Draft Environmental Impact Report (EIR) for the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program

SCH No. 2017022052

August 2017

STATE CLEARINGHOUSE NO. 2017022052

COMMERCIAL CANNABIS CULTIVATION AND MANUFACTURING REGULATIONS AND LICENSING PROGRAM DRAFT ENVIRONMENTAL IMPACT REPORT

PREPARED BY:

County of Santa Cruz
Planning Department
701 Ocean Street
Santa Cruz, CA 95060
Contact: Matt Johnston
831.454.3201

WITH ASSISTANCE FROM:

Amec Foster Wheeler, Environment & Infrastructure, Inc.
104 West Anapamu Street, Suite 204-A
Santa Barbara, CA 93101
Contact: Rita Bright
805.962.0992

August 2017

Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program
Draft Environmental Impact Report. August 2017
Prepared by the County of Santa Cruz, Santa Cruz, CA.
With assistance from Amec Foster Wheeler, Environment & Infrastructure, Inc.

ES-1 Introduction

The purpose of the Executive Summary and impact summary table is to provide the reader with a brief overview of the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program) proposed by the County of Santa Cruz (County). The County Planning Department, as lead agency under the California Environmental Quality Act (CEQA), has prepared this Environmental Impact Report (EIR) in accordance with CEQA, Public Resources Code (PRC) Sections 21000 et seq., the State of California CEQA Guidelines, California Code of Regulations (CCR), and Title 14, Sections 15000 et seq. to address the potential environmental impacts of the Program, including two regulatory scenarios: the Project and the More Permissive Project, as further described herein.

This EIR is an informational document that may be used by the public and governmental agencies to review and consider the environmental effects of the Program as part of its decision-making process. The reader should not rely exclusively on the Executive Summary as the sole basis for judgment of the Program and its alternatives. The complete EIR should be consulted for specific information about the environmental effects and the implementation of required mitigation measures, consistent with CEQA.

This EIR can be characterized as a Program EIR prepared pursuant to §15168 of the state CEQA Guidelines. As a Program EIR, the level of detail included in the project description and methodology for impact analysis is relatively more general than a project-level EIR, as individual cultivation or manufacturing site-level details are not available for current license applications or would be considered too speculative for evaluation. This approach allows the County Board of Supervisors to consider broad implications and impacts associated with the Program while not requiring a detailed evaluation of individual properties. Methods to analyze the Program's environmental effects consider cumulative cannabis cultivation and manufacturing site development under the Program, or a reasonable worst-case scenario for a particular resource area (see also, Section 3.0, *Introduction and Approach to Analysis*). This EIR may be incorporated by reference in subsequent CEQA review documents to describe regional influences, secondary effects, cumulative impacts, and other broad factors that apply to the Program as a whole.

ES-2 Program Overview

Consistent with state law, the proposed Program would regulate commercial cannabis cultivation and cannabis product manufacturing within unincorporated areas of the County to balance the diverse demands for cannabis products with the health, safety, and welfare of the community, and address the range of demands on County services and adverse effects on the environment and local community. The Program would regulate how, where, and how much cannabis and cannabis products may be commercially cultivated and manufactured to provide a reliable and high quality supply, while also protecting the environment and neighborhood quality.

This EIR reviews potential environmental impacts of the repeal of Chapters 7.126 and 7.128 of the Santa Cruz County Code (SCCC), adoption of a new SCCC Chapter 7.128 regarding licensing of commercial cultivation of cannabis, and adoption of a new SCCC Chapter 7.132 regarding licensing of

cannabis product manufacturing. Associated County zoning ordinance updates and General Plan amendments to support the Program would also be adopted (Appendix C).

To address commercial cannabis cultivation, the Program would apply to all cultivation sites within unincorporated County areas zoned Residential Agriculture (RA), Special Use (SU), Timber Production (TP), Agriculture (A), Commercial Agriculture (CA), Community Commercial (C-4), and Industrial (M-1, M-2, M-3). The Program also includes required setbacks for cannabis cultivation from sensitive areas and uses (e.g., schools, creeks) and prohibitions, based on the license type. This EIR evaluates two Program scenarios for cultivation regulation: the "Project" and the "More Permissive Project". The specific development standards differ between the Project and the More Permissive Project, with the More Permissive Project allowing a greater potential area to be cultivated in the County. Further, cultivation would be excluded on land zoned RA, SU, and TP within an area defined by the Coastal Zone + 1 mile buffer inland under the Project scenario. The Project scenario would also not permit outdoor cultivation in the Second Supervisorial District. For details, see Chapter 2, *Project Description.*

To address commercial cannabis product manufacturing, the Program would license manufacturing in areas zoned RA, SU, TP, A, CA, C-4, M-1, M-2, M-3, and Community Commercial (C-2; only in conjunction with a licensed dispensary); small-scale cannabis manufacture home occupations would be allowed in association with detached single-family dwellings in residential, commercial, agricultural, industrial, timber production, and special use zoning districts. Manufucturing under both the Project and the More Permissive Project scenarios would be subject to restrictions based upon the materials and processes associated with the manufacturing activity, with limits on where certain types of manufacturing may locate. Notaby, use of high pressure or other more hazardous processes and materials would not be allowed for cannabis home occupation businesses, which would also need to be a minor ancillary use of a detached single-family home. For details, see Chapter 2, *Project Description.*

ES-3 Summary of Program Objectives

The state CEQA Guidelines require that the EIR project description include a statement of the objectives of the proposed Program. The primary objectives of the Program are to:

1. Regulate commercial cannabis cultivation and manufacturing of cannabis products within Santa Cruz County in a manner consistent with state law, and allow the orderly development and oversight of commercial cannabis cultivation and manufacturing businesses within the County;

2. Develop a program that encourages cannabis cultivators and cannabis product manufacturers to operate legally and secure a license to operate in full compliance with County regulations, maximizing the proportion of activities within the program and minimizing unlicensed activities;

3. Provide efficiency, and clarity in the commercial cannabis cultivation and manufacturing licensing and permit process, regulations, and standards to facilitate participation and use by applicants;

4. Prevent impacts of cannabis cultivation and manufacturing sites on children and sensitive populations;

5. Encourage the cultivation and manufacturing of high quality local cannabis products that meet the demand, including the needs of medical patients and their caregivers, as well as adult personal use as authorized under Proposition 64;
6. Develop a legal, local cannabis industry to improve the County's tax base in balance with other objectives;
7. Ensure compatibility of commercial cannabis cultivation and manufacturing sites with surrounding land uses, including residential neighborhoods, educational facilities, agriculture operations, and timber production;
8. Minimize adverse effects of commercial cannabis cultivation and manufacturing on the natural environment, natural resources and wildlife, including riparian corridors, wetlands and sensitive habitats, as well as effects on water supply, water quality and instream flows;
9. Regulate sites and premises used for commercial cannabis cultivation and manufacturing to avoid the risks of criminal activity, degradation of the visual setting and neighborhood character, obnoxious odors, hazardous materials, and fire hazards;
10. Ensure cannabis is cultivated and manufactured into products in a manner that supports public health and safety;
11. Ensure adequate law enforcement and fire protection response to commercial cannabis cultivation and manufacturing sites; and
12. Promote energy and resource efficiency in cannabis cultivation and manufacturing of cannabis products.

Both the Project and the More Permissive Project meet the Program objectives described above; however, they differ in the degree to which they meet each individual Program objective and balance competing priorities among allowable cultivation and manufacturing locations and intensities. Each scenario also differs in the type, nature and degree of resulting environmental impacts. Under the More Permissive Project, the County could potentially accommodate larger and more numerous commercial cannabis cultivation sites, which would increase the number of properties within the County that would be eligible for a license to operate consistent with County regulations.

ES-4 Scope of the Environmental Impact Report

The scope of this EIR is based on the project description outlined in Chapter 2, *Project Description* and the Notice of Preparation (NOP) (Appendix B), focusing review on environmental resources that could result in potentially significant impacts on environmental resources. Chapter 3, *Environmental Impact Analysis* identifies 14 resources related to the Program, which were determined to be subject to potentially significant impacts in the NOP scoping process, and these are addressed in the following sections:

- Section 3.1, "Aesthetics and Visual Resources"
- Section 3.2, "Agricultural and Timber Resources"
- Section 3.3, "Air Quality"
- Section 3.4, "Biological Resources"
- Section 3.5, "Cultural Resources"
- Section 3.6, "Geology and Soils"
- Section 3.7, "Greenhouse Gas Emissions and Climate Change"
- Section 3.8, "Hazards and Hazardous Materials"
- Section 3.9, "Hydrology and Water Quality"
- Section 3.10, "Land Use and Planning"
- Section 3.11, "Public Services"
- Section 3.12, "Population, Employment, and Housing"
- Section 3.13, "Transportation and Circulation"
- Section 3.14, "Utilities and Energy Conservation"

Sections 3.1 through 3.14 provide detailed discussions of the environmental baseline or setting, methodology for impact assessment for the resource, impacts associated with the Project and More Permissive Project, and mitigation measures designed to reduce significant impacts where required and when feasible. The residual impacts following the implementation of any mitigation measures and secondary and cumulative impacts also are discussed.

