	Similar	Less
Hydrology and Water Quality	LTS/M	Less	Less	Similar	Similar	Less
Land Use and Planning	LTS	Similar	Similar	Similar	Similar	Similar
Noise and Vibration	SU (Construction Noise Only)	Less	Similar	Less	Less	Less (Eliminates SU)
Public Services and Recreation	LTS	Similar	Similar	Similar	Similar	Similar
Transportation	SU (VMT Only)	Less	Similar	Less	Less	Less (Eliminates SU)
Tribal Cultural Resources	LTS	Similar	Similar	Similar	Similar	Less
Utilities and Service Systems	LTS/M	Less	Greater	Similar	Similar	Less
Wildfire	LTS	Similar	Less	Less	Less	Less

Notes: LTS = less than significant; LTS/M = less than significant with mitigation; NI = no impact; SU = significant and unavoidable.

Source: Compiled by Ascent in 2025.

6 OTHER CEQA SECTIONS

6.1 GROWTH INDUCEMENT

California Environmental Quality Act (CEQA) Section 21100(b)(5) specifies that the growth-inducing impacts of a project must be addressed in an environmental impact report (EIR). Section 15126.2(d) of the State CEQA Guidelines provides the following guidance for assessing growth-inducing impacts of a project:

Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can induce growth directly, indirectly, or both. Direct growth inducement would result if a project involved construction of new housing. Indirect growth inducement would result, for instance, if implementing a project resulted in any of the following:

- ▶ substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises);
- ▶ substantial short-term employment opportunities (e.g., construction employment) that indirectly stimulates the need for additional housing and services to support the new temporary employment demand; or
- ▶ removal of an obstacle to additional growth and development, such as removing a constraint on a required public utility or service (e.g., construction of a major sewer line with excess capacity through an undeveloped area).

Growth inducement itself is not an environmental effect but may foreseeably lead to environmental effects. If substantial growth inducement occurs, it can result in secondary environmental effects, such as increased demand for housing, demand for other community and public services and infrastructure capacity, increased traffic and noise, degradation of air or water quality, degradation or loss of plant or animal habitats, conversion of agricultural and open-space land to urban uses, and other effects.

6.1.1 Growth-Inducing Impacts of the Project

As part of development of the proposed Cannabis Program Update, and this Draft EIR, a market demand analysis has been prepared at the County's direction to evaluate the demand for commercial cannabis grown in Sonoma County (Appendix E). As reported in this analysis, cannabis consumed in California is procured through one of three markets:

1. Licensed recreational market.
2. Licensed medical use market.
3. Unlicensed market.

With consideration of a variety of data provided by Sonoma County and the state cannabis regulators, sources from private cannabis industry publications, and publicly available reports and studies, supplemented by interviews with cannabis business operators in Sonoma County, the market demand analysis indicated that cannabis demand may increase from the existing countywide cultivation acreage to a maximum of 104 acres (Appendix E). (Note that this Draft EIR assumes a development potential of the Cannabis Program Update of up to 208 acres of new total cannabis cultivation, 84 new distribution sites, 40 new nursery sites, 9 new processing sites, 56 new retail sites, nine new testing

sites, and 37 new manufacturing sites, which is intended to represent a conservative projection [i.e., factoring unforeseen changes in the commercial cannabis market conditions and regulations in the United States].)

Furthermore, events would encourage more visitation to the county. Because the Cannabis Program Update would allow for additional cannabis businesses to operate within the county, there may be some economic growth in the county specific to cannabis.

As noted above, events would encourage more visitors to the county. Event guests are likely to purchase food and beverages at local businesses, and may also use hotels or other accommodations (e.g., short-term vacation rentals). As of 2023, approximately 60 percent of lodgings were occupied (down from approximately 75 percent occupancy in 2019) (Sonoma County Tourism 2024). While it would be speculative to attempt to parse out the number of new lodging guests that could be attributed to future cannabis events (i.e., people may visit Sonoma County for more reasons than just cannabis tourism), these events may increase occupancy at existing hotels and other accommodations and support overall economic growth in the tourism industry.

As outlined in Section 3.1, "Approach to the Environmental Analysis," based on the assumed development potential under the proposed Cannabis Program Update, there would be approximately 4,609 employees associated with cultivation and noncultivation uses in 2044. According to the California Department of Finance (DOF), the current population in Sonoma County, in both incorporated and unincorporated areas, is 479,826 and is projected to decrease to a population to 474,381 by 2044 (DOF 2024). As of July 2024, within Sonoma County, 7,300 farm and 207,900 nonfarm workers were employed, and a total of 11,000 people were considered unemployed. Given that the employed and unemployed workers total 218,900 individuals, approximately 45 percent of the total population (479,826) is part of the county's workforce. Although it is unknown how a 1 percent decrease in the population over the next 20 years could affect future employment levels, if the workforce remains similar to the existing conditions (45 percent of the total population), there would be approximately 222,960 people would make up the County's job force. The demand for 4,609 employees to support cannabis businesses in 2044 could be supported by this job force as it represents approximately 2 percent of the total jobs in the County. Thus, the proposed Cannabis Program Update would not induce substantial growth that could trigger the development of housing but would rather provide employment opportunities for the County's workforce.

Furthermore, the Cannabis Program Update would not remove barriers to population growth. No new or expanded (beyond what is currently planned) public infrastructure facilities would be installed to support implementation of the Cannabis Program Update because cannabis uses would operate similarly to the way that existing land uses in the County operate (e.g., agricultural, commercial, and industrial areas). In addition, no new roadway improvements would be triggered from adoption of the Cannabis Program Update. As discussed in Section 3.16, "Utilities and Service Systems," new commercial cannabis facilities may include construction or improvement of water, wastewater, stormwater drainage, electric power, natural gas (where available), and telecommunication facilities as needed based on site-specific conditions. Extension of these infrastructure facilities are expected to be limited because they are generally available along roadway frontages and public utility easements of the parcels or may be accommodated on individual project sites. More generally, adoption of the Cannabis Program Update would not trigger the need for the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could remove a barrier to growth. Therefore, the Cannabis Program Update would not contribute to indirect growth-inducing effects.

6.2 SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACTS

The State CEQA Guidelines Section 15126.2(b) requires EIRs to include a discussion of the significant environmental effects that cannot be avoided if the proposed project is implemented. As documented throughout Chapter 3 (project level impacts) and Chapter 4, "Cumulative Impacts," of this Draft EIR, after implementation of the recommended mitigation measures, most of the impacts associated with the proposed Cannabis Program Update would be reduced to a less-than-significant level. The following impacts are considered significant and unavoidable; that is, no feasible mitigation is available to reduce the project's impacts to a less-than-significant level.

Air Quality

- ▶ Impact 3.3-4: Expose a Substantial Number of People to Odors Considered Objectionable
- ▶ Impact CUM-7: Contribution to Cumulative Impacts on Operational Criteria Air Pollutants

Greenhouse Gas Emissions and Climate Change

- ▶ Impact 3.8-1: Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases
- ▶ Impact CUM-22: Contribution to Cumulative Impacts on Greenhouse Gas Emissions and Climate Change Impacts

Noise

- ▶ Impact 3.12-1: Result in Excessive Short-Term Construction Noise Impacts

Transportation

- ▶ Impact 3.14-2: Conflict or Be Inconsistent with CEQA Guidelines Section 15064.3(b) Regarding Vehicle Miles Traveled
- ▶ Impact CUM-34: Contribution to Cumulative Impacts on Vehicle Miles Traveled

Utilities and Service Systems

- ▶ Impact CUM-28: Contribution to Cumulative Impacts on Water Supply Sufficiency

6.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

The State CEQA Guidelines require a discussion of any significant irreversible environmental changes that would be caused by the project. Specifically, State CEQA Guidelines Section 15126.2(d) states:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

6.3.1 Use of Nonrenewable Resources

The project would result in the irreversible and irretrievable commitment of energy and material resources during construction and operation, including:

- ▶ construction materials, including such resources as soil, rocks, wood, concrete, glass, and steel;
- ▶ land area committed to new project facilities;
- ▶ water supply for project construction and operation; and
- ▶ energy expended in the form of electricity, natural gas, diesel fuel, gasoline, and oil for equipment and transportation vehicles that would be needed for project construction and operation.

The use of these nonrenewable resources is expected to account for a minimal portion of the region's resources and would not affect the availability of these resources for other needs within the region.

As identified in Section 3.10, "Hydrology and Water Quality" (see Impact 3.10-2), while the County well ordinance places restrictions on groundwater production, it cannot be stated with certainty that operation of new cannabis facilities relying on groundwater would not decrease groundwater supplies such that public trust resources are not affected or that implementation of a groundwater sustainability plan would not be impeded. However, implementation of Mitigation Measure 3.10-2 would reduce potentially significant impacts to groundwater resources

because requirements to identify adequate water supply would be incorporated into the County's standards for cannabis cultivation.

As discussed in Section 3.6, "Energy," (see Impact 3.6-1), construction and operation of commercial cannabis cultivation and noncultivation sites associated with adoption and implementation of the Cannabis Program Update would result in the consumption of fuel (gasoline and diesel), electricity, and natural gas. As discussed therein, the energy needs for commercial cannabis cultivation would be temporary and would not require additional capacity or increased peak or base period demands for electricity or other forms of energy. All buildings constructed would be built to the California Energy Code in effect at the time of construction, as well as California Code of Regulations, Title 4, Section 16305 regarding energy sources that reduce greenhouse gas emissions. Future cultivation and associated energy expenditure under the Cannabis Program Update would be similar to those currently in the County. For this reason, construction and operation of cannabis facilities that would be licensed under the Cannabis Program Update would not result in substantial long-term consumption of energy and natural resources.

7 REPORT PREPARERS

Permit Sonoma (Lead Agency)

Crystal Acker.....Supervising Planner
Marina HerreraPlanner
Sita KuteiraDeputy County Counsel

Ascent (CEQA Compliance)

Pat Angell.....Principal
Marianne Lowenthal.....Project Manager
Marlie Long.....Aesthetics, Agriculture and Forestry Resources
Julia Wilson.....Air Quality, Greenhouse Gas Emissions and Climate Change, Energy
Hannah Weinberger.....Biological Resources
Allison Fuller.....Biological Resources
Roberto Mora.....Cultural Resources and Tribal Cultural Resources
Alta Cunningham.....Cultural Resources and Tribal Cultural Resources
Elena Savignano.....Noise
Jacklyn Bottomley.....Land Use and Planning
Jazmin Amini.....Transportation
Claudia Watts.....Utilities and Service Systems
Bryn Kirk.....Public Services
Eric Cohen.....Geology/Soils
Rachel Mills-Coyne.....Hazards and Hazardous Materials
Marianne Lowenthal.....Hydrology and Water Quality
Rid Hollands.....Wildfire
Sarah Henningsen.....Senior Technical Review
Gretel Hakanson.....Technical Review
Alyssa Luna.....GIS Specialist
Michele Mattei.....Publishing Specialist
Riley Smith.....Publishing Specialist
Brian Perry.....Graphic Specialist
Corey Alling.....Graphic Specialist

W-Trans (Transportation)

Dalene Whitlock.....Principal
Cameron Nye.....Transportation Engineer
Barry Bergman.....Senior Planner

Economics & Planning Systems (Economics Study)

David Zehnder.....Managing Principal
Tom Martens.....Vice President
Emilio Balingit.....Senior Associate

This page is intentionally left blank.

8 REFERENCES

Executive Summary

No references were used in this chapter.

Chapter 1 Introduction

No references were used in this chapter.

Chapter 2 Project Description

No references were used in this chapter.

Chapter 3 Environmental Impacts and Mitigation Measures

California Department of Cannabis Control. 2024a (October 17). *Licensing of Commercial Cannabis Cultivation in Mendocino County Project EIR*. State Clearinghouse Number 2023080049. Available: <https://ceqanet.opr.ca.gov/2023080049/2>. Accessed April 2025.