Additionally, Section 3.15, *Other CEQA Issues,* identifies other resource areas that were found to have no significant effect on the environment (i.e., Noise, and Minerals) and provides a brief discussion of why they were not analyzed as primary environmental resources areas in this EIR. Section 3.15 also addresses growth inducing and significant, irreversible effects of the Program.

This EIR examines potential direct, indirect, secondary, and cumulative impacts of the Program. These impacts were determined through a rigorous process mandated by CEQA in which existing conditions are compared and contrasted with conditions that would exist once the Program is implemented. The significance of each identified impact was determined using either CEQA thresholds informed by local thresholds of significance. The following categories are used for classifying Program-related impacts.

- **Significant and Unavoidable**: Significant impacts that cannot be feasibly mitigated or avoided. No measures could be taken to avoid or reduce these adverse effects to achieve insignificant or negligible levels. Even after application of feasible mitigation measures, the residual impact would be significant. If the Program is approved with significant and unavoidable impacts, decision-makers are required to adopt a Statement of Overriding Considerations pursuant to CEQA Section 15093 explaining why benefits of the Program outweigh the potential damage caused by these significant unavoidable impacts.

- **Less than Significant with Mitigation**: Such impacts can be reduced to a less than significant level with feasible mitigation, which can include incorporating changes to the Program. If the proposed Program is approved with significant but mitigable impacts, decision-makers are required to make findings pursuant to CEQA Section 15091, stating that impacts have been mitigated to the maximum extent feasible and the residual impact would not be significant.

- **Less than Significant**: These adverse but less than significant impacts do not require mitigation, nor do they require findings be made. Mitigation measures may be recommended to further reduce environmental effects and/or improve consistency with policies in the Santa Cruz County General Plan and regulations of the SCCC.

- **Beneficial**: Effects that are beneficial to the environment.

For each significant impact identified, mitigation to reduce impacts to less than significant levels are identified. In those instances where mitigation measures cannot reduce such impacts to less than significant levels, the impacts are identified as *significant and unavoidable*.

The EIR also presents alternatives to the Program, which include the No Project Alternative, the Most Restrictive Alternative, and the Most Permissive Alternative, and a comparative assessment of the impacts that would be associated with the implementation of each compared to the Program.

ES-5 Notice of Preparation

The contents of this EIR were established based on the findings in the Notice of Preparation (NOP) and attached materials, as well as public and agency input during the scoping period. The County issued an NOP on February 13, 2017 to request comments on the scope of the EIR. The NOP was published online at www.sccoplanning.com and circulated to relevant agencies, community organizations, and interested individuals in the County. A public scoping workshop was held on February 28, 2017; a 30-day public comments period closed March 15, 2017 (CEQA Guidelines §15082). A copy of the NOP and comments received during the NOP review period are included in Appendix B.

ES-6 Notice of Completion

In accordance with Section 15085 of the state CEQA Guidelines, the Notice of Completion (NOC) was prepared and distributed to responsible and affected agencies and other interested parties for a 45-day public review along with the Draft EIR. The public review period for the NOC and Draft EIR began on August 31, 2017, and ended on October 16, 2017. The NOC was also posted in the Santa Cruz County Clerk's office and sent to the State Clearinghouse at the Governor's Office of Planning and Research to solicit statewide agency review and comment of the Draft EIR.

ES-7 Summary of Program Impacts

The significance of each impact resulting from implementation of the Program has been determined according to CEQA thresholds and local standards. Table ES-1 presents a summary of the impacts, mitigation measures, and residual impacts from implementation of the Program.

Based on the analysis presented in this EIR, implementation of the proposed Program would create significant and unavoidable direct or indirect impacts to air quality and transportation. The Program could increase the number of vehicle trips due to new employees, which would cause NO_x levels to exceed the applicable air quality thresholds. Since the County is currently in nonattainment for ozone, and NO_x is an ozone precursor, the Program's exceedance of the NO_x threshold makes this impact significant. Currently, there are no feasible mitigation measures that are available to reduce these impacts, so the impacts would be *significant and unavoidable*. See Section 3.3, *Air Quality*, for more detailed information. Additionally, increased vehicle trips associated with the Program would adversely affect level of service (LOS) roads, intersections, and highway segments within the urban, and some rural areas, of the County. Fee payment mitigation would not fully alleviate these impacts to a less than significant level because revenue sources would not be enough to improve each of these congested intersections, roads, and highways to acceptable levels of service. Therefore, even with mitigation, direct impacts would be *significant and unavoidable*. See Section 3.13, *Transportation and Circulation*.

Further, this EIR programmatically analyzes the secondary impacts of the Program on changing and expanding unregulated and unlicensed cannabis cultivation and manufacturing in the County. Secondary impacts of the Program would create significant and unavoidable impacts to all resource areas analyzed in Chapter 3, *Environmental Impact Analysis,* except for aesthetics and visual resources, which would have less than significant secondary impacts. This is because it is not possible for the County to completely eradicate all unregulated cannabis activity. These illegal activities would not necessarily adhere to existing County regulators and/or mitigation measures in this EIR, and could therefore cause significant adverse impacts due to practices such as not following grading restrictions and causing erosion, using chemicals hazardous to biological resources, diverting streams and causing water supply and quality issues, and using diesel generators that contribute to air pollution and GHGs. Although this EIR introduces mitigation measures that would lessen these impacts through enforcement and surveys of unlicensed cannabis activities, as it is not possible to bring all unregulated cannabis activity into compliance with the Program, secondary impacts remain *significant and unavoidable*.

The reasons why the Program is being proposed, notwithstanding the significant impacts, are related to the Program objectives stated above in ES-1, *Summary of Program Objectives* and in Section 2.3.1, *Program Objectives*. As indicated, the Program is being proposed to regulate commercial cannabis cultivation and manufacturing of cannabis products within the County in a manner consistent with state law and encourages cultivators and manufacturers to operate legally and secure a license to operate in full compliance with County regulations, meet the local demand of cannabis products, improve the County's tax base, and prevent impacts of cannabis activities on children, sensitive populations, the natural environment, and public health and safety.

ES-8 Summary of Cumulative Impacts

"Cumulative Impacts," (CEQA Guidelines Section 15130) describes impacts that could occur from the combined effect of other past, present, and reasonably foreseeable future projects. For each significant adverse impact identified, mitigation measures are presented where feasible to reduce the impacts to acceptable levels. Cumulative impacts were determined to be *less than significant* for aesthetic and visual resources; agriculture and timber resources; air quality construction-related effects; cultural resources; geology and soils; hazards and hazardous materials; hydrology and water quality; land use; population and housing; public services; transportation and circulation; and utilities and energy conservation. Cumulative impacts for biological resources would also be less than significant, but would be subject to recommended mitigation to address Countywide rodenticide use and management. Cumulative impacts were determined to be considerable and *therefore significant and unavoidable* for air quality operational effects and cumulative traffic impacts (see Section 3.3, *Air Quality,* Section 3.13, *Transportation and Circulation,* and Section 3.15, *Other CEQA Issues*).

ES-9 Environmentally Superior Alternative

In addition to the More Permissive Project scenario addressed at a coequal level of detail in the main analysis in Section 3.0 of this EIR, alternatives selected for analysis include:

- No Project Alternative
- Alternative 1 — Most Restrictive Alternative

- Alternative 2 — Most Permissive Alternative

Each alternative analyzed in Chapter 4, *Alternatives* was evaluated based on significance criteria, location, extent and magnitude of impacts, potential benefits, and relative impacts in comparison to other alternatives and Program scenarios. The alternative with the fewest adverse impacts and relatively greatest benefits is thereby considered the Environmentally Superior Alternative.

All alternatives would result in significant impacts to air quality and transportation and circulation, and none of the alternatives analyzed would reduce this significant impact to a less than significant level. The Project, More Permissive Project, Alternative 1, and Alternative 2 all contain fewer significant impacts than the No Project Alternative. As such, the No Project Alternative is eliminated from consideration for the Environmentally Superior Alternative. Alternative 1 is also eliminated from consideration for the Environmentally Superior Alternative as it does not meet a vast majority of Project objectives.

Based on the information in this EIR, the Most Permissive Project Alternative is identified as the Environmentally Superior Alternative. Alternative 2 was found to generate the least adverse impacts, with the potential to substantially improve natural resources and public service conditions associated with secondary impacts, while achieving the most Program objectives. The Most Permissive Project Alternative would give the County the most flexibility and opportunity to bring cannabis operations into compliance with the SCCC and the County General Plan and monitor operations over time. It also provides the greatest opportunity to mitigate impacts and increase County tax revenue to support ongoing improvement and enforcement programs. With implementation of mitigation measures, the Most Permissive Project Alternative provides a balance between meeting Program objectives, including quality of life concerns, while addressing environmental impacts by maximizing participation in the Program and, in doing so, applying SCCC regulations, County policies, and required mitigation measures from this EIR to all licensed cannabis cultivation and manufacturing. The Most Permissive Alternative minimizes the barriers to participation in the Program and would reduce secondary effects of unregulated cannabis activities, which are consistently the more severe and environmentally damaging significant and unavoidable impacts identified by the analysis.

Given the nature of unregulated cannabis activities that current existing and may occur within the County, secondary impacts, with the exception of aesthetics and visual resources, are considered to result in significant and unavoidable effects on the human and natural environment due to the inability to effectively enforce and regulate such unlicensed operations. Due to the potential for operators to continue to engage in such activities within the County, either due to costs of licensing, associated costs of development, or other reasons, significant and unavoidable secondary impacts are considered to continue to occur, regardless of the Program scenario (see Table 4-6). However, the Most Permissive Project Alternative would reduce these impacts to the greatest degree compared to all other Program scenarios and alternatives considered. See Chapter 4, *Alternatives* for complete details.

Table ES-1. Summary of Impacts, Mitigation, and Residual Impacts

Impact	Mitigation Measure	Residual Significance
Aesthetics and Visual Resources		
Impact AV-1. Commercial cannabis cultivation under the Program would have adverse effects on scenic resources and vistas, existing visual character, and effects from nighttime lighting and glare. With mitigation, this impact would be less than significant.	*Direct:* MM AV-1.1 would apply. *Indirect:* MM AV-1.2, MM LU-1.1-4, and MM LU-1.1-5would apply.	*Direct:* Less than Significant with Mitigation *Indirect:* Less than Significant with Mitigation
Impact AV-2. Cannabis product manufacturing under the Program would have adverse effects on scenic vistas, existing visual character, and effects from nighttime lighting and glare. This impact would be less than significant with mitigation.	*Direct:* No mitigation required. *Indirect:* MM AV-1.2, MM LU-1.1-4, and MM LU-1.1.5 would apply.	*Direct:* Less than Significant *Indirect:* Less than Significant with Mitigation
Secondary Impact AV-3. Unlicensed cannabis activities could have adverse effects on scenic resources and vistas, existing visual character, and effects from nighttime lighting and glare, but the effects would be less than significant.	No mitigation required	Less than Significant
Agricultural and Timber Resources		
Impact AT-1. The Program could convert prime farmland, unique farmland, or farmland of statewide importance to non-agricultural use. Impacts would be less than significant.	*Direct:* No mitigation required. *Indirect:* No mitigation required.	*Direct:* Less than Significant *Indirect:* Less than Significant
Impact AT-2. Proposed land uses under the Program could be incompatible with existing zoning for agricultural uses and Williamson Act contracts. Impacts would be less than significant.	*Direct:* No mitigation required. *Indirect:* No mitigation required.	*Direct:* Less than Significant *Indirect:* Less than Significant
Impact AT-3. The Program could substantially conflict with existing zoning for or cause rezoning of forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) to a non-allowable use. Impacts would be less than significant.	*Direct:* No mitigation required. *Indirect:* No mitigation required.	*Direct:* Less than Significant *Indirect:* Less than Significant
Impact AT-4. The Program could result in the removal of trees and conversion of timberland that may be used for timberland resources. Impacts would be less than significant with mitigation.	*Direct:* MM AT-4.1a and MM AT-4.1.b would apply. *Indirect:* No Mitigation required.	*Direct:* Less than Significant with Mitigation *Indirect:* Less than Significant
Secondary Impact AT-5. The Program could convert prime farmland, unique farmland, or farmland of statewide importance to	MM AT-1.3a and MM AT-1.3b would apply.	Impacts would be Significant and Unavoidable

Table ES-1. Summary of Impacts, Mitigation, and Residual Impacts

Impact	Mitigation Measure	Residual Significance
non-agricultural use; propose land uses that are incompatible with existing zoning for agricultural uses and Williamson Act contracts; substantially conflict with existing zoning for or cause rezoning of forest land, timberland, or timberland zoned TP to a non-allowable use; and result in the removal of trees and conversion of timberland that may be used for timberland resources. Impacts would be significant and unavoidable.		
Air Quality		
Impact AQ-1. Commercial cannabis cultivation and manufacturing under the Program could potentially expose sensitive receptors to substantial pollutant concentrations and create objectionable odors affecting a substantial number of people. Impacts would be less than significant with mitigation.	*Direct:* MM AQ-1.1, MM AQ-1.2, MM AQ-1.3, MM AQ-1.4, and MM AQ-1.5 would apply. *Indirect:* No mitigation required.	*Direct:* Less than Significant with Mitigation *Indirect:* Less than Significant
Impact AQ-2. Commercial cannabis cultivation and manufacturing under the Program could be potentially inconsistent with the MBUAPCD AQMP. Impacts would be significant and unavoidable.	*Direct:* MM AQ-2.1 would apply. *Indirect:* No mitigation required.	*Direct:* Significant and Unavoidable *Indirect:* Less than Significant
Impact AQ-3. Commercial cannabis cultivation and manufacturing under the Program could potentially violate an air quality standard or contribute to an air quality violation, and result in a cumulatively considerable net increase of a criteria pollutant for which the County is in nonattainment. Impacts would be significant and unavoidable.	*Direct:* MM AQ-2.1 would apply. *Indirect:* No mitigation required.	*Direct:* Significant and Unavoidable *Indirect:* Less than Significant
Secondary Impact AQ-4. New or increased unregulated commercial cannabis cultivation and cannabis product manufacturing under the Program could potentially expose sensitive receptors to substantial pollutant concentrations and create objectionable odors affecting a substantial number of people, be potentially inconsistent with the MBUAPCD AQMP, and potentially violate an air quality standard or contribute to an air quality violation, and result in a cumulatively considerable net increase of a criteria pollutant for which the County is in nonattainment. Impacts would be significant and unavoidable.	MM AT-1.3a, MM AT-1.3b, and MM AQ-1.3 would apply.	Impacts would be Significant and Unavoidable

Table ES-1. Summary of Impacts, Mitigation, and Residual Impacts

Impact	Mitigation Measure	Residual Significance
Biological Resources		
Impact BIO-1. Commercial cannabis cultivation and cannabis product manufacturing under the Program could have adverse effects on unique, rare, threatened, or endangered plant or wildlife species. Impacts would be less than significant with mitigation.	*Direct:* MM HYDRO--1.1, MM BIO-1.1a, MM BIO-1.1b, MM BIO-1.1c, MM BIO-1.1d, MM BIO-1.1e, MM BIO-1.1f, MM BIO-1.1g, and MM BIO-1.1h would apply. *Indirect:* MM BIO-1.1a, MM BIO-1.1b, MM BIO-1.1c, MM BIO-1.1d, MM BIO-1.1e, MM BIO-1.1f, MM BIO-1.1h, and MM HYDRO-2.3 would apply.	*Direct:* Less than Significant with Mitigation *Indirect:* Less than Significant with Mitigation
Impact BIO-2. Commercial cannabis cultivation and cannabis product manufacturing under the Program could have adverse effects on habitats or sensitive natural communities. Impacts would be less than significant with mitigation.	*Direct:* MM BIO-2.1a, MM BIO-2.1b, and MM BIO-2.1c would apply. *Indirect:* MM BIO-1.1d, MM BIO-2.1a, MM BIO-2.1b, MM BIO-2.1c, and MM HYDRO-2.3 would apply.	*Direct:* Less than Significant with Mitigation *Indirect:* Less than Significant with Mitigation
Impact BIO-3. Commercial cannabis cultivation and cannabis product manufacturing under the Program could have adverse effects on the movement of any native resident or migratory species. Impacts would be less than significant with mitigation.	*Direct:* MM AV-1.1, MM BIO-3.1, and MM BIO-1.1h would apply. *Indirect:* No mitigation required.	*Direct:* Less than Significant with Mitigation *Indirect:* Less than Significant
Impact BIO-4: Commercial cannabis cultivation and cannabis product manufacturing under the Program may conflict with adopted local plans, policies, or ordinances oriented towards the protection and conservation of biological resources. Impacts would be less than significant with mitigation.	*Direct:* MM BIO-4.1 and MM BIO-4.2 would apply. *Indirect:* MM BIO-4.1 and MM BIO-4.2 would apply.	*Direct:* Less than Significant with Mitigation *Indirect:* Less than Significant with Mitigation
Secondary Impact BIO-5. Unregulated commercial cannabis cultivation and cannabis product manufacturing under the Program could have adverse effects on unique, rare, threatened, or endangered plant or wildlife species; habitats or sensitive natural communities; the movement of any native resident or migratory species; or may conflict with adopted local plans, policies, or ordinances oriented towards the protection and conservation of biological resources. Impacts would be significant and unavoidable.	MM AT-1.3a and MM AT-1.3b would apply.	Impacts would be Significant and Unavoidable