———. 2024b (October 18). *Cannabis License Summary Report*. Available: <https://cannabis.ca.gov/resources/data-dashboard/license-report/>. Accessed April 2025.

DCC. See California Department of Cannabis Control.

EPS. 2024. Memorandum to County of Sonoma Commercial Cannabis Program from David Zehnder, Tom Martens, and Emilio Balingit of EPS regarding the market demand for Sonoma County cannabis.

Keegan & Coppin. 2024. Eight-Quarter Vacancy Chart. Office, Industrial, Retail. Sonoma County. 2nd Quarter 2022 to 1st Quarter 2024. Available: https://www.keegancoppin.com/pdf/market/sonoma/2024/1/1st_Qtr_2024_Sonoma_County_8_Qtr_Vacancy.pdf. Accessed: September 2024.

Sonoma County. 2019. Staff Report - File #UPC17-0040. Available: <https://sonomacounty.ca.gov/a/105363>. Accessed January 2025.

———. 2024. Cannabis Supply Chain Projections.

Trinity County. 2020. *Trinity County Cannabis Program EIR*. State Clearinghouse Number 2018122049. Available: <https://ceqanet.opr.ca.gov/2018122049/2>. Accessed April 2025.

Yolo County 2019. *Cannabis Land Use Ordinance EIR*. State Clearinghouse Number 2018082055. Available: <https://www.yolocounty.gov/government/general-government-departments/community-services/cannabis/cannabis-land-use-ordinance>. Accessed April 2024.

Section 3.1 Aesthetics

California Department of Transportation. 2024. California State Scenic Highways. Available: <https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>. Accessed July 10, 2024.

California Energy Commission. 2024. *2022 Building Energy Efficiency Standards*. Available: <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency>. Accessed July 11, 2024.

Caltrans. See California Department of Transportation.

CEC. See California Energy Commission.

Dark Sky International Association. 2024. Causes of Light Pollution. Available: <https://www.darksky.org/light-pollution/>. Accessed August 22, 2024.

- Sonoma County. 2006. *Sonoma County 2020 General Plan – Regional Context*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/generalplan/regionalcontext>. Accessed August 22, 2024.
- . 2016. *Sonoma County 2020 General Plan, Open Space and Resource Conservation Element*. Available: <https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Long%20Range%20Plans/General-Plan-Open-Space-and-Resource-Conservation-Element.pdf>. Accessed August 22, 2024.
- . 2019. *Sonoma County Visual Assessment Guidelines*. Available: <https://permitsonoma.org/longrangeplans/proposedlong-rangeplans/environmentalreviewguidelines/visualassessmentguidelines>. Accessed August 26, 2024.
- . 2024. Permit Sonoma County GIS: Zoning and Land Use Map Viewer. Available: <https://sonomacounty.maps.arcgis.com/apps/webappviewer/index.html?id=06ac7fe1b8554171b4682dc141293962>. Accessed August 22, 2024.

Section 3.2 Agricultural and Forestry Resources

- Al Heidary, M., J. P. Douzals, C. Sinfort, and A. Vallet. 2014. "Influence of Nozzle Type, Nozzle Arrangement and Side Wind Speed on Spray Drift As Measured in a Wind Tunnel." *Proceedings of the International Conference of Agricultural Engineering*. July 6–10, 2014. Zurich, Switzerland.
- California Department of Conservation. 2024. California Important Farmland Mapping and Monitoring Program Geospatial Dataset. Available: <https://gis.conservation.ca.gov/portal/home/item.html?id=22da298849d147679551680593b9b035>. Accessed August 20, 2024.
- Egan, J. F., E. Bohnenblust, S. Goslee, D. Mortensen, and J. Tooker. 2014. "Herbicide Drift Can Affect Plant and Arthropod Communities." *Agriculture Ecosystems and Environment* 185: 77–87. Available: <https://doi.org/10.1016/j.agee.2013.12.017>.
- DOC. See California Department of Conservation.
- Rasmussen, J. J., A. Baattrup-Pedersen, P. Wiberg-Larsen, U. S. McKnight, and B. Kronvang. 2011. "Buffer Strip Width and Agricultural Pesticide Contamination in Danish Lowland Streams: Implications for Stream and Riparian Management." *Ecological Engineering* 37(12): 1990–1997. Available: <https://doi.org/10.1016/j.ecoleng.2011.08.016>.
- Sonoma County. 2006. *Sonoma County General Plan Draft EIR*. State Clearinghouse Number: 2003012020.
- . 2016. *Sonoma County General Plan – Agricultural Resources Element*. Available: <https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Long%20Range%20Plans/General-Plan-Agricultural-Resources-Element.pdf>. Accessed July 2, 2024.
- . 2022. *2021 Sonoma County Crop Report*. Available: <https://sonomacounty.ca.gov/Main%20County%20Site/Natural%20Resources/Agricultural%2C%20Weights%20%26%20Measures/Documents/Crop%20Reports/2021-Sonoma-County-Crop-Report.pdf>. Accessed May 2025.
- . 2024a. *2023 Sonoma County Crop Report*. Department of Agriculture/Weights & Measures. Available: https://sonomacounty.ca.gov/Main%20County%20Site/Natural%20Resources/Agricultural%2C%20Weights%20%26%20Measures/Documents/Crop%20Reports/2024-0630%202023%20Sonoma%20County%20Crop%20Report_ADA_Compressed.pdf. Accessed April 2205.
- . 2024b. *2023 Sonoma County Crop Report Addendum – 202e Cannabis Production*. Department of Agriculture/Weights & Measures. Available: https://sonomacounty.ca.gov/Main%20County%20Site/Natural%20Resources/Agricultural%2C%20Weights%20%26%20Measures/Documents/Crop%20Reports/2024-0630%202023%20Sonoma%20County%20Crop%20Report_Cannabis%20Addendum_ADA.pdf. Accessed April 2025.

- . 2024c. Sonoma County Web App – Links: SoCo PRMD GIS Williamson Act Land Contracts.zip. Available: <https://share.sonoma-county.org/link/Qv5MfLaAc9s/>. Accessed August 19, 2024.
- Sonoma County Permit and Resource Management Department. 2008a. *Penngrove Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2008c. *South Santa Rosa Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2008d. *Penngrove Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2012. *Franz Valley Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.

Section 3.3 Air Quality

BAAQMD. See Bay Area Air Quality Management District.

- Bay Area Air Quality Management District. 2017. *Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area*. Available: https://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?rev=8c588738a4fb455b9cabb27360409529&sc_lang=en. Accessed October 11, 2024.
- . 2022. *BAAQMD CEQA Guidelines* – Chapter 3: Thresholds of Significance. Available: https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-3-thresholds_final_v2-pdf.pdf?rev=a976830cce0c4a6bb624b020f72d25b3. Accessed October 11, 2024.
- . 2024. Bay Area Emissions Inventory. Available: https://www.baaqmd.gov/~media/files/planning-and-research/emission-inventory/bay-area-emissions-inventory-summary-report.pdf?rev=aab699bc8277450598292f0537b2c2a7&sc_lang=en. Accessed October 11, 2024.
- California Air Resources Board. 2013. *An Almanac of Emissions – 2013 Edition*. Available: <https://ww2.arb.ca.gov/our-work/programs/resource-center/technical-assistance/air-quality-and-emissions-data/almanac>. Accessed August 27, 2024.
- . 2023. State Area Designations. Available: <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>. Accessed October 11, 2024.
- . 2024a. *Ambient Air Quality Standards*. Available: https://ww2.arb.ca.gov/sites/default/files/2024-08/AAQS%20Table_ADA_FINAL_07222024.pdf. Accessed October 11, 2024.
- . 2024b. Overview: Diesel Exhaust & Health. <https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health>. Accessed October 11, 2024.
- . 2024c. Top 4 Summary Webpage. Available: <https://www.arb.ca.gov/adam/topfour/topfour1.php>. Accessed October 11, 2024.
- CARB. See California Air Resources Board.
- City of Denver. 2018 (August 9). *Cannabis Environmental Best Management Practices*. Draft Section for Review: Air Quality. Department of Public Health & Environment.
- EPS. 2025. Memorandum to County of Sonoma Commercial Cannabis Program from David Zehnder, Tom Martens, and Emilio Balingit of EPS regarding the market demand for Sonoma County cannabis.
- EPA. See US Environmental Protection Agency.
- First Canadian Odour Conference. 2018. *Odour Nuisance, Odour Assessment, Measurement and Control*. Calgary, AB.

- Kern County. 2017 (July). *Kern County Cannabis Land Use Ordinance Project Draft Environmental Impact Report*. State Clearinghouse No. 2017011058. Bakersfield, CA.
- Nevada County. 2019 (January). *Draft Environmental Impact Report for the Nevada County Commercial Cannabis Cultivation Ordinance*. State Clearinghouse No. 2018082023. Nevada City, CA.
- Northern Sonoma County Air Pollution Control District. 2015. Rule 110 – New Source Review (NSR) and Prevention of Significant Deterioration. Available: <https://ncuaqmd.specialdistrict.org/files/397b4b794/Rule+110.pdf>. Accessed October 11, 2024.
- NSCAPCD. See Northern Sonoma County Air Pollution Control District.
- Office of Environmental Health Hazard Assessment. 2012 (February). Request for Information on Chemicals Being Considered for Listing: Isopyrazam, Beta-Myrcene, Pulegone, and 3, 3', 4, 4' – Tetrachloroazobenzene.
- Public Health Ontario. 2018 (April). *Evidence Brief: Odours from Cannabis Production*.
- Rice, Somchai and Jacek A. Koziel. 2015. *Characterizing the Smell of Marijuana by Odor Impact of Volatile Compounds: An Application of Simultaneous Chemical and Sensory Analysis*. Available: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0144160>. Accessed May 7, 2025.
- Trinity Consultants. 2019 (February). *Assessment of Kind Farms Proposed Odor Control Methods*. Oakdale, MN.
- . 2020. Memorandum to Susan Strachan, Yolo County; Heidi Tschudin, Tschudin Consulting Group regarding modeling to estimate odor impacts at various buffer distances. Available: <https://www.yolocounty.gov/home/showpublisheddocument/65830/637344792393000000>. Accessed April 2025.
- Safebridge. Consultants, Inc. 2025. *Occupational Exposure Limit (OEL) Monograph for Beta-Myrcene*. Prepared for: Sonoma County. Prepared by: Olive Ngalame, Ph.D. and Matthew J. Linman, Ph.D.
- Western Regional Climate Center. 2023. Prevailing Wind Direction. Available: https://wrcc.dri.edu/Climate/comp_table_show.php?stype=wind_dir_avg. Accessed October 11, 2024.
- WRCC. See Western Regional Climate Center.
- Yolo County. 2019 (October). *Yolo County Cannabis Land Use Ordinance Draft EIR*. State Clearinghouse No. 2018082055. Woodland, CA.
- US Environmental Protection Agency. 2024a. Greenbook: 8-Hour Ozone (2015) Designated Area. Available: <https://www3.epa.gov/airquality/greenbook/jbcs.html#CA>. Accessed October 11, 2024.
- . 2024b. Criteria Air Pollutants. Available: <https://www.epa.gov/criteria-air-pollutants>. Accessed August 27, 2024.