Table ES-1. Summary of Impacts, Mitigation, and Residual Impacts

Impact	Mitigation Measure	Residual Significance
Cumulative impacts to Biological Resources	Recommended MM BIO-5.1 would apply	Less than Significant with Mitigation
Cultural Resources		
Impact CR-1. Commercial cannabis cultivation and cannabis product manufacturing under the Program that occur in or near properties which may be historically significant but are not on the County's Historic Resources Inventory could potentially cause physical demolition, destruction, relocation, or alteration of historical resources. Impacts would be less than significant with mitigation.	*Direct:* MM CR-1.1 would apply. *Indirect:* MM CR-1.1 would apply.	*Direct:* Less than Significant with Mitigation *Indirect:* Less than Significant with Mitigation
Impact CR-2. Commercial cannabis cultivation and cannabis product manufacturing under the Program could potentially cause disruption, alteration, destruction, or adverse effects on archaeological resources, tribal cultural resources, human remains, or paleontological resources. Impacts would be less than significant.	No mitigation required	*Direct:* Less than Significant *Indirect:* Less than Significant
Secondary CR-3. Unregulated commercial cannabis cultivation and cannabis product manufacturing under the Program could potentially cause adverse effects on historical resources, archaeological resources, tribal cultural resources, human remains, or paleontological resources. Impacts would be significant and unavoidable.	MM AT-1.3a and MM AT-1.3b would apply.	Impacts would be Significant and Unavoidable
Geology and Soils		
Impact GEO-1. Commercial cannabis cultivation under the Program could have adverse effects due to exposure to unstable earth conditions, such as landslides, erosion, earthquakes, liquefaction, expansive soils, ground failure, or other geologic hazards. This impact would be less than significant with mitigation.	*Direct:* No mitigation required. *Indirect:* MM LU-1.1.4 and MM LU 1.1.5 would apply.	*Direct:* Less than Significant *Indirect:* Less than Significant with Mitigation
Impact GEO-2. Cannabis product manufacturing under the Program could have adverse effects from exposure to unstable earth conditions such as landslides, soil erosion, earthquakes, liquefaction, expansive soils, ground failure, or other geologic hazards. This impact would be less than significant.	*Direct:* No mitigation required. *Indirect:* No mitigation required.	*Direct:* Less than Significant *Indirect:* Less than Significant
Secondary Impact GEO-3. Unregulated commercial cannabis cultivation and	MM AT-1.3a and MM AT-1.3b would apply.	Impacts would be Significant and Unavoidable

Table ES-1. Summary of Impacts, Mitigation, and Residual Impacts

Impact	Mitigation Measure	Residual Significance
cannabis product manufacturing under the Program could potentially have adverse effects from exposure of persons and structures to unstable earth conditions such as landslides, erosion, earthquakes, liquefaction, expansive soils, ground failure, or other geologic hazards. This impact would be significant and unavoidable.		
Greenhouse Gas Emissions and Climate Change		
Impact GHG-1.1. Commercial cannabis cultivation and manufacturing under the Program could potentially generate significant levels of GHG emissions and be inconsistent with the County of Santa Cruz Climate Action Strategy. Impacts would be less than significant with mitigation.	*Direct and Indirect:* MM LU-1.1.6, MM GHG-1.1, and MM GHG-1.2 would apply.	*Direct and Indirect:*Less than Significant with Mitigation
Secondary Impact GHG-2. New or increased unregulated commercial cannabis cultivation and cannabis product manufacturing under the Program could potentially generate significant levels of GHG emissions and be inconsistent with the County of Santa Cruz Climate Action Strategy. Impacts would be significant and unavoidable.	MM AT-1.3a and MM AT-1.3b would apply.	Impacts would be Significant and Unavoidable
Hazards and Hazardous Materials		
Impact HAZ-1. Construction and operation of commercial cannabis cultivation sites could create impacts through the routine transport, use, or disposal of hazardous materials and the accidental release of such materials with potential for exposure of the public. Impacts would be less than significant.	*Direct:* No mitigation required. *Indirect:* No mitigation required.	*Direct:* Less than Significant *Indirect:* Less than Significant
Impact HAZ-2. Construction and operation of commercial cannabis product manufacturing could increase the risk of release and exposure to hazards and hazardous materials. Impacts would be less than significant.	*Direct:* No mitigation required. *Indirect:* No mitigation required.	*Direct:* Less than Significant *Indirect:* Less than Significant
Impact HAZ-3. Cannabis cultivation and manufacturing may be located within high fire hazard areas, exposing people or structures to significant risks involving wildland fires, along the wildland-urban interface, where uses are located in wildlands or through interference with emergency evacuations. Impacts would be less than significant with mitigation.	*Direct:* No mitigation required. *Indirect:* No mitigation required.	*Direct:* Less than Significant *Indirect:* Less than Significant

Table ES-1. Summary of Impacts, Mitigation, and Residual Impacts

Impact	Mitigation Measure	Residual Significance
Secondary Impact HAZ-4. Unregulated cannabis cultivation and manufacturing may use, transport, or store hazardous materials, expose or release hazards, or be located within high fire hazard areas, exposing people or structures to significant risks involving wildland fires. Impacts would be significant and unavoidable, exposing people or structures to significant risks involving wildland fires.	MM AT-1.3a and MM AT-1.3b would apply.	Impacts would be Significant and Unavoidable
Hydrology and Water Quality		
Impact HYDRO-1. Commercial cannabis cultivation under the Program could introduce sediment and other pollutants to surface flows and groundwater, which would cause water resource contamination. With mitigation, this impact would be less than significant.	*Direct:* MM HYDRO-1.1, MM HYDRO-1.2, and MM HYDRO-1.3 would apply. *Indirect:* MM LU-1.1.4 and MM LU-1.1.5 would apply.	*Direct:* Less than Significant with Mitigation *Indirect:* Less than Significant with Mitigation
Impact HYDRO-2. Commercial cannabis cultivation under the Program could adversely affect groundwater supplies and groundwater recharge. This impact would be less than significant with mitigation.	*Direct:* MM HYDRO-2.1, and MM HYDRO-2.2 would apply. *Indirect:* MM HYDRO-2.3 would apply.	*Direct:* Less than Significant with Mitigation *Indirect:* Less than Significant with Mitigation
Impact HYDRO-3. Commercial cannabis cultivation under the Program would have a less than significant effect on existing drainage patterns, including the alteration of the course of a stream or river and the potential to place people or structures in areas of inundation or mudflows, including 100-year floodplains.	*Direct:* No mitigation required. *Indirect:* No mitigation required.	*Direct:* Less than Significant *Indirect:* Less than Significant
Impact HYDRO-4. Commercial cannabis manufacturing under the Program would result in a less than significant effect with mitigation on the introduction of sediment and other pollutants to surface flows and groundwater, and on the groundwater supplies and groundwater recharge.	*Direct:* No mitigation required. *Indirect:* No mitigation required.	*Direct:* Less than Significant *Indirect:* Less than Significant
Impact HYDRO-5. Commercial cannabis manufacturing under the Project would have a less than significant effect on existing drainage patterns, including the alteration of the course of a stream or river and the potential to place people or structures in areas of inundation or mudflows, including 100-year floodplains.	*Direct:* No mitigation required. *Indirect:* No mitigation required.	*Direct:* Less than Significant *Indirect:* Less than Significant
Secondary Impact HYDRO-6. Unregulated commercial cannabis cultivation and cannabis product manufacturing under the Program could potentially introduce	MM AT-1.3a and MM AT-1.3b would apply.	Impacts would be Significant and Unavoidable