Section 3.4 Biological Resources

- Allen, M. L., B. E. Evans, and M. S. Gunther. 2015. "A Potential Range Expansion of the Coastal Fisher (*Pekania pennanti*) Population in California." *California Fish and Game* 101(4): 280–285.
- Allen, L. M., L. M. Elbroch, D. S. Casady, and H. U. Wittmer. 2015. "Feeding and Spatial Ecology of Mountain Lions in the Mendocino National Forest, California." *California Fish and Game* 101: 51–65.
- American Bird Conservancy. 2015. *Bird Friendly Building Design*. Available: https://abcbirds.org/wp-content/uploads/2015/05/Bird-friendly-Building-Guide_2015.pdf. Accessed August 30, 2024.
- Audubon. See Audubon California.
- Audubon California. 2024. Protect Birds from the Danger of Open Pipes. Available: https://ca.audubon.org/conservation/protect-birds-danger-open-pipes?_gl=1*unwikl*_gcl_au*MTQ3NjkzMjYzOS4xNzI1MDM5OTU1*_ga*NzI4MDgwMTE4LjE3MjUwMzk5NTU.*_ga_X2XNL2MWTT*MTcyNTAzOTk1NS4xLjEuMTcyNTA0MDE1OC40Ny4wLjA. Accessed August 30, 2024.

- Baker, B. J., and J. M. L. Richardson. 2006. "The Effect of Artificial Light on Male Breeding-Season Behavior in Green Frogs, *Rana clamitans melanota*." *Canadian Journal of Zoology* 84: 1528–1532.
- Bell, J. L., L. C. Sloan, and M. A. Snyder. 2004. "Regional Changes in Extreme Climatic Events: A Future Climate Scenario." *Journal of Climate* 17: 81–87.
- Bolster, B. C. 2010. *A Status Review of the California Tiger Salamander (Ambystoma californiense)*. A Report to the Fish and Game Commission, Nongame Wildlife Program Report 2010-4, California Department of Fish and Game. Sacramento, CA.
- Branam, C. 2022. "Releasing Non-Native Fish to Control Mosquitoes Is Often Ineffective and Harmful to Environment." *Newsroom, Oregon State University*. Available: <https://today.oregonstate.edu/news/releasing-non-native-fish-control-mosquitoes-often-ineffective-and-harmful-environment#:~:text=The%20guppy%20%28Poecilia%20reticulata%29%20and%20the%20western%20mosquitofish,people%20release%20so%20that%20they%20eat%20mosquito%20larvae>. Accessed August 29, 2024.
- Bulger, J. B., N. J. Scott Jr., and R. B. Seymour. 2003. "Terrestrial Activity and Conservation of Adult California Red-Legged Frogs *Rana aurora draytonii* in Coastal Forests and Grasslands." *Biological Conservation* 110: 85–95.
- CAL FIRE. See California Department of Forestry and Fire Protection.
- CalEMA. See California Emergency Management Agency.
- Calflora. 2024. Calflora: A Nonprofit Database Providing Information on Wild California Plants. Available: <https://www.calflora.org/>. Accessed August 29, 2024.
- California Department of Farm and Agriculture. 2024. Encycloweed: Weed Ratings. Available: https://www.cdfa.ca.gov/plant/IPC/encycloweed/winfo_weedratings.html#:~:text=If%20a%20plant%20is%20found%20to%20probably%20be,rating%20of%20A%2C%20B%2C%20C%20D%2C%20or%20Q. Accessed August 21, 2024.
- California Department of Fish and Game. 2012. *Staff Report on Burrowing Owl Mitigation*. Available: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843>. Accessed August 29, 2024.
- California Department of Fish and Wildlife. 2015. *California State Wildlife Action Plan, 2015 Update: A Conservation Legacy for Californians*. Edited by A. G. Gonzales and J. Hoshi. Available: <https://www.wildlife.ca.gov/SWAP/Final>. Prepared with assistance from Ascent Environmental, Sacramento, CA. Accessed August 29, 2024.
- . 2018a (March). *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*. Available: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline>. Accessed July 29, 2024.
- . 2018b (May 14). *Considerations for Conserving the Foothill Yellow-Legged Frog*. Available: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=157562&inline>. Accessed August 14, 2024.
- . 2023 (June 6). *The Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species*. Sacramento, CA. Available: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=213150&inline>. Accessed August 6, 2024.
- . 2024. *California's Invaders: American Bullfrog*. Available: <https://wildlife.ca.gov/Conservation/Invasives/Species/Bullfrog>. Accessed August 29, 2024.
- California Department of Forestry and Fire Protection. 2022. *Historic Fire Perimeters 2023*. Fire and Resource Assessment Program. Available: <https://www.fire.ca.gov/what-we-do/fire-resource-assessment-program/gis-mapping-and-data-analytics>. Accessed June 26, 2024.

- California Emergency Management Agency. 2012 (July). *California Adaptation Planning Guide: Understanding Local and Regional Characteristics*. Available: https://resources.ca.gov/CNRALegacyFiles/docs/climate/APG_Understanding_Regional_Characteristics.pdf. Accessed August 29, 2024.
- California Energy Commission. 2012. *Our Changing Climate: Vulnerability & Adaptation to the Increasing Risks of Climate Change in California*. Available: https://ucanr.edu/sites/Jackson_Lab/files/155618.pdf. Accessed July 30, 2024.
- California Invasive Plant Council. 2024. *About Invasive Plants*. Available: <https://www.cal-ipc.org/plants/impact/#:~:text=Definition%20of%20Invasive%20Plants%20Cal-IPC%20defines%20invasive%20plants,harm%20to%20the%20environment%2C%20economy%2C%20or%20human%20health>. Accessed August 18, 2024.
- California Native Plant Society. 2024a. *Inventory of Rare and Endangered Plants of California (online edition, v9-5)*. Available: <http://www.rareplants.cnps.org>. Accessed August 29, 2024.
- . 2024b. *A Manual of California Vegetation*. Available: <http://vegetation.cnps.org/>. August 2024.
- California Natural Diversity Database. 2024. Results of Electronic Records Search. California Department of Fish and Wildlife, Biogeographic Data Branch. Sacramento, CA. Retrieved August 1, 2024.
- CWHR. See California Wildlife Habitat Relationships.
- California Wildlife Habitat Relationships. 2024. *California's Wildlife*. California Wildlife Habitat Relationships Program, California Department of Fish and Wildlife. Sacramento, CA
- . 1988. "Introduction and Scope." In *A Guide to Wildlife Habitats of California*, edited by K. E. Mayer and W. F. Laudenslayer, Jr., 9–19. California Wildlife Habitat Relationships Program, California Department of Fish and Wildlife. Sacramento, CA
- Cal-IPC. See California Invasive Plant Council.
- Carrier. 2022 (September). Product Data: GH5S Single-Stage Heat Pump with Puron Refrigerant 1 ½ to 5 Tons. Catalog No. GH5S-01PD.
- Cayan, D. R., E. P. Maurer, M. D. Dettinger, M. Tyree, and K. Hayhoe. 2008. "Climate Change Scenarios for the California Region." *Climatic Change* 87 (Suppl 1): S21–S42.
- CDFA. See California Department of Farm and Agriculture.
- CDFG. See California Department of Fish and Game.
- CDFW. See California Department of Fish and Wildlife.
- CEC. See California Energy Commission.
- CNDDDB. See California Natural Diversity Database.
- CNPS. See California Native Plant Society.
- Cook, D. G., and M. R. Jennings. 2007. "Microhabitat Use of the California Red-Legged Frog and Introduced Bullfrog in a Seasonal Marsh." *Herpetologica* 63(4): 430–440.
- CWHR. See California Wildlife Habitat Relationships.
- Dillis, C., V. Butsic, P. Georgakakos, and T. Grantham. 2024. *Water Use: Cannabis in Context*. Cannabis Research Center, University of California, Berkeley, CA.
- eBird. 2024. *eBird*. Ithaca, NY. Available: <http://www.ebird.org>. Accessed August 5, 2024.

- Faber-Langendoen, D., J. Nichols, L. Master, K. Snow, A. Tomaino, R. Bittman, G. Hammerson, B. Heidel, L. Ramsay, A. Teucher, and B. Young. 2012 (June). *NatureServe Conservation Status Assessments: Methodology for Assigning Ranks*. NatureServe. Arlington, VA.
- Fellers, G. M., and P. M. Kleeman. 2007. "California Red-Legged Frog (*Rana draytonii*) Movement and Habitat Use: Implications for Conservation." *Journal of Herpetology* 41(2): 276–286.
- Fuller, T. E., K. L. Pope, D. T. Ashton, and H. H. Welsh. 2011. "Linking the Distribution of an Invasive Amphibian (*Rana catesbeiana*) to Habitat Conditions in a Managed River System in Northern California." *Restoration Ecology* 19(201): 204–213.
- Gabriel M. W., L. W. Woods, R. Poppenga, R. A. Sweitzer, C. Thompson, S. M. Matthews, J. M. Higley, S. M. Keller, K. Purcell, R. H. Barrett, G. M. Wengert, B. N. Sacks, and D. L. Clifford. 2012. "Anticoagulant Rodenticides on Our Public and Community Lands: Spatial Distribution of Exposure and Poisoning of a Rare Forest Carnivore." *PLoS One* 7: 1–15.
- Garwood, R. S. 2017. "Historic and Contemporary Distribution of Longfin Smelt (*Spirinchus thaleichthys*) Along the California Coast." *California Fish and Game* 103(3): 96–117.
- Gaston, K. J., T. W. Davies, J. Bennie, and J. Hopkins. 2012. "Reducing the Ecological Consequences of Night-Time Light Pollution: Options and Developments." *Journal of Applied Ecology* 49(6): 1256–1266.
- Gaston, K. J., J. Bennie, T. W. Davies, and J. Hopkins. 2013. "The Ecological Impacts of Nighttime Light Pollution: a Mechanistic Appraisal." *Biological Reviews* 88(4): 912–927.
- Goude, C., C. Wilcox, J. Hicks, M. Monroe, A. Jensen, C. Ferguson, D. Schurman, K. Kaulum, C. Wasem, J. Dranginis. 2005. *Santa Rosa Plain Conservation Strategy*. Prepared in joint effort by Conservation Strategy Team Members from US Fish and Wildlife Service, California Department of Fish and Game, US Army Corps of Engineers, US Environmental Protection Agency, North Coast Regional Water Quality Control Board, County of Sonoma and Cities of Cotati, Rohnert Park, Santa Rosa, & Windsor, Laguna de Santa Rosa Foundation, Environmental Community, and Private Landowner Community.
- Halterman, M. D., M. J. Johnson, J. A. Holmes, and S. A. Laymon. 2016. *A Natural History Summary and Survey Protocol for the Western Distinct Population Segment of the Yellow-billed Cuckoo*. Independent Researcher, Colorado Plateau Research Station, and US Fish and Wildlife Service. Available: <https://www.fws.gov/media/yellow-billed-cuckoo-survey-protocol>. Accessed August 29, 2024.
- Hayward, L. S., A. E. Bowles, J. C. Ha, and S. K. Wasser. 2011. "Impacts of Acute and Long-Term Vehicle Exposure on Physiology and Reproductive Success of the Northern Spotted Owl." *Ecosphere* 2: 1–20.
- Hebert, P. N., R. T. Golightly, and H. R. Carter. 2006. "Breeding Biology of Marbled Murrelets (*Brachyramphus marmoratus*) Nesting in Redwood National and State Parks, California." In *Movements, Nesting, and Response to Anthropogenic Disturbance of Marbled Murrelets in Redwood National and State Parks, California*, edited by P. N. Hebert and R. T. Golightly, 69–131. Unpublished report, Department of Wildlife, Humboldt State University, Arcata, CA.
- Holland, R. F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. The Resources Agency, Non-game Heritage Program, Department of Fish and Game. Sacramento, CA.
- iNaturalist. 2024. *Observations*. Available: <https://www.inaturalist.org/observations>. Accessed August 29, 2024.
- Jepson. See Jepson Herbarium.
- Jepson Herbarium. 2024. *Jepson eFlora*. University of California, Berkeley. Available: <https://ucjeps.berkeley.edu/eflora/>. Accessed August 29, 2024.
- Kim, Ashley Y., Aura Velaquez, Belen Saavedra, Benjamin Smarr, and James C. Nieh. 2024. Exposure to constant artificial light alters honey bee sleep rhythms and disrupts sleep. *Nature. Scientific Reports*, Volume 14, Article 25865. Available: <https://www.nature.com/articles/s41598-024-73378-9>. Accessed May 2025.

- Mack, D. E., W. P. Ritchie, S. K. Nelson, E. Kuo-Harrison, P. Harrison, and T. E. Hamer. 2003 (January 6). *Methods for Surveying Marbled Murrelets in Forests: A Revised Protocol for Land Management and Research*. Prepared for Pacific Seabird Group Marbled Murrelet Technical Committee.
- National Oceanic and Atmospheric Administration Regional Climate Centers. 2024. *AgACIS*. Available: <https://agacis.rcc-acis.org/>. Accessed August 19, 2024.
- NOAA RCS. See National Oceanic and Atmospheric Administration Regional Climate Centers.
- Parlin, Adam F, Mitchell J Kendzel, Orley R. Taylor, Jr, Theresa M. Culley, Stephen F. Matter, Patrick A. Guerra. 2023. The cost of movement: assessing energy expenditure in a long-distant migrant under climate change. *Journal of Experimental Biology*. Volume 226, Issue 21. Available : <https://journals.biologists.com/jeb/article/226/21/jeb245296/334654/The-cost-of-movement-assessing-energy-expenditure>. Accessed May 2025.
- Penrod, K. 2013. *Mountain Lion Connectivity Modeling for the California Bay Area Linkage Network [ds864]*. Science & Collaboration for Connected Wildlands. Los Angeles, CA. Available: <https://www.arcgis.com/sharing/rest/content/items/58c713d56171489bb5fc259ccdba27d1/info/metadata/metadata.xml?format=default&output=html>. Accessed August 30, 2024.
- . 2014. *Black-tailed Deer Connectivity Modeling for the California Bay Area Linkage Network [ds856]*. Science & Collaboration for Connected Wildlands. Los Angeles, CA. Available: <https://www.arcgis.com/sharing/rest/content/items/deee341d3c774e97917ac07ed9c398fb/info/metadata/metadata.xml?format=default&output=html>. Accessed August 30, 2024.
- PRBO Conservation Science. 2011. *Projected Effects of Climate Change in California: Ecoregional Summaries Emphasizing Consequences for Wildlife*. Version 1.0. Available: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=27195&inline>. Accessed August 29, 2024.
- Santos, N. 2014. *Southern Green Sturgeon Range - FSSC [ds1205]*. UC Davis Center for Watershed Sciences. University of California, Davis. Available: <https://map.dfg.ca.gov/metadata/ds1205.html>. Accessed August 18, 2024.
- . 2015. *California Coast Fall Chinook Salmon Range [ds1297]*. UC Davis Center for Watershed Sciences. University of California, Davis. Available: <https://map.dfg.ca.gov/metadata/ds1297.html>. Accessed August 16, 2024.
- Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens. 2009. *A Manual of California Vegetation*. California Native Plant Society. Sacramento, CA.
- Shier, Debra M. Alicia K. Bird, Thea B. Wang. 2020. Effects of artificial light at night on the foraging behavior of an endangered nocturnal mammal. *Environmental Pollution*: Volume 263, Part A. Available: <https://www.sciencedirect.com/science/article/abs/pii/S0269749119366059?via%3Dihub>. Accessed May 2025.
- Snyder, M. A., L. C. Sloan, and J. L. Bell. 2004. "Modeled Regional Climate Change in the Hydrologic Regions of California: A CO2 Sensitivity Study." *Journal of the American Water Resources Association* 40: 591–601. Cited in PRBO Conservation Science 2011.
- Sommer, M. 2005. *Mule Deer [ds108]*. Available: <https://map.dfg.ca.gov/metadata/sec/ds0108.html>. Accessed October 1, 2024.
- Sonoma County. 2006. *Sonoma County General Plan 2020 General Plan Update Draft Environmental Impact Report*. Permit and Resource Management Department. State Clearinghouse No. 2003012020.
- Sonoma County Ag + Open Space. See Sonoma County Agricultural Preservation and Open Space District.
- Sonoma County Agricultural Preservation and Open Space District. 2024. Explore the Vital Lands Initiative. Available: <https://www.sonomaopenspace.org/how-we-work/vital-lands/>. Accessed August 30, 2024.
- Sonoma County Agricultural Preservation and Open Space District. n.d. Explore the Vital Lands Initiative. Available: <https://www.sonomaopenspace.org/how-we-work/vital-lands/>. Accessed August 30, 2024.

- Sonoma County Department of Agriculture/Weights & Measures. n.d.-a. *Best Management Practices Cannabis Cultivation*. Available: <https://sonomacounty.ca.gov/natural-resources/agricultural-weights-and-measures/divisions/agricultural-division/ordinances/best-management-practices-cannabis-cultivation>. Accessed August 29, 2024.
- . n.d.-b. *Best Management Practices and Technical Report Guidelines for New Vineyard and Orchard Development, Vineyard and Orchard Replanting, and Agricultural Grading and Drainage (VESCO)*. Available: <https://sonomacounty.ca.gov/natural-resources/agricultural-weights-and-measures/divisions/agricultural-division/ordinances/grading-drainage-vineyard>. Accessed February 14, 2025.
- Sonoma County PRMD. See Sonoma County Permit and Resource Management Department.
- Sonoma County Permit and Resource Management Department. 2008a. *Penngrove Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2008b. *Petaluma Dairy Belt Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2008c. *West Petaluma Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2008d. *South Santa Rosa Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2011. *Bennett Valley Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2012a. *Franz Valley Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2012b. *Sonoma Mountain Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2013. *Sonoma County Airport Industrial Area Specific Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- Sonoma Land Trust. 2024. *Sonoma Valley Wildlife Corridor*. Available: <https://sonomalandtrust.org/current-initiatives/sonoma-valley-wildlife-corridor/>. Accessed August 29, 2024.
- Spencer, W. D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Stritholt, M. Parisi, and A. Pettler. 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California*. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highway Administration. Available: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18366>. Accessed August 29, 2024.
- State Water Resources Control Board. 2017a (October 17). *Board Meeting Session (Division of Water Rights) – Item 6: Consideration of a Proposed Resolution Adopting the Cannabis Cultivation Policy – Principles and Guidelines for Cannabis Cultivation*. Sacramento, CA.
- . 2017b (October). *Response to 2017 Peer Review Comments on Draft Cannabis Cultivation Policy: Principles and Guidelines for Cannabis Cultivation*. Sacramento, CA.
- . 2024. *California Priority Watersheds [tool map]*. Available: <https://waterboards.maps.arcgis.com/apps/View/index.html?appid=f109fd642aaa4fee9eb90f48475e0991>. Accessed July 29, 2024.

- . n.d. *General Survey Methods for Covered Species*. Available: https://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/iid_sdcwa/iid/feir/attachments_a/appendix_f.pdf. Accessed August 29, 2024.
- Stone, E. L., S. Harris, and G. Jones. 2015 (February). "Review Impacts of Artificial Lighting on Bats: A Review of Challenges and Solutions." *Mammalian Biology* 80 (2015): 213–219.
- SWRCB. See State Water Resources Control Board.
- US Fish and Wildlife Service. 2011 (December). *Lotis Blue Butterfly* (*Lycaeides argyrognomon lotis*) *5-Year Review: Summary and Evaluation*. US Fish and Wildlife Service, Arcata Fish and Wildlife Office. Arcata, CA.
- . 2012. *Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls*. Available: <https://www.fws.gov/sites/default/files/documents/2012RevisedNSOprotocol.2.15.12.pdf>. Accessed August 14, 2014.
- . 2015. *California Clapper Rail Survey Protocol*. Available: [https://www.fws.gov/media/california-ridgways-clapper-rail-survey-protocol#:~:text=The%20California%20clapper%20rail%20\(Rallus%20longirostris](https://www.fws.gov/media/california-ridgways-clapper-rail-survey-protocol#:~:text=The%20California%20clapper%20rail%20(Rallus%20longirostris). Accessed August 29, 2014.
- . 2016. *Recovery Plan for the Santa Rosa Plain*. US Fish and Wildlife Service, Region 8. Sacramento, CA.
- . 2019. *Revision: Northern Spotted Owl Take Avoidance Analysis and Guidance for Private Lands in California*. Pacific Southwest Region. Sacramento, CA.
- . 2020a (August). *5-Year Review Lotis blue butterfly* (*Plebejus anna lotis*). US Fish and Wildlife Service Arcata Field Office. Arcata, CA.
- . 2020b (October). *Revised Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California*. Arcata Fish and Wildlife Office. Arcata, CA.
- . 2023. *National Wetlands Inventory*. Available: <https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper>. Retrieved August 21, 2023.
- . 2024a. *Behren's Silverspot Butterfly*. Available: <https://www.fws.gov/species/behrens-silverspot-butterfly-speyeria-zerene-behrensii>. Accessed August 6, 2024.
- . 2024b. *Myrtle's Silverspot Butterfly*. Available: <https://www.fws.gov/species/myrtles-silverspot-butterfly-speyeria-zerene-myrtleae>. Accessed August 7, 2024.
- . 2024c. *IPaC Information for Planning and Consultation – Resource List*. Available: <https://ipac.ecosphere.fws.gov/location/index>. Retrieved August 2, 2024.
- . 2024d. *Behren's Silverspot Butterfly: Minimum Qualifications Guidelines to be permitted for Presence/Absence Surveys for Adult Butterflies*. Available: <https://www.fws.gov/sites/default/files/documents/2024-04/behrens-silverspot-butterfly-minimum-qualifications-march-27-2024.pdf>. Accessed October 1, 2024.
- US Fish and Wildlife Service and California Department of Fish and Game. 2003. *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander*. Available: <https://www.fws.gov/media/interim-guidance-site-assessment-and-field-surveys-determining-presence-or-negative-finding>. Accessed January 24, 2025.
- USFS. See US Forest Service.
- USFWS. See US Fish and Wildlife Service.
- Western Pond Turtle Coalition. See Western Pond Turtle Range-Wide Conservation Coalition.
- Western Pond Turtle Range-Wide Conservation Coalition. 2020. *Western Pond Turtle Range-Wide Management Strategy*.

- Xerces. See Xerces Society of Invertebrate Conservation.
- Xerces et al. See Xerces Society of Invertebrate Conservation, Idaho Department of Fish and Game, Washington Department of Fish and Wildlife, National Fish and Wildlife Foundation, and US Fish and Wildlife Service.
- Xerces Society of Invertebrate Conservation. 2024. *Western Monarch Overwintering Site Viewer*. Portland, OR. Available: <https://westernmonarchcount.org/map-of-overwintering-sites/>. Accessed August 29, 2024.
- Xerces Society for Invertebrate Conservation, Wildlife Preservation Canada, and Faculty of Environmental and Urban Change, York University. 2024a. *Bumble Bee Watch*. Available: <https://www.bumblebeewatch.org/>. Accessed August 29, 2024.
- Xerces Society of Invertebrate Conservation, Idaho Department of Fish and Game, Washington Department of Fish and Wildlife, National Fish and Wildlife Foundation, and US Fish and Wildlife Service. 2024b. *Western Monarch Milkweed Mapper*. Available: <https://www.monarchmilkweedmapper.org/>. Accessed August 14, 2024.
- Xerces Society of Invertebrate Conservation, US Fish and Wildlife Service, Western Association of Fish and Wildlife Agencies, California Association of Resource Conservation Districts, Monarch Joint Adventure, California State Parks, California Department of Fish and Wildlife, and San Diego Zoo Wildlife Alliance. 2024c. *Priority Action Zones in California for Recovering Western Monarchs*. Available: https://www.xerces.org/sites/default/files/publications/21-017_0.pdf. Accessed August 29, 2024.