Table ES-1. Summary of Impacts, Mitigation, and Residual Impacts

Impact	Mitigation Measure	Residual Significance
pollutants or sediment into surface flows and groundwater, reduce groundwater supplies and recharge, alter existing drainage patterns, or place people or structures in areas of inundation or mudflows. This is a significant and unavoidable impact.		
Land Use		
Impact LU-1. Commercial cannabis cultivation and manufacturing under the Program would potentially conflict with an applicable land use plan, policy, or regulation. Impacts would be less than significant with mitigation.	*Direct and Indirect:* MM BIO-3.2, MM LU-1.1.1, MM LU-1.1.2, MM LU-1.1.3, MM LU-1.1.4, MM LU-1.1.5, and MM LU-1.1.6 would apply.	*Direct and Indirect:* Less than significant with mitigation
Impact LU-2. Commercial cannabis cultivation and manufacturing under the Program could cause adverse effects to existing communities due to increases in traffic, odors, noise, or other quality of life issues. Impacts would be less than significant.	*Direct and Indirect:* No Mitigation Required	*Direct and Indirect:* Less than Significant
Secondary Impact LU-3. Commercial cannabis cultivation and manufacturing under the Program would potentially conflict with an applicable land use plan, policy, or regulation, an adopted habitat conservation plan in the County, or cause adverse effects on existing communities. Impacts would be significant and unavoidable.	MM AT-1.3a and MM AT-1.3b would apply.	Impacts would be Significant and Unavoidable
Public Services and Utilities		
Impact PS-1. Commercial cannabis cultivation under the Program would increase demand for fire protection, police protections, public schools, parks, libraries, and other public facilities. Impacts would be less than significant.	*Direct and Indirect:* No Mitigation Required	*Direct and Indirect:* Less than Significant
Impact PS-2. Cannabis product manufacturing under the Program would increase demand for fire protection, police protections, public schools, libraries, and other public services. Impacts would be less than significant.	*Direct and Indirect:* No Mitigation Required	*Direct and Indirect:* Less than Significant
Secondary Impact PS-3. Unregulated commercial cannabis cultivation and cannabis product manufacturing under the Program could increase demand for fire protection, police protection, public schools, parks, libraries, and other public	MM AT-1.3a and MM AT-1.3b would apply.	Impacts would be Significant and Unavoidable

Table ES-1. Summary of Impacts, Mitigation, and Residual Impacts

Impact	Mitigation Measure	Residual Significance
facilities. Impacts would be significant and unavoidable.		
Population, Employment, and Housing		
Impact POP-1. Commercial cannabis cultivation and manufacturing under the Program could have adverse effects on the housing market due to population and employment growth and associated demand for housing that is above previously projected levels of agricultural and manufacturing job growth; and could indirectly cause an increased rate of construction of housing units on existing lots of record due to requirements of the Program. This impact would be less than significant with mitigation.	*Direct:* MM POP-1.1 would apply. *Indirect:* No mitigation required.	*Direct:* Less than Significant with Mitigation *Indirect:* Less than Significant
Secondary **I**mpact POP-2. Unregulated commercial cannabis cultivation and cannabis product manufacturing under the Program could potentially have adverse effects due to substantial population growth, could displace substantial existing housing, or displace a substantial number of people, which would be a significant and unavoidable impact.	MM AT-1.3a and MM AT-1.3b would apply.	Impacts would be Significant and Unavoidable
Transportation and Traffic		
Impact TRA-1. Program adoption would increase traffic on roadways and daily vehicle miles traveled within the County, incrementally affecting the performance of the circulation system, particularly roadways operations, with significant effects on existing congested roads, highways and intersections that operate below acceptable levels of service and lesser effects on transit and bicycle facilities. This impact would be significant and unavoidable.	*Direct:* MM TRA-1.1 would apply. *Indirect:* MM TRA-1.1 would apply.	*Direct:* Significant and Unavoidable *Indirect:* Significant and Unavoidable
Impact TRA-2. Licensing of commercial cannabis cultivation could result in additional traffic safety hazards, inadequate emergency access, or impacts to road maintenance, particularly along rural County roads. Impacts would be less than significant with mitigation.	*Direct:* MM TRA-2.1 and MM TRA-2,2 would apply. *Indirect:* MM TRA-2.1 and MM TRA-2.2 would apply.	*Direct:* Less than Significant with Mitigation *Indirect:* Less than Significant with Mitigation
Impact TRA-3. Licensing of cannabis product manufacturing could result in additional traffic safety hazards, inadequate emergency access, or impacts to road maintenance, particularly along rural	*Direct and Indirect:* No mitigation required.	*Direct and Indirect:* Less than Significant

Table ES-1. Summary of Impacts, Mitigation, and Residual Impacts

Impact	Mitigation Measure	Residual Significance
County roads. Impacts would be less than significant.		
Secondary Impact TRA-4. Licensing of commercial cannabis cultivation and cannabis product manufacturing could affect the performance of the circulation system, and result in additional traffic safety hazards, inadequate emergency access, or impacts to road maintenance, particularly along rural County roads.	MM AT-1.3a and MM AT-1.3b would apply.	Impacts would be Significant and Unavoidable
Utilities and Energy Conservation		
Impact UE-1. The Program could increase demand or result in the expansion of facilities for water, wastewater, or solid waste services within the County due to licensing of commercial cannabis cultivation and product manufacturing activities. This impact would be less than significant with mitigation.	*Direct:* MM AQ-1.3, MM LU-1.1-6, MM UE-1.1, MM HYDRO-2.1, MM HYDRO-2.2 and MM HYDRO-1.3 would apply. *Indirect:* MM HYDRO-2.1, MM HYDRO-2.2, and MM HYDRO-1,3 would apply.	*Direct:* Less than Significant with Mitigation *Indirect:* Less than Significant with Mitigation
Impact UE-2. The Program would generate additional demand for energy resources within the County and may conflict with energy conservation policies and objectives through the operation of commercial cannabis cultivation and manufacturing facilities. This impact would be less than significant with mitigation.	*Direct:* MM LU-1.1-6 and MM HGH-1,1 would apply. *Indirect:* None required.	*Direct:* Less than Significant with Mitigation *Indirect:* Less than Significant
Secondary Impact UE-3. The Program could increase demand or result in the expansion of facilities for water, wastewater, solid waste services, and energy resources within the County and may conflict with energy conservation policies due to licensing and operation of commercial cannabis cultivation and product manufacturing activities. This impact would be significant and unavoidable.	MM AT-1.3a and MM AT-1.3b would apply.	Impacts would be Significant and Unavoidable

Contents

Tables

Figures

Acronyms and Abbreviations

AAQS	Ambient air quality standards
AB	Assembly Bill
ACS	American Community Survey
ADOE	Archaeological Determination of Eligibility
ADT	average daily traffic
ADU	Accessory Dwelling Units
AF	acre-feet
AFY	acre feet per year
AHG	Affordable Housing Guidelines
AHIF	affordable housing impact fee
AMBAG	Association of Monterey Bay Area Governments
APAC	Agricultural Policy Advisory Commission
APCD	air pollution control district
AQMP	air quality management plan
AUMA	Adult Use of Marijuana Act
B.P.	Before Present
BAAQMD	Bay Area Air Quality Management District's
BAT	Best Available Technology Economically Achievable
BAU	business as usual
BCT	Best Conventional Pollutant Control Technology
BHO	butane honey oil
BMP	best management practice
C4	Cannabis Cultivation Choices Committee
CAAA	Clean Air Act Amendments
CAC	County Agricultural Commissioner
CalEEMod	California Emissions Estimator Model Version 2016.3.1
CalEPA	California Environmental Protection Agency
CalFire	California Department of Forestry and Fire Protection
CALGreen	California's Green Building Standard Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAMP	Campaign Against Marijuana Planting
CARB	California Air Resources Board
CAS	Climate Action Strategy
CAT	Climate Action Team
CBC	California Building Code
CBD	Cannabidiol
CBDA	Cannabidiol Acid
CCAA	California Clean Air Act