Section 3.5 Cultural Resources

- Barrow, E. 2018 (June). *Historical Resources Study of the former Nunes Cow Breeding and Feeding Operation Site 4255 River Road Santa Rosa, Sonoma County, California*. Prepared for Ascent Environmental.
- De Novo Planning Group. 2022 (May). *Draft Environmental Impact Report for the Springs Specific Plan* (SCH: 2018062068). Page 3.4-3. Prepared for: Sonoma County Permit & Resource Management Department.
- Meyer, J., and J. S. Rosenthal. 2007. *Geoarchaeological Overview of the Nine Bay Area Counties in Caltrans District 4*. Far Western Anthropological Research Group, Inc.. Davis, CA. Submitted to California Department of Transportation, District 4. Oakland, CA.
- Office of Historic Preservation. 2024. California Historical Resources. Sonoma County. Available: <https://ohp.parks.ca.gov/ListedResources/?view=county&criteria=49>. Accessed August 28, 2024.
- OHP. See Office of Historic Preservation.
- Rincon. 2022. *Housing Element Update Draft Environmental Impact Report*. Prepared for Sonoma County.
- Rosenthal, J. S., and J. Meyer. 2004. *Landscape Evolution and the Archaeological Record: A Geoarchaeological Study of the Southern Santa Clara Valley and Surrounding Region*. Center for Archaeological Research at Davis Publication No. 14. University of California. Davis, CA.
- Sonoma County. 2006. *Sonoma County General Plan 2020 General Plan Update Draft Environmental Impact Report*. Permit and Resource Management Department. State Clearinghouse No. 2003012020.
- . 2024a. Permit Sonoma. Sonoma County Historic Overview. Available: <https://permitsonoma.org/divisions/planning/historicresources/sonomacountyhistory/sonomacountyhistoricoverview>. Accessed August 28, 2024.
- . 2024b. Permit Sonoma. Designation of Historic Landmarks and Districts. Available: <https://www.sonomacountypermits.org/divisions/planning/historicresources/designationofhistoriclandmarksanddistricts>. Accessed September 10, 2024.
- Zelazo, E. 2022 (July). *Cultural Resources Inventory and Assessment Report for the Berryessa Highlands Wildfire Risk Reduction Project*. Prepared for Napa Community Firewise Foundation.

Section 3.6 Energy

ADFC. *See* Alternative Fuels Data Center.

Alternative Fuels Data Center. 2024. California Transportation Data for Alternative Fuels and Vehicles. Available: <https://afdc.energy.gov/states/CA>. Accessed October 11, 2024.

CARB. *See* California Air Resources Board.

California Air Resources Board. 2022 (November 16). *2022 Scoping Plan for Achieving Carbon Neutrality*. Available: <https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf>. Accessed December 28, 2022.

California Energy Commission. 2019. *2019 California Energy Efficiency Action Plan*. Available: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-IEPR-06>. Accessed October 11, 2024.

———. 2022 (August). *2022 Building Energy Efficiency Standards*. Publication Number: CEC-400-2022-010-CMF. Available: https://www.energy.ca.gov/sites/default/files/2022-12/CEC-400-2022-010_CMF.pdf. Accessed December 20, 2022.

———. 2023. *2010-2022 CEC-A15 Results and Analysis ADA*. Available: <https://www.energy.ca.gov/media/3874>. Accessed September 27, 2024.

———. 2024. *2023 Integrated Energy Policy Report*. Available: <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2023-integrated-energy-policy-report>. Accessed October 11, 2024.

California Energy Commission and California Air Resources Board. 2003 (August). *Reducing California's Petroleum Dependence*. Available: <https://www.arb.ca.gov/fuels/carefinery/ab2076final.pdf>. Accessed October 11, 2024.

Cannabis Policy Brief. 2022. *Cannabis and Climate the Carbon Footprint and Energy Use of Indoor Cultivation*. Available: https://www.tni.org/files/2022-10/CPB2_TNI_eng_web.pdf. Accessed May 7, 2025.

Cannabis Studies Lab Team. 2024. California Cultivation: Degree of Enclosure and Energy Use. Available: <https://cannabisstudieslab.com/blog/california-cultivation-degree-of-enclosure-and-energy-use/>. Accessed May 7, 2025.

CEC. *See* California Energy Commission.

CEC and CARB. *See* California Energy Commission and California Air Resources Board.

EIA. *See* US Energy Information Administration.

Northwest Council. 2022. Electricity Consumption from Northwest Cannabis Production. Available: <https://www.nwcouncil.org/sites/default/files/cannabisReport.pdf>. Accessed May 7, 2025.

Pacific Gas and Electricity. 2023. Power Content Label. Available: <https://www.pge.com/assets/pge/docs/account/billing-and-assistance/bill-inserts/1023-Power-Content-Label.pdf>. Accessed October 11, 2024.

PG&E. *See* Pacific Gas and Electricity.

RCPA. *See* Regional Climate Protection Authority.

Regional Climate Protection Authority. 2021. Accelerating EV Adoption in Sonoma County. Available: <https://rcpa.ca.gov/accelerating-ev-adoption-in-sonoma-county/>. Accessed May 7, 2025.

SCPA. *See* Sonoma Clean Power.

Sonoma Clean Power. 2024. Power Content Label. Available: <https://sonomacleanpower.org/uploads/documents/Power-Content-Label-2022-Web.pdf>. Accessed October 11, 2024.

SCP. *See* Sonoma Clean Power.

US Energy Information Administration. 2024. US Energy Atlas with Total Energy Layers. Available: <https://www.eia.gov/state/?sid=CA>. Accessed October 11, 2024.

Section 3.7 Geology and Soils

Bryant, W. A., and E. W. Hart. 2007. Fault Rupture Hazard Zones in California, Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zones Maps. Interim Revision. Special Publications 42. California Geological Survey.

California Department of Conservation. 2005. Maps: Mines and Mineral Resources. Available: <https://maps.conservation.ca.gov/mineralresources/>. Accessed September 7, 2024.

California Geological Survey. 2002. California Geomorphic Provinces, Note 36.

CGS. See California Geological Survey.

DOC. See California Department of Conservation.

Sonoma County. 2006. *Sonoma County General Plan 2020 General Plan Update Draft Environmental Impact Report*. Permit and Resource Management Department. State Clearinghouse No. 2003012020.

———. 2014a. *General Plan Public Safety Element*. Available: <https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Divisions/Planning/Long%20Range%20Plans/General-Plan-Public-Safety-Element.pdf>. Accessed September 5, 2024.

———. 2014b. *General Plan Open Space and Resource Conservation Element*. Available: <https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Divisions/Planning/Long%20Range%20Plans/General-Plan-Open-Space-And-Resource-Conservation-Element.pdf>. Accessed September 5, 2024.

State Water Resources Control Board. 2023. WQ Order 2023-0102-DWQ. Available: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2023/wqo2023-0102-dwq.pdf. Accessed July 17, 2024.

SWRCB. See State Water Resources Control Board.

University of California Museum of Paleontology. 2024. UCMP online database specimen search portal. Available: <http://ucmpdb.berkeley.edu>. Accessed September 10, 2024.

Section 3.8 Greenhouse Gas Emissions and Climate Change

BAAQMD. See Bay Area Air Quality Management District.

Bay Area Air Quality Management District. 2022. *BAAQMD CEQA Guidelines – Chapter 6: Project-Level Climate Impacts*. Available: https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-6-project-climate-impacts_final-pdf.pdf?rev=ce3ba3fe9d39448f9c15bbabd8c36c7f. Accessed October 11, 2024.

California Air Resources Board. 2022 (November 16). *2022 Scoping Plan for Achieving Carbon Neutrality*. Available: https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp_1.pdf. Accessed October 11, 2024.

———. 2024. *California Greenhouse Gas Emissions from 2000 to 2022: Trends of Emissions and Other Indicators*. Available: https://ww2.arb.ca.gov/sites/default/files/2024-09/nc-2000_2022_ghg_inventory_trends.pdf. Accessed October 11, 2024.

California Energy Commission. 2021. *2022 Nonresidential and Multifamily Compliance Manual: for the 2022 Building Energy Efficiency Standards*. Available: <https://www.energy.ca.gov/publications/2022/2022-nonresidential-and-multifamily-compliance-manual-2022-building-energy>. Accessed September 2022.

California Natural Resources Agency. 2018. *Safeguarding California Plan: 2018 Update*. Available: <https://resources.ca.gov/CNRALegacyFiles/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf>. Accessed October 11, 2024.

- CARB. See California Air Resources Board.
- CEC. See California Energy Commission.
- CNRA. See California Natural Resources Agency.
- DOT. See US Department of Transportation.
- European Commission Joint Research Centre. 2018 (March 16). Climate Change Promotes the Spread of Mosquito and Tick-Borne Viruses. Available: <https://www.sciencedaily.com/releases/2018/03/180316111311.htm>. Accessed May 7, 2025.
- Governor's Office of Planning and Research, California Energy Commission, and California Natural Resources Agency. 2018. *California's Fourth Climate Change Assessment*. Available: https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf. Accessed October 11, 2024.
- Intergovernmental Panel on Climate Change. 2013. Chapter 6, "Carbon and Other Biogeochemical Cycles." In *Climate Change 2013: The Physical Science Basis*, 465–570. Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.
- . 2014. *Climate Change 2014 Synthesis Report: Summary for Policymakers*.
- Lister, B. C., and A. Garcia. 2018. "Climate-Driven Declines in Arthropod Abundance Restructure a Rainforest Food Web." *PNAS* 115 (44): E10397–E10406.
- National Oceanic and Atmospheric Administration. 2024. 2023 was the warmest year in the modern temperature world. Available: [https://www.climate.gov/news-features/featured-images/2023-was-warmest-year-modern-temperature-record#:~:text=Details,decade%20\(2014%E2%80%932023\)](https://www.climate.gov/news-features/featured-images/2023-was-warmest-year-modern-temperature-record#:~:text=Details,decade%20(2014%E2%80%932023)). Accessed October 11, 2024.
- NOAA. See National Oceanic and Atmospheric Administration.
- OPR et al. See Governor's Office of Planning and Research, California Energy Commission, and California Natural Resources Agency.
- Sonoma County. 2024. *Sonoma County Greenhouse Gas Inventory: 2022 Update*. Available: <https://rcpa.ca.gov/wp-content/uploads/2024/06/RCPA-GHG-Inventory-Update-2022-Full-Report-FINAL-2024-07-08.pdf>. Accessed October 11, 2024.
- United Nations. 2015. *Paris Agreement*. Available: https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf. Accessed January 30, 2023.
- US Department of Transportation. 2022. New Vehicle Fuel Economy Standards for Model Year 2024-2026. Available: <https://www.transportation.gov/briefing-room/usdot-announces-new-vehicle-fuel-economy-standards-model-year-2024-2026>. Accessed May 15, 2023.
- Wade, Samuel. Branch chief. Transportation Fuels Branch, Industrial Strategies Division, California Air Resources Board, Sacramento, CA. June 30, 2017—e-mail to Austin Kerr of Ascent Environmental regarding whether the Low Carbon Fuel Standard applies to fuels used by off-road construction equipment.

Section 3.9 Hazards and Hazardous Materials

California Department of Food and Agriculture. 2017 (November). *CalCannabis Cultivation Licensing Draft Program Environmental Impact Report*. State Clearinghouse No. 2016082077. Sacramento, CA. Prepared by Horizon Water and Environment, Oakland, CA.

CDPR. See. California Department of Pesticide Regulation.

- California Department of Pesticide Regulation. 2015. *Pesticide Use on Marijuana*. Available: <https://www.cdpr.ca.gov/docs/county/cacfltrs/penfltrs/penf2015/2015atch/attach1501.pdf>. Accessed August 13, 2024.
- California Department of Toxic Substances Control. 2024. *EnviroStor Database*. Available: <https://www.envirostor.dtsc.ca.gov/public/search?basic=True>. Accessed September 26, 2024.
- California Governor's Office of Emergency Services. 2024. *Spill Release Reporting: 2024 HazMat Spill Reports*. Available: <https://www.caloes.ca.gov/office-of-the-director/operations/response-operations/fire-rescue/hazardous-materials/spill-release-reporting/>. Accessed August 14, 2024.
- Churchill, R. K., and R. L. Hill. 2000 (August). *A General Location Guide for Ultramafic Rocks 97 Del Norte Modoc in California - Areas More Likely to Contain 5 Siskiyou 101 Naturally Occurring Asbestos*. Available: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/asbestos/ofr_2000-019.pdf. Accessed October 2024.
- DTSC. See California Department of Toxic Substances Control.
- FAA. See Federal Aviation Administration.
- FMCSA. See Federal Motor Carrier Safety Administration.
- Federal Aviation Administration. 2024. *Notification of Proposed Construction or Alteration on Airport Part 77*. Available: <https://www.faa.gov/airports/central/engineering/part77>. Accessed August 16, 2024.
- Federal Motor Carrier Safety Administration. 2024 (April). *National Hazardous Materials Route Registry – By State: California*. Available: <https://www.fmcsa.dot.gov/sites/fmcsa.dot.gov/files/2024-04/California0424.pdf>. Accessed August 13, 2024.
- Sonoma County. 2016a. *General Plan Public Safety Element*. Available: <https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Divisions/Planning/Long%20Range%20Plans/General-Plan-Public-Safety-Element.pdf>. Accessed August 14, 2024.
- . 2016b. *General Plan Air Transportation Element*. Available: <https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Long%20Range%20Plans/General-Plan-Air-Transportation-Element.pdf>. Accessed August 16, 2024.
- . 2021. *Multi-Jurisdictional Hazard Mitigation Plan*. Adopted 2021. Available: <https://permitsonoma.org/hazard-mitigation>. Accessed August 14, 2024.
- . 2022. *Operational Area Emergency Operations Plan*. Available: <https://sonomacounty.ca.gov/Main%20County%20Site/Administrative%20Support%20%26%20Fiscal%20Services/Emergency%20Management/Documents/Plans/Sonoma-County-Emergency-Operations-Plan-English.pdf>. Accessed August 14, 2024.
- . 2024. *Hazardous Materials Unit and CUPA Programs*. Available: <https://permitsonoma.org/divisions/firepreventionandhazmat/servicesandfees/hazardousmaterialsunitandcupaprogram>. Accessed August 13, 2024.
- Sonoma County Airport Land Use Commission. 2001a. *Comprehensive Airport Land Use Plan*. Boundaries. Available: permitsonoma.org. Accessed August 16, 2024.
- . 2001b. *Comprehensive Airport Land Use Plan*. Frequently Asked Questions (FAQs) Airport Land Use. Available: [Frequently Asked Questions \(FAQs\) Airport Land Use \(permitsonoma.org\)](https://permitsonoma.org). Accessed August 16, 2024.
- Sonoma County Office of Education. 2024. *Overview of Schools*. Available: <https://www.scoe.org/pub/htdocs/aboutschools.html>. Accessed August 14, 2024.
- State Water Resources Control Board. 2024. *GeoTracker Database*. Available: <https://geotracker.waterboards.ca.gov/>. Accessed September 26, 2024.

Section 3.10 Hydrology and Water Quality

- California Department of Water Resources. 2018. *Groundwater Basin Prioritization 2018*. Available: <https://water.ca.gov/programs/groundwater-management/basin-prioritization>. Accessed September 2024.
- Cities of Cloverdale, Cotati, Healdsburg, Rohnert Park, Santa Rosa, Sebastopol, and Ukiah, County of Sonoma, Sonoma Water, and Town of Windsor. 2017. *Storm Water Low Impact Development Technical Design Manual*. Available: <https://www.srcity.org/DocumentCenter/View/14974/2017-Storm-Water-Technical-Design-Manual-Narrative-revised-1621>. Access April 2025.
- DWR. See California Department of Water Resources.
- Dillis, C., V. Butsic, P. Georgakakos, and T. Grantham. 2024. *Water Use: Cannabis in Context*. Cannabis Research Center, University of California, Berkeley, CA.
- Kobor, J., and O'Connor, M. 2016. *Integrated Surface and Groundwater Modeling and Flow Availability Analysis for Restoration Prioritization Planning, Green Valley\Atascadero and Dutch Bill Creek Watersheds, Sonoma County, California*. 149 p. Available: https://goldridgercd.org/wp-content/uploads/2023/06/ASCHA_Chapter_draft_final_distribute.pdf.
- Kobor, J., O'Connor, M., and Creed, W. 2020. *Integrated Surface and Groundwater Modeling and Flow Availability Analysis for Restoration Prioritization Planning, Upper Mark West Creek Watershed, Sonoma County, California*. 234 p. Available: https://sonomarc.org/wpcontent/uploads/2020/12/MarkWestCreek_FlowAvailabilityAnalysis_FINAL_REPORT.pdf.
- Kobor, J., O'Connor, M., and Creed, W. 2021. *Integrated Surface and Groundwater Modeling and Flow Availability Analysis for Restoration Prioritization Planning, Mill Creek Watershed, Sonoma County, California*. 198 p. Available: <https://sonomarc.org/wpcontent/uploads/2021/07/MillCreekFlowAvailabilityAnalysis.pdf>.
- Petaluma Valley GSA. See Petaluma Valley Groundwater Sustainability Agency.
- Petaluma Valley Groundwater Sustainability Agency. 2021 (January 26). *Groundwater Sustainability Plan for the Petaluma Valley Groundwater Basin*. Available: <https://petalumavalleygroundwater.org/gsp/>. Accessed: Sept 2024.
- . 2024. *2023 Petaluma Valley Annual Report*. Available: <https://petalumavalleygroundwater.org/annual-reports/>. Accessed April 2025.
- San Francisco Bay Regional Water Quality Control Board. 2024 (April 17). *Water Quality Control Plan for the San Francisco Bay Basin*. Available: https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html. Accessed September 2024.
- San Francisco Bay RWQCB. See San Francisco Bay Regional Water Quality Control Board.
- Santa Rosa Plain GSA. See Santa Rosa Plain Groundwater Sustainability Agency.
- Santa Rosa Plain Groundwater Sustainability Agency. 2021 (January 26). *Groundwater Sustainability Plan for the Santa Rosa Plain Subbasin*. Available: <https://santarosaplaingroundwater.org/gsp/>. Accessed: September 2024.
- . 2024. *2023 Annual Report*. Available: <https://santarosaplaingroundwater.org/annual-reports/>. Accessed April 2025.
- Sonoma County. 2017. *Procedures for Groundwater Analysis and Hydrogeologic Reports, Policy and Procedure 8-1-14*. Available: https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Policies%20and%20Procedures/8-0%20Planning/8-1-14_Procedures-Groundwater-Hydrogeologic-Reports.pdf. Accessed May 2025.

- . 2022 (August). *Sonoma County Operational Area Emergency Operations Plan Annex: Tsunami Response Plan*. Available: <https://sonomacounty.ca.gov/Main%20County%20Site/Administrative%20Support%20%26%20Fiscal%20Services/Emergency%20Management/Documents/Plans/SoCo-Operational-Tsunami-Annex-2022.pdf>. Accessed: May 2025.
- Sonoma Valley Groundwater Sustainability Agency. 2021 (January 26). *Groundwater Sustainability Plan for the Sonoma Valley Groundwater Subbasin*. Available: <https://sonomavalleygroundwater.org/gsp/>. Accessed September 2024.
- . 2024. 2023 Annual Report. Available: <https://sonomavalleygroundwater.org/annual-reports/>. Accessed April 2025.
- State Water Resources Control Board. 2017a (October 17). Board Meeting Session Item 6, Consideration of a Proposed Resolution Adopting the Cannabis Cultivation Policy - Principles and Guidelines for Cannabis Cultivation. Sacramento, CA.
- . 2017b (October). *Responses to 2017 Peer Review Comments on Draft Cannabis Cultivation Policy - Principles and Guidelines for Cannabis Cultivation*. Sacramento, CA.
- . 2018. Winterization Protocols for Statewide Cannabis Order – North Coast Region. Available: https://www.waterboards.ca.gov/northcoast/water_issues/programs/cannabis/pdf/181102/CANGO%20Winterization%20Monitoring%20and%20Reporting.pdf. Accessed January 4, 2024.
- . 2023. General Order 2023-0102-DWQ. Available: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2023/wqo2023-0102-dwq.pdf. Accessed July 2024.
- . 2024. *2024 California Integrated Report*. Final Revised Appendix A: Recommended 2024 303(d) List of Impaired Waters. Available: https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2024-integrated-report.html. Accessed September 2024.
- SWRCB. See State Water Resources Control Board.
- Yolo County 2019. Cannabis Land Use Ordinance EIR. State Clearinghouse Number 2018082055. Available: <https://www.yolocounty.gov/government/general-government-departments/community-services/cannabis/cannabis-land-use-ordinance>. Accessed April 2024.

Section 3.11 Land Use and Planning

Caltrans. See California Department of Transportation.

- Sonoma County. 2006. *Sonoma County General Plan 2020 Draft Environmental Impact Report*. State Clearinghouse No. 2003012020. Sacramento, CA.
- . 2016. *Sonoma County General Plan 2020 Land Use Element*. Available: <https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Long%20Range%20Plans/General-Plan-Land-Use-Element.pdf>. Accessed August 26, 2024.
- . 2024. *Sonoma County Municipal Code*. Available: https://library.municode.com/ca/sonoma_county/codes/code_of_ordinances?nodeId=SONOMA_CO_CALIFORNIAMUCO. Accessed August 26, 2024.
- . n.d. Regional Context. Available: <https://www.sonomacountypermits.org/longrangeplans/adoptedlong-rangeplans/generalplan/regionalcontext>. Accessed August 26, 2024.
- Sonoma County Permit and Resource Management Department. 2008a. *Penngrove Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.

- . 2008b. *Petaluma Dairy Belt Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2008c. *South Santa Rosa Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2008d. *West Petaluma Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2011. *Bennett Valley Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2012a. *Franz Valley Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2012b. *Sonoma Mountain Area Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2013. *Sonoma County Airport Industrial Area Specific Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.

Sonoma County ALUC. See Sonoma County Airport Land Use Commission.

Section 3.12 Noise

- Alliance Laundry. 2019. Tumble Dryers Installation/Operation/Maintenance. Available: https://docs.alliancelaudry.com/tech_pdf/production/70457901en.pdf. Accessed April 2025.
- California Department of Transportation. 2013 (September). *Technical Noise Supplement. California Department of Transportation Division of Environmental Analysis. Sacramento, CA*. Prepared by ICF Jones & Stokes. Available: <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf>. Accessed September 4, 2024.
- . 2020 (April). *Transportation and Construction Vibration Guidance Manual*. Available: <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf>. Accessed: September 4, 2024.
- Caltrans. See California Department of Transportation.
- Carrier. 2022 (September). Product Data for GH5S Single-Stage Heat Pump Refrigerant. Catalog No. GH5S-01PD.
- Federal Highway Administration. 2006 (January). *Roadway Construction Noise Model User's Guide*. Washington, D.C. Prepared by the Research and Innovative Technology Administration, Cambridge, MA.
- Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment*. Washington, D.C. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed June 26, 2024.
- FHWA. See Federal Highway Administration.
- FTA. See Federal Transit Administration.
- Institute of Transportation Engineers. 2021. *Trip Generation 11th Edition*. Available: <https://www.ite.org/technical-resources/topics/trip-and-parking-generation/resources/>. Accessed April 2025.
- ITE. See Institute of Transportation Engineers.
- Sonoma County. 2012 (October). *Sonoma County General Plan 2020 Noise Element*. Available: <https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Long%20Range%20Plans/General-Plan-Noise-Element.pdf>. Accessed: September 2024.