CCC	California Coastal Commission
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDOC	California Department of Conservation
CDPR	California Department of Parks and Recreation
CEC	California Energy Commission
CEMEX	Davenport Cement Plant
CEQA	California Environmental Quality Act
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations
CH_4	methane
CHL	California Historical Landmarks
CHRIS	California Historical Resources Information System
CLG	Certified Local Government
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	Carbon Dioxide Equivalents
COG	Council of Governments
County	County of Santa Cruz
CPHI	California Points of Historical Interest
CPRC	California Public Resources Code
CRHR	California Register of Historic Resources
CRPR	California Rare Plant Rank
CSA	County Service Area
CSCWD	City of Santa Cruz Water Department
CWA	Clean Water Act
CWD	Central Water District
CWDPWU	City of Watsonville Department of Public Works & Utilities
cy	cubic yards
DBH	diameter breast height
DPR	Department of Pesticide Regulation
DPW	Department of Public Works
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EFH	Essential Fish Habitat
EHD	Environmental Health Department
EIR	Environmental Impact Report
EMP	Emergency Management Plan
EnviroStor	EnviroStor Database
FEMA	Federal Emergency Management Agency

FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FMMP	Farmland Monitoring and Mapping Program
FPR	California Forest Practice Rules
FTE	full-time-equivalent
GeoTracker	GeoTracker Database
GHG	Greenhouse Gas
GIS	geographic information system
gpd	gallons per day
GSA	groundwater service area
GSP	Groundwater Sustainability Plan
Gt	gigatons
GWh	gigawatt hours
GWP	Global Warming Potential
H_2O	water vapor
HCD	Housing and Community Development
HCP	Habitat Conservation Plan
HID	high intensity discharge
HMMP	Habitat Mitigation and Monitoring Plan
HRI	Historic Resource Inventory
HVAC	heating, ventilation, and air conditioning
HWM	high water mark
ILRP	Irrigated Lands Regulatory Program
IPCC	Intergovernmental Panel on Climate Change
IPHCP	Interim Habitat Conservation Plan
ITE	Institute of Transportation Engineers
km	kilometer
kV	kilovolt
kWh	kilowatt hours
LAFCO	Local Agency Formation Commission
LCP	Local Coastal Program
LOS	Level of Service
LPG	liquefied petroleum gas
LUST	Leaking Underground Storage Tank
MAUCRSA	Medicinal and Adult-Use Cannabis Regulation and Safety Act
MBARD	Monterey Bay Air Resources District
MBCP	Monterey Bay Community Power
MBUAPCD	Monterey Bay Unified Air Pollution Control District
MCF	Medical Cannabis Facilities
METRO	Santa Cruz Metropolitan Transit District
MGA	Mid-County Groundwater Agency
MGD	million gallons per day
MM	mitigation measure

MMRP	Mitigation Monitoring and Reporting Program
MMRSA	Medical Marijuana Regulation and Safety Act
MMT	millions of metric tons
MPO	Metropolitan Planning Organization
MRF	Material Recovery Facility
MT	metric tons
MTP	Metropolitan Transportation Plan
MW	megawatts
N_2O	nitrous oxide
NAHC	Native American Heritage Commission
NCCAB	North Central Coast Air Basin
NHL	National Historic Landmark
NO_2	Nitrogen Dioxide
NOA	Notice of Availability
NOD	Notice of Determination
NOP	Notice of Preparation
NORML	National Organization to Reform Marijuana Laws
NO_x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System Permit
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTMP	Non-Industrial Timber Management Plan
NWIC	Northwest Information Center
O_3	Ozone
ODOE	Oregon Department of Energy's
OHP	Office of Historic Preservation
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	Lead
PG&E	Pacific Gas & Electric Company
PM	particulate matter
PM_{10}	Coarse Particulate Matter
$PM_{2.5}$	Fine Particulate Matter
ppb	parts per billion
pph	people per household
ppm	parts per million;
PRC	Public Resources Code
PRG	Primary Groundwater Recharge
Program	Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program
psi	per square inch

PV	photovoltaic
PVWMA	Pajaro Valley Water Management Agency
RCD	Resource Conservation District of Santa Cruz County
RCRA	Resource Conservation and Recovery Act
RGF	Regional Growth Forecast
RH	relative humidity
RHNA	Regional Housing Needs Allocation
ROG	reactive organic gas
RPF	Registered Professional Forester
RRECAP	Rural Road Erosion Control Assistance Program
RTC	Regional Transportation Commission
RTPA	Regional Transportation Planning Agency
RURCP	Rodenticide Use Reduction and Control Program
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCCC	Santa Cruz County Code
SCCFD	Santa Cruz County Fire Department
SCCRTC	Santa Cruz County Regional Transportation Commission
SCLTS	Santa Cruz long-toed salamander
SCMC Basin	Mid-County Groundwater Basin
SCRSWS	Santa Cruz County Recycling and Solid Waste Services
SCS	Sustainable Communities Strategy
SCSIP	Sustainable Communities Strategy Implementation Project
SCVA	Santa Cruz Veterans Alliance
sf	square feet
SFBAAB	San Francisco Bay Area Air Basin
SFHA	special flood hazard area
SGM	Sustainable Groundwater Management Act
SGMA	Sustainable Groundwater Management Act
SHPO	State Historic Preservation Officer
SIP	state implementation plan
SLF	Sacred Lands File
SLVWD	San Lorenzo Valley Water District
SMC2	Santa Cruz Mountains for Sustainable Cannabis Medicine
SMGWA	Santa Margarita Groundwater Agency
SO_2	sulfur dioxide
SOC	Statement of Overriding Considerations
SP	service population
S-P zone	salamander protection zone
SqCWD	Soquel Creek Water District
SR	State Route

SVWD	Scotts Valley Water District
SWRCB	State Water Resources Control Board
SWRP	Storm Water Resources Plan
TAC	toxic air contaminant
TDM	transportation demand management
THC	Tetrahydrocannabinol
THCA	Tetrahydrocannabinol Acid
THP	Timber Harvest Plan
TMDL	Total Maximum Daily Load
tpd	tons per day
TPZ	Timberland Protection Zone
U.S. EPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UV-B	harmful ultraviolet rays
VMT	Vehicle Miles Traveled
VOC	volatile organic compound
WAMM	Wo/Men's Alliance for Medical Marijuana
WDR	Waste Discharge Requirement
WUI	wildland-urban interface
$\mu g/m^3$	micrograms per cubic meter

Santa Cruz County Code Zoning Designations

A	Agriculture
AP	Agricultural Preserve Zone District
A-P	Agriculture with Agricultural Preserve Zone District
C-1	Neighborhood Commercial
C-2	Community Commercial
C-4	Commercial Services
CA	Commercial Agriculture
CT	Tourist Commercial
F-1	Factory Industrial
I	Industrial Overlay Designation
IG	General Industrial
IP	Industrial Park
M-1	Industrial (light industrial)
M-2	Industrial (heavy industrial)
M-3	Industrial (mineral extraction)
PA	Professional and Administrative Offices
PR	Parks, Recreation and Open Space
Q	Quarry
R-1	Single Family Residential
R-3	Residential- one- and two- family homes
RA	Residential Agricultural
RB	Single Family Ocean Beach Residential
RM	Multi-Family Residential
RR	Rural Residential
RSL	Rural Services Lines
SU	Special Use
TP	Timber Production
USL	Urban Services Line
VA	Visitor Accommodations

Chapter 1
Introduction

1.1 Program Context

Marijuana (hereafter referred to as cannabis) has been grown and processed for commercial purposes in Santa Cruz County for decades due largely to favorable geographic and climatic conditions for cultivation, including dense forested areas receiving substantial precipitation. However, cannabis is considered a controlled substance under federal law and it has historically been unlawful to cultivate, manufacture, distribute or dispense cannabis. Therefore, during most of its history, the local cannabis industry operated in a hidden manner so as not to attract the attention of the public or law enforcement.

Cannabis has been cultivated and processed in the County for decades in hidden areas to avoid detection by law enforcement, which has caused environmental degradation. Recent legalization and associated regulation aims to legitimize and license commercial cannabis activities statewide and locally.

In 1992, the voters of the County of Santa Cruz enacted Measure "A", adding Chapter 7.122 to the Santa Cruz County Code (SCCC), which declared support for making cannabis available for medical use. In 1996, the voters of California approved Proposition 215, entitled "The Compassionate Use Act of 1996". In response to the Compassionate Use Act, the County adopted SCCC Chapter 7.124, establishing a medical cannabis identification card program operated by the County. In 2004, the State Legislature enacted Senate Bill (SB) 420, which provided qualifying patients and primary caregivers who collectively or cooperatively cultivate cannabis for medical purposes with a limited defense to certain specified state criminal statutes. Both Proposition 215 and SB 420 primarily addressed applicable criminal laws, and did not provide comprehensive civil regulation of premises used for cannabis cultivation. SB 420 expressly allowed cities and counties to adopt and enforce ordinances consistent with SB 420, and in 2013, a California Supreme Court ruling also confirmed the authority of a local jurisdiction to adopt land use regulations, including those that address cannabis. On December 10, 2013, the County of Santa Cruz (County) adopted an ordinance related to medical cannabis dispensaries, providing that such businesses were prohibited, but establishing a "limited immunity from enforcement" for dispensaries that did not violate the restrictions and limitations added by the new SCCC Chapter 7.124.

On February 25, 2014, the County adopted a similar "limited immunity from enforcement" approach as related to medical cannabis cultivation within the unincorporated area of the County. The purpose of adopting the ordinance was to establish comprehensive civil regulations of premises used for cultivation in order to address existing adverse effects related to degradation of the natural environment, improperly diverting natural resources, risks of criminal activity, obnoxious odors, fire hazards from improper electrical wiring and inappropriate use of generators, and other adverse effects on neighborhood character and community quality of life. SCCC Chapter 7.126 was adopted to establish reasonable regulations upon the manner in which cannabis may be cultivated, including

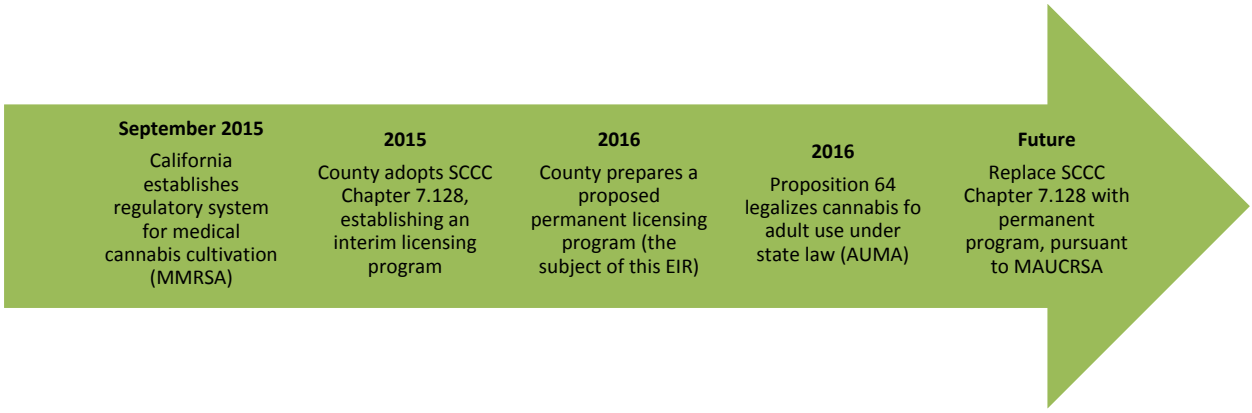
restrictions on the amount of cannabis that may be individually, collectively, or cooperatively cultivated in any location or premises, in order to protect the public health, safety, and welfare in the County.

An unintended consequence of adopting SCCC Chapter 7.126 in February 2014 was that it triggered a "green rush", with existing cultivators expanding operations due to a sense that being hidden was less important, as well as new cultivators moving into the area and setting up new cultivation and manufacturing sites both outdoor and indoor. It appeared that many of the cannabis operations, especially new operators, simply acted upon a misunderstanding that the County allows cannabis activities, without reading or complying with the restrictions and requirements of the SCCC. Therefore, the adverse effects of illegal cannabis cultivation were exacerbated and expanded to include increased areas of hillside grading, clearing of trees and vegetation, and other environmental and community impacts. Currently, there is a significant known but difficult-to-quantify level of cannabis cultivation and manufacturing activity within the unincorporated area of the County.

Due to these adverse results, the County Board of Supervisors took action on August 18, 2015 to repeal SCCC Chapter 7.126 and prohibit the commercial cultivation of cannabis; however, due to the prospect of a County Referendum on that action, the Board later took action to repeal the repeal, which had the effect of leaving the above-described SCCC Chapter 7.126 in place.

The Board of Supervisors subsequently established a Cannabis Cultivation Choices Committee ("C4"), a limited-term advisory group comprised of experts in cultivation, land use, environmental regulations and more. C4 began meeting in September 2015 with the purpose of creating recommendations related to future refinements of the County's approach to regulating cannabis cultivation.

Also in September of 2015, the Medical Marijuana Regulation and Safety Act (MMRSA) was approved, which established California's first statewide regulatory system for medical cannabis businesses. In November 2016, California voters approved Proposition 64, for the Adult Use of Marijuana Act (AUMA), which legalized the personal adult (non-medical) use and cultivation of cannabis for adults 21 years and older. In June 2017, the California Legislature passed Senate Bill 94, the Medicinal and Adult-Use Cannabis Regulation and Safety Act (MAUCRSA), which effectively combines MMRSA and AUMA to create a hybrid regulatory structure to address both medical and recreational cannabis activities under the state's pending licensing program.



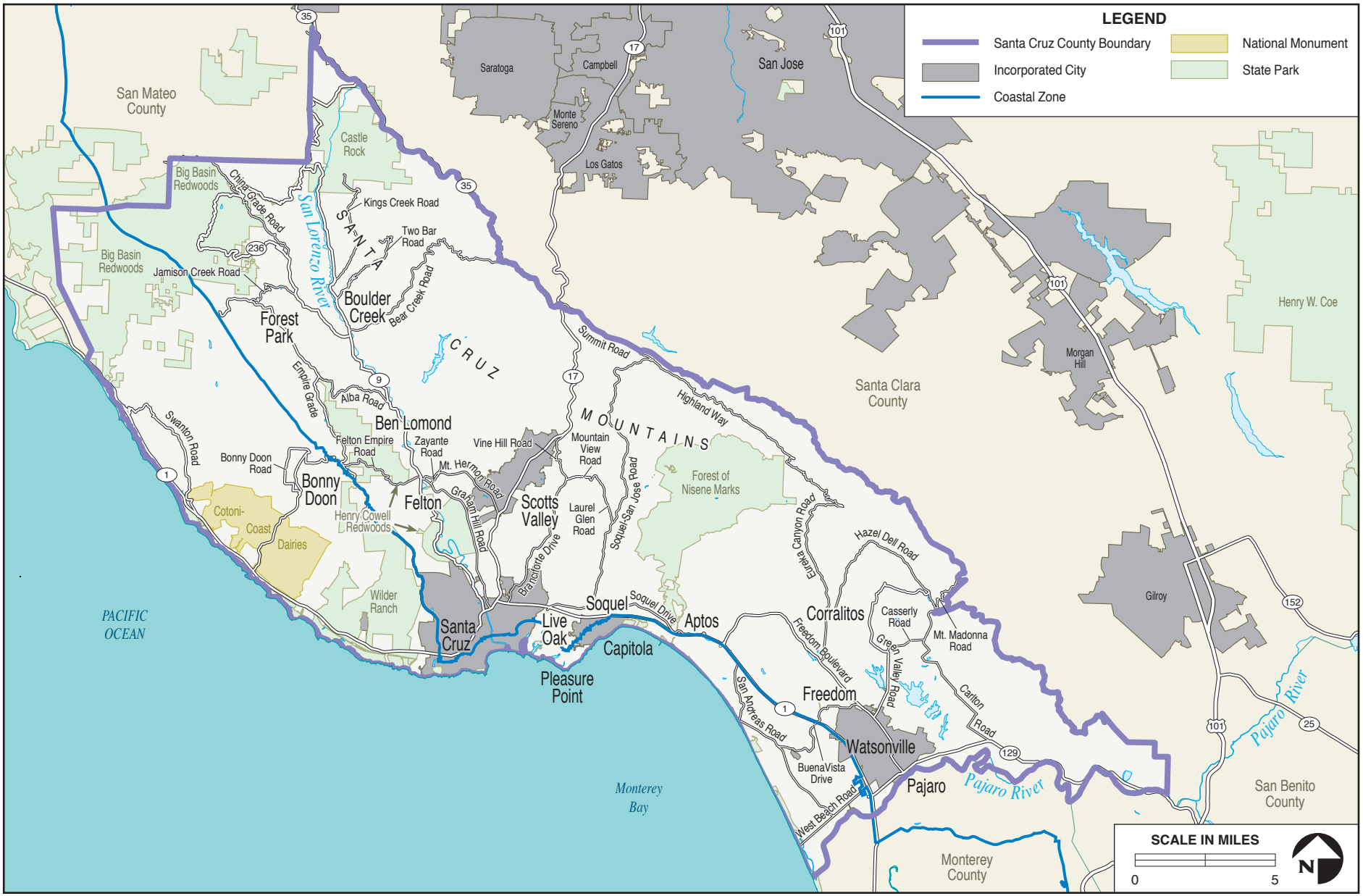
While the state is setting up its own licensing program, local governments can choose whether or not to adopt ordinances to permit or license local commercial cannabis activities. On December 8, 2015, the County adopted an ordinance (SCCC Chapter 7.128) which created an interim licensing scheme to regulate the commercial cultivation of cannabis. However, it is important to note that the existing SCCC Chapter 7.128 has not been effectuated with the granting of licenses, and in practice, only Chapter 7.126 offers limited immunity to limited amounts of cultivated cannabis in the County. The Board of Supervisors requested the C4 to advise the Board on a new cannabis cultivation ordinance and the County worked to draft a framework for a permanent licensing and regulatory program.