- . 2019. *Guidelines for the Preparation of Noise Analysis*. Available: https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Archive/Department%20Information/Regulations/Cannabis%20Program/_Documents/Guidelines-for-Preparation-of-Noise-Analysis.pdf. Accessed: April 2025.
- . 2013. *Sonoma County Airport Industrial Area Specific Plan*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/areaandspecificplans>. Accessed August 29, 2024.
- . 2023 (August). Traffic Counts (County-Maintained Roads). Available: https://gis-sonomacounty.hub.arcgis.com/datasets/dd032deacb0543eb8b6599e4e7a774f5_0/about. Accessed September 17, 2024.
- . 2024. Noise Policies. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/airportlanduseplan/chapter8/noisepolicies>. Accessed: September 5, 2024.

Section 3.13 Public Services and Recreation

California Emergency Medical Services Authority. 2024. *About the EMS Authority*. Available: https://emsa.ca.gov/about_emsa/. Accessed September 3, 2024.

CDFA. See California Department of Food and Agriculture.

EMSA. See California Emergency Medical Services Authority.

SCFD. See Sonoma County Fire District.

Sonoma County. 2017. *Sonoma County Hazard Mitigation Plan Update: Mitigation Strategy*. Available: <https://sonomacounty.ca.gov/a/110291>. Accessed August 22, 2024.

———. (September) 2008. *Sonoma County General Plan 2020: Public Safety Element*. Available: <https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Divisions/Planning/Long%20Range%20Plans/General-Plan-Public-Safety-Element.pdf>. Accessed August 22, 2024.

———. (October) 2021. *Sonoma County Multi-Jurisdictional Hazard Mitigation Plan – Volume 1*. Available: <https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Divisions/Planning/Long%20Range%20Plans/Hazard%20Mitigation%20Plan/Adopted-Sonoma-County-MJHMP-Volume-1-December-2021.pdf>. Accessed September 3, 2024.

———. (May) 2023. *Sonoma County Community Wildfire Protection Plan 2023 Update*. Available: <https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Long%20Range%20Plans/Sonoma%20County%20CWPP/20230509%20BOS%20APPROVED%20STAMPED%20Sonoma%20County%20Community%20Wildfire%20Protection%20Plan%202023%20Update.pdf>. Accessed August 22, 2024.

Sonoma County Sheriff's Office. (October) 2023b. *Sonoma County Sheriff's Office Annual Report: Fiscal Year 2022-2023*. Available: <https://static1.squarespace.com/static/542ec317e4b0d41ade8801fb/t/6520876dbd9bca49a044b7f3/1696630640871/Remediated+SCSO+FY+2022-23+Annual+Report+COLOR%231.pdf>. Accessed: August 22, 2024.

Sonoma County Sheriff's Office. 2024. Annual Report 2023-2024. Available: https://sonomacounty.ca.gov/Main%20County%20Site/Administrative%20Support%20%26%20Fiscal%20Services/IOLERO/Documents/Annual%20Reports/2324_IOLERO_AR_ADA_ENG.pdf. Accessed April 2025.

Sonoma County Fire District. 2024. About Us: Our District. Available: <https://www.sonomacountyfd.org/about-us>. Accessed August 27, 2024.

Section 3.14 Transportation

Caltrans. See California Department of Transportation.

- California Department of Transportation. 2020. *Highway Design Manual*. Available: <https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm>. Accessed: May 2025.
- . 2024a (January). California Manual on Uniform Traffic Control Devices. Available: <https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/ca-mutcd/rev8/camutcd2014-rev8-all.pdf>. Accessed July 31, 2024.
- . 2024b. *Encroachment Permits Manual*. Available: <https://dot.ca.gov/programs/traffic-operations/ep/ep-manual>. Accessed July 31, 2024.
- California Governor's Office of Planning and Research. 2018 (December). *Technical Advisory on Evaluating Transportation Impacts in CEQA*. Available: https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf. Accessed July 31, 2024.
- MTC. See Metropolitan Transportation Commission.
- OPR. See California Governor's Office of Planning and Research.
- Metropolitan Transportation Commission. 2021 (October). *Plan Bay Area 2050*. Available: https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf. Accessed August 1, 2024.
- SCT. See Sonoma County Transit.
- SCTA. See Sonoma County Transportation Authority.
- SMART. See Sonoma-Marin Area Rail Transit.
- Sonoma County Transportation Authority. 2014. *SCTA Countywide Bicycle and Pedestrian Master Plan*. Available: https://scta.ca.gov/wp-content/uploads/2016/07/BikePedPlanUpdate2014_final.pdf. Accessed July 31, 2024.
- . 2021 (September). *Comprehensive Transportation Plan*. Available: https://scta.ca.gov/wp-content/uploads/2021/09/SCTA-CTP21_v8.pdf. Accessed July 31, 2024.
- . 2024. About SCTA. Available: <https://scta.ca.gov/about-scta/>. Accessed July 31, 2024.
- Sonoma County. 2010 (August). *Sonoma County Bicycle and Pedestrian Plan*. Available: <https://www.permitsonoma.com/longrangeplans/adoptedlong-rangeplans/bicycleandpedestrianplan>. Accessed July 31, 2024.
- . 2016 (August). *Sonoma County General Plan 2020*. Available: https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Archive/_Documents/General-Plan-Circulation-and-Transit.pdf. Accessed July 31, 2024.
- Sonoma County Transit 2016 (May). Paratransit Ridership Policies. Available: https://sctransit.com/wp-content/uploads/2022/06/2016_ParatransitGuide_PrinterFinal.pdf. Accessed August 1, 2024.
- Sonoma-Marin Area Rail Transit. 2024. Schedule Late May/early June 20. Available: https://www.sonomamarintrain.org/sites/default/files/Documents/PRINTABLE_Schedule_April_8_2024.pdf. Accessed August 1, 2024.
- . 2025. About SMART. Available: https://www.sonomamarintrain.org/smart_pathway. Accessed August 1, 2024.

Section 3.15 Tribal Cultural Resources

- Barrett, S. 1908. *The Ethno-Geography of the Pomo and Neighboring Indians*. University of California Publications in American Archaeology and Ethnology 6(1): 1–322. University of California Press, Berkeley, CA.
- Dry Creek Rancheria Band of Pomo Indians. 2024. The People. Available: <https://drycreekrancheria.com/the-people/>. Accessed September 5, 2024.

- Erlandson, J., T. Rick, T. Jones, and J. Porcasi. 2007. "One if by Land, Two if by Sea: Who Were the First Californians?" In: *California Prehistory: Colonization, Culture, and Complexity*, edited by T. Jones and K. Klar, 53–62. AltaMira Press. Lanham, MD.
- Federated Indians of Graton Rancheria. n.d. History. Available: <https://gratonrancheria.com/culture/history/>. Accessed July 31, 2023.
- Golla, V. 2011. *California Indian Languages*. University of California Press. Berkeley and Los Angeles, CA.
- Graton Rancheria. See Federated Indians of Graton Rancheria.
- Kroeber, A. 1925. *Handbook of the Indians of California*. Bureau of American Ethnology, Bulletin 78, Smithsonian Institution, Washington, DC.
- McLendon, S., and R. Oswalt. 1978. "Pomo: Introduction." In *California*, edited by R. Heizer, 274–288. Volume 8 of *Handbook of North American Indians*, edited by W. Sturtevant. Smithsonian Institution, Washington, DC.
- Natural Investigations Company. 2023. *Cultural Resources Assessment for the North Coast Land Holdings Project, Mill Valley, Marin County, California*. Prepared by J. Nadolski, P. Hanes, and D. Stapleton. [CONFIDENTIAL]
- NIC. See Natural Investigations Company.

Section 3.16 Utilities and Service Systems

- California Energy Commission. 2022. Gas Consumption by Entity. Available: <http://www.ecdms.energy.ca.gov/gasbyutil.aspx>. Accessed July 30, 2024.
- . 2024a. Supply and Demand of Natural Gas in California. Available: <https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california>. Accessed July 30, 2024.
- . 2024b (February). *2023 Integrated Energy Policy Report*. Available: <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2023-integrated-energy-policy-report>. Accessed July 30, 2024.
- California Public Utilities Commission. 2024. *Interactive Broadband Map*. Available: <https://www.broadbandmap.ca.gov/>. Accessed July 30, 2024.
- CEC. See California Energy Commission.
- City of Santa Rosa. 2021. *2020 Urban Water Management Plan*. Available: <https://www.srcity.org/DocumentCenter/View/35799/Urban-Water-Management-Plan---Without-Appendices?bidId=>. Accessed May 2025.
- Pacific Gas & Electric. 2024. *Learn Where Natural Gas Pipelines are Located*. Available: <https://www.pge.com/en/about/pge-systems/gas-systems.html>. Accessed July 30, 2024.
- PG&E. See Pacific Gas & Electric.
- RRU. See Russian River Utility.
- Russian River Utility. 2025. *Serving Water Systems Throughout Sonoma County, California*. Available: <https://rruwater.com/>. Accessed May 2025.
- Sonoma County LAFCO. See Sonoma County Local Agency Formation Commission.
- Sonoma County. 2006. *Sonoma County General Plan Draft EIR*. State Clearinghouse Number: 2003012020.
- Sonoma County Local Agency Formation Commission. 2004. *Water and Sewer District Providers Municipal Service Review*. Available: https://sonomalaftco.org/Microsites/LAFCO/Documents/Archive/Reports/Final_Municipal-Service-Reviews_water_sewer.pdf. Accessed August 27, 2024.

- Sonoma Water. 2021. *2020 Urban Water Management Plan*. Available: https://www.sonomawater.org/media/PDF/Water%20Resources/Water%20Supply/UWMP/Sonoma%20Water%202020%20UWMP_June%202021-ADA.pdf. Accessed July 30, 2024.
- . 2025. Sanitation. Available: <https://www.sonomawater.org/sanitation>. Accessed August 15, 2024.
- Sweetwater Springs Water District. 2021. 2020 UWMP. Available: https://wuedata.water.ca.gov/uwmp_plans.asp?cmd=2020. Accessed May 2025.
- Sweetwater Springs Water District. 2025. Services. Available: <https://www.sweetwatersprings.com/services-c85d283>. Accessed May 2025.
- Town of Windsor. 2021. 2020 UWMP. Available: https://wuedata.water.ca.gov/uwmp_plans.asp?cmd=2020. Accessed May 2025.
- Valley of the Moon Water District. 2021. 2020 UWMP. Available: https://wuedata.water.ca.gov/uwmp_plans.asp?cmd=2020. Accessed May 2025.
- Zero Waste Sonoma. 2025. Cannabis (Business Only). Available: <https://zerowastesonoma.gov/materials/cannabis-business>. Accessed May 2025.

Section 3.17 Wildfire

- Abatzoglou, J. T., and A. P. Williams. 2016 (October 16). "Impact of Anthropogenic Climate Change on Wildfire across Western U.S. Forests." *Proceedings of the National Academy of Sciences* 113(42): 11770–11775.
- Balch, J. K., B. A. Bradley, J. T. Abatzoglou, R. C. Nagy, E. J. Fusco, and A. L. Mahood. 2017 (March 14). "Human-Started Wildfires Expand the Fire Niche across the United States." *Proceedings of the National Academy of Sciences* 114(11): 2946–2951.
- California Department of Forestry and Fire Protection. 2019. *Strategic Plan 2019*. Available: <https://www.paperturn-view.com/cal-fire-communications/strategicplan2019-final?pid=MjU253660>. Accessed August 20, 2024.
- . 2020. 2022 Wildfire Activity Statistics. Available: <https://www.fire.ca.gov/our-impact/statistics>. Accessed May 2025.
- . 2021. 2020 Wildfire Activity Statistics. Available: <https://www.fire.ca.gov/our-impact/statistics>. Accessed May 2025.
- . 2022. 2021. <https://www.fire.ca.gov/our-impact/statistics>. Accessed August 20, 2024; May 2025.
- . 2024a. 2023 Wildfire Activity Statistics. Available: <https://www.fire.ca.gov/our-impact/statistics>. Accessed May 2025.
- . 2024b. Statistics - Current Year Updated as of August 20, 2024*. Available: <https://www.fire.ca.gov/our-impact/statistics>. Accessed August 20, 2024.
- . 2024c. Incident Data. Available: <https://www.fire.ca.gov/incidents>. Accessed September 2024.
- . 2024d. Fire Hazard Severity Zones, in SRA Effective April 1, 2024 with LRA Recommended 2007-2011. Available: <https://calfire-forestry.maps.arcgis.com/apps/mapviewer/index.html?layers=ac8ed44d76ed4988bceb07d35d80f4cb>. Accessed August 20, 2024.
- . 2024e. Current Emergency Incidents. Available: <https://www.fire.ca.gov/incidents>. Accessed August 20, 2024.
- California Governor's Office of Emergency Services. 2017. *2017 State of California Emergency Plan*. Available: https://www.caloes.ca.gov/wp-content/uploads/Preparedness/Documents/California_State_Emergency_Plan_2017.pdf. Accessed October 8, 2024.
- California Governor's OES. See California Governor's Office of Emergency Services.

- Governor's Office of Planning and Research. 2018. *California's Fourth Climate Change Assessment, Statewide Summary Report*. Available: https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf. Accessed May 2025.
- California Public Utilities Commission. 2018. High Fire Threat District – web viewer. Available: <https://capuc.maps.arcgis.com/apps/webappviewer/index.html?id=5bdb921d747a46929d9f00dbdb6d0fa2>. Accessed August 20, 2024.
- CAL FIRE. See California Department of Forestry and Fire Protection.
- Community Wildfire Planning Center and OPR. 2022. Flood-After-Fire Plan Alignment. Sonoma County. Available: https://lci.ca.gov/docs/20220915-Flood_After_Fire.pdf. Accessed May 2025.
- CPUC. See California Public Utilities Commission.
- Dillis, Christopher, Van Busic, Dina Moanga, Phoebe Parker-Shames, Ariani Wartenberg, and Theodore E. Grantham. 2022. The Threat of Wildfire is Unique to Cannabis Among Agricultural Sections in California. *Exosphere*. Volume 13, Issue 9, e4205. Available: <https://esajournals.onlinelibrary.wiley.com/doi/10.1002/ecs2.4205>. Accessed December 2024.
- Jason, Zachary J, Dennis Shelp, John Schumacher, Todd Hedglin. 2014. Ignition Propensity of Cannabis (Marijuana) Cigarettes. 2014 International Symposium on Fire Investigation Science and Technology. Available: [https://www.dropbox.com/s/s94w71qcv72uiz/ISFI2014Proceedings_IgnitionPropensityofCannabisCigarettes.p](https://www.dropbox.com/s/s94w71qcv72uiz/ISFI2014Proceedings_IgnitionPropensityofCannabisCigarettes.pdf?dl=0)df?dl=0. Accessed November 2024.
- Kim, Y., W. Covington, P. Ervin, R. Fitch, E. L. Kalies, D. Rideout, K. Rollins, et al. 2013 (May). *The Efficacy of Hazardous Fuel Treatments: A Rapid Assessment of the Economic and Ecologic Consequences of Alternative Hazardous Fuel Treatments*. Northern Arizona University.
- Mann, M. L., E. Batllori, M. A. Moritz, E. K. Waller, P. Berck, A. L. Flint, L. E. Flint, and E. Dolfi. 2016 (April 28). "Incorporating Anthropogenic Influences into Fire probability Models: Effects of Human Activity and Climate Change on Fire Activity in California." *PLoS One* 11(4): e0153589.
- Martinson, E. J., and P. N. Omi. 2013. *Fuel Treatments and Fire Severity: A Meta-Analysis*. Research Paper RMRS-RP-103WWW. US Forest Service, Rocky Mountain Research Station. Fort Collins, CO.
- OPR. Governor's Office of Planning and Research.
- Pacific Gas and Electric Company. 2024. *10,000-Mile Undergrounding Program*. Available: <https://www.pge.com/assets/pge/docs/outages-and-safety/safety/all-undergrounding-maps.pdf>. Accessed August 20, 2024.
- PG&E. See Pacific Gas and Electric Company.
- Permit Sonoma. 2024. Wildfire Preparedness. Available: <https://www.sonomacountypermits.org/divisions/firepreventionandhazmat/wildfirepreparedness>. Accessed: September 2024.
- Radeloff, V. C., D. P. Helmers, H. A. Kramer, M. H. Mockrin, P. M. Alexandre, A. Bar-Massada, V. Butsic, T. J. Hawbaker, S. Martinuzzi, A. D. Syphard, and S. I. Stewart. 2018. "Rapid Growth of the US Wildland-Urban Interface Raises Wildfire Risk." *Proceedings of the National Academy of Sciences*. 115(13): 3314–3319.
- Schoennagel, T., J. K. Balch, H. Brenkert-Smith, P. E. Dennison, B. J. Harvey, M. A. Krawchuck, N. Mietkiewicz, P. Morgan, M. A. Moritz, R. Rasker, M. G. Turner, and C. Whitlock. 2017 (May 2). "Adapt to More Wildfire in Western North American Forests as Climate Changes." *Proceedings of the National Academy of Sciences* 114(18): 4582–4590.

- Sonoma County. 2020. *Sonoma County Operational Area Burn Scar Contingency Plan*. Available: https://sonomacounty.ca.gov/Main%20County%20Site/Administrative%20Support%20%26%20Fiscal%20Services/Emergency%20Management/Documents/Archive/_Documents/Sonoma%20OA%20Burn%20Area%20Contingency%20Plan%20Nov%202020.pdf. Accessed February 2025.
- . 2021. *Sonoma County Multi-Jurisdictional Hazard Mitigation Plan – Volume 1*. Available: <https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Divisions/Planning/Long%20Range%20Plans/Hazard%20Mitigation%20Plan/Adopted-Sonoma-County-MJHMP-Volume-1-December-2021.pdf>. Accessed August 20, 2024.
- . 2022. *Emergency Operations Plan*. Available: <https://sonomacounty.ca.gov/Main%20County%20Site/Administrative%20Support%20%26%20Fiscal%20Services/Emergency%20Management/Documents/Plans/Sonoma-County-Emergency-Operations-Plan-English.pdf>. Accessed September 2024.
- . 2023. *Sonoma County Community Wildfire Protection Plan 2023 Update*. Available: <https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Long%20Range%20Plans/Sonoma%20County%20CWPP/20230509%20BOS%20APPROVED%20STAMPED%20Sonoma%20County%20Community%20Wildfire%20Protection%20Plan%202023%20Update.pdf>. Accessed: September 2024.
- Stewart S. I., V.C. Radeloff, R.B. Hammer, and T.J. Hawbaker. 2007 (June). "Defining the Wildland-Urban Interface." *Journal of Forestry*.
- Syphard, A. D., and J. E. Keeley. 2015. "Location, Timing, and Extent of Wildfire Vary by Cause of Ignition." *International Journal of Wildland Fire* 24(1): 37–47.
- Syphard, A. D., V. C. Radeloff, J. E. Keeley, T. J. Hawbaker, M. K. Clayton, S. I. Stewart, and R. B. Hammer. 2007. "Human Influence on California Fire Regimes." *Ecological Applications* 17(5): 1388–1402.
- Syphard, A. D., V. C. Radeloff, N. S. Keuler, R. S. Taylor, T. J. Hawbaker, S. I. Stewart, and M. K. Clayton. 2008. "Predicting Spatial Patterns of Fire on a Southern California Landscape." *International Journal of Wildland Fire* 17: 602–613.
- Tubbesing, C. L., D. L. Fry, G. B. Roller, B. M. Collins, V. A. Fedorova, S. L. Stephens, and J. J. Battles. 2019. "Strategically Placed Landscape Fuel Treatments Decrease Fire Severity and Promote Recovery in the Northern Sierra Nevada." *Forest Ecology and Management* 436: 45–55.
- USDA. See US Department of Agriculture.
- US Department of Agriculture. 2022. Table 7. Hired Farm Labor - Workers and Payroll: 2022. Available: https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_007_007.pdf. Accessed February 2025.
- Westerling, A. L., H. G. Hidalgo, D. R. Cayan, and T. W. Swetnam. 2006 (August 18). "Warming and Earlier spring Increase Western U.S. Forest Wildfire Activity." *Science* 313(5789): 940–943.

Chapter 4 Cumulative Impacts

BAAQMD. See Bay Area Air Quality Management District.

Bay Area Air Quality Management District. 2022. *BAAQMD CEQA Guidelines – Chapter 3: Thresholds of Significance*. Available: https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-3-thresholds_final_v2-pdf.pdf?rev=a976830cce0c4a6bb624b020f72d25b3. Accessed October 11, 2024.

Dillis, C., V. Butsic, P. Georgakakos, and T. Grantham. 2024. *Water Use: Cannabis in Context*. Cannabis Research Center, University of California, Berkeley, CA.

EPS. 2025. Memorandum to County of Sonoma Commercial Cannabis Program from David Zehnder, Tom Martens, and Emilio Balingit of EPS regarding the market demand for Sonoma County cannabis.

- Sonoma County. 2006. *Sonoma County 2020 General Plan – Regional Context*. Available: <https://permitsonoma.org/longrangeplans/adoptedlong-rangeplans/generalplan/regionalcontext>. Accessed August 22, 2024.
- . 2024. Permit Sonoma County GIS: Zoning and Land Use Map Viewer. Available: <https://sonomacounty.maps.arcgis.com/apps/webappviewer/index.html?id=06ac7fe1b8554171b4682dc141293962>. Accessed August 22, 2024.
- State Water Resources Control Board. 2017a (October 17). *Board Meeting Session (Division of Water Rights) – Item 6: Consideration of a Proposed Resolution Adopting the Cannabis Cultivation Policy – Principles and Guidelines for Cannabis Cultivation*. Sacramento, CA.
- . 2017b (October). *Response to 2017 Peer Review Comments on Draft Cannabis Cultivation Policy: Principles and Guidelines for Cannabis Cultivation*. Sacramento, CA.
- SWRCB. See State Water Resources Control Board.

Chapter 5 Alternatives

Kern County. 2017 (July). *Kern County Cannabis Land Use Ordinance Project Draft Environmental Impact Report*. State Clearinghouse No. 2017011058. Bakersfield, CA.

Chapter 6 Other CEQA Sections

- California Department of Finance. 2024 (March). Report P-2A: Total Population Projections, California Counties, 2020–2060 (Baseline 2019 Population Projections; Vintage 2023 Release). Available: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fdof.ca.gov%2Fwp-content%2Fuploads%2Fsites%2F352%2F2023%2F07%2FP2A_County_Total.xlsx&wdOrigin=BROWSELINK. Accessed August 23, 2024.
- DOF. See California Department of Finance.
- Sonoma County Tourism. 2024. 2024 Quick Facts. Sonoma County Tourism. Visitor Profile Highlights. Available: https://www.sonomacounty.com/wp-content/uploads/2023/10/2024_Quick_Facts_Sonoma_County_Tourism.pdf. Accessed February 2025.

This page is intentionally left blank.