The proposed Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program) involves the repeal and replacement of SCCC Chapter 7.128 to provide a means for regulating commercial cannabis cultivation and manufacturing activities countywide, pursuant to the MAUCRSA.

1.2 Program Overview

The County seeks to adopt ordinances to license and regulate commercial cannabis cultivation and manufacturing consistent with required State of California licensing. The County has already adopted regulations that apply to existing dispensaries who are able to pursue licensing; therefore, the Program and this EIR does not pertain to cannabis dispensaries. Likewise, the County has already adopted an ordinance regarding personal cultivation of up to six living cannabis plants authorized under AUMA and MAUCRSA, and the Program and this Environmental Impact Report (EIR) also does not address that type of personal (non-commercial) cannabis cultivation. The Program would regulate cannabis cultivation and manufacturing in the unincorporated portions of the County while providing standards to address neighborhood compatibility concerns, adequacy of services and utilities, and protection of natural resources. The Program would therefore implement state law with appropriate regulations to safeguard public health, safety, and general welfare.

As further described in Chapter 2, *Project Description*, this EIR reviews potential environmental impacts of the repeal of Chapters 7.126 and 7.128 of the SCCC, adoption of a new SCCC Chapter 7.128 regarding licensing of commercial cultivation of cannabis , and adoption of a new SCCC Chapter 7.132 regarding licensing of cannabis product manufacturing. A component of the manufacturing regulations would establish new Cannabis Home Occupation provisions to allow very limited ancillary use of a detached single-family dwelling, operated by the occupant of the home with no employees (larger lot districts would allow limited employees through approval of a conditional use permit). Both cultivation and manufacturing would also be addressed in associated amendments to the General Plan and Local Coastal Program, and the Zoning Ordinance and other chapters of the SCCC.



1-4

amec foster wheeler

Santa Cruz County Existing Setting

FIGURE 1-1

The Program would regulate cannabis cultivation and manufacturing in the unincorporated portions of Santa Cruz County, require environmentally friendly practices, protect public safety, and promote economic success.

This EIR evaluates two Program scenarios: the "Project" and the "More Permissive Project", which are each analyzed at the "project" level of detail as opposed to being considered alternatives to the Program. In the Project and More Persmissive Project scenarios, the Program would allow commercial cannabis cultivation within unincorporated County areas zoned Residential Agriculture (RA), Special Use (SU), Timber Production (TP), Agriculture (A), Commercial Agriculture (CA), Service Commercial (C-4), and Industrial (M-1, M-2, M-3), subject to numerous restrictions, referred to as development standards. The specific development standards differ between the Project and the More Permissive Project scenarios, with the More Permissive Project conditions generally allowing for a greater potential amount of cannabis to be cultivated in the County (for details of differences between the Project and More Permissive Project standards and requirements, see Chapter 2, *Project Description*). Under the Project scenario, cultivation would be excluded from RA, SU, and TP zoning within an area defined by the Coastal Zone + 1-mile buffer inland. The Project scenario would not permit outdoor cultivation in the Second Supervisorial District, while the More Permissive Project would remove that restriction. The Program includes required setbacks from sensitive areas and uses such as schools and creeks, and certain prohibitions, which are based on the license type.

Additionally, manufacturing of cannabis products would be licensed in areas zoned RA, SU, TP, A, CA, C-4, M-1, M-2, M-3, and Community Commercial (C-2; only in conjunction with a licensed dispensary); small-scale cannabis manufacture home occupations would be allowed in association with detached single-family dwellings in residential, commercial, agricultural, industrial, timber production, and special use zoning districts. Manufucturing under both the Project and the More Permissive Project scenarios would be subject to restrictions based upon the materials and processes associated with the manufacturing activity, with limits on where certain types of manufacturing may locate. Notaby, use of high pressure or other more hazardous processes and materials would not be allowed for cannabis home occupation businesses, which would also need to be a minor ancillary use of a detached single-family home (refer to Chapter 2, *Project Description*).

1.3 Purpose of the EIR and Legal Authority

The California Environmental Quality Act (CEQA) was enacted in 1970 by the California legislature to disclose to decision makers and the public the potentially significant environmental effects of proposed activities and the ways to avoid or reduce those effects by requiring changes to the proposed project, and/or implementation of feasible alternatives or mitigation measures. The purpose of an EIR is not to either mandate or prohibit a project or component thereof, and a project ultimately selected for approval by the decision-making body may incorporate components of the proposed Project (or the co-equal More Permissive Project in this EIR) or alternatives. CEQA applies to all California government agencies at all levels, including local government agencies that fund projects, adopt

regulations, or provide discretionary approvals for projects proposed by private applicants. As such, the County is required to undertake the CEQA process before making a decision on a project. In accordance with Section 21067 of CEQA and Sections 15367 and 15050 through 15053 of the state CEQA Guidelines, the County is the Lead Agency with authority and primary responsibility to perform environmental review, including certification of the EIR.

Guidance for the process and contents of an EIR are contained in the CEQA Statutes provided in California Public Resources Code (PRC) Section 21000 et seq. and the state CEQA Guidelines (California Code of Regulations [CCR], Title 14, Section 15000 et seq.). Additionally, the County's SCCC Chapter 16.01, *Regulations for Preserving and Enhancing the Environment*, are the County environmental review guidelines and procedures to implement CEQA and state EIR Guidelines, as adopted by the Board of Supervisors.

This EIR was prepared in order to analyze the physical environmental impacts of the Program, inform agencies and the public of related potentially significant environmental effects, evaluate reasonable alternatives, and propose mitigation measures, changes in the proposed Program, and best management practices that would avoid or reduce the Program's significant effects. While Section 15021(a) of the state CEQA Guidelines requires that major consideration be given to avoiding environmental damage, the Lead Agency and other responsible public agencies must balance adverse environmental effects against other public objectives, including social and economic goals, in determining whether and in what manner a project should be approved. Projects may be approved that involve significant and unavoidable impacts, upon adoption of findings and a Statement of Overriding Considerations by decision-makers, explaining social, economic or other reasons for why the project is being approved in spite of remaining unavoidable impacts.

1.4 Program EIR

This EIR can be characterized as a Program EIR prepared pursuant to §15168 of the state CEQA Guidelines. The state CEQA Guidelines clarify that a Program EIR may be prepared on a series of actions that can be characterized as one large project and are related either 1) geographically; 2) as logical parts in the chain of contemplated actions; 3) in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or 4) as individual activities carried out under the same statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

A program-level analysis for the proposed Program is appropriate in this EIR because:

- Site-specific details for all cultivation and manufacturing sites are not available at this time;
- The proposed Program covers a defined geographic area with regional subareas with similar land use characteristics (as further discussed in Section 2.2, *Existing Setting*); and
- A program-level analysis provides the County with the opportunity to consider "broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts" (CEQA Guidelines Section 15168(b)(4).

As a Program EIR, the level of detail included in the project description and methodology for impact analysis is more general than a project-level EIR, as site-specific details about individual cultivation and manufacturing sites are not available to be fully evaluated. This Program-level approach will

allow the County Board of Supervisors to consider the broad implications and impacts associated with the Program without requiring a detailed evaluation of individual properties.

A Program EIR is most helpful in dealing with subsequent activities if it addresses the effects of the Program as specifically and comprehensively as possible. In this way, many subsequent activities related to implementation of the Program could be found to be within the scope of the project described in the Program EIR, and if the agency finds that no new effects could occur or no new mitigation measures would be required, then the agency can approve the project (with mitigation measures, as required) as being within the scope of the project covered by the Program EIR, and no new environmental document would be required. In this situation, any required public notices for the subsequent activities are to include a statement that the activity is within the scope of the program approved earlier, and that the Program EIR adequately described the activity for the purposes of CEQA.

In accordance with CEQA Guidelines 15168(c), if subsequent, individual cannabis cultivation or manufacturing site development projects would have effects that were not examined in the EIR, further CEQA review would be required at that time to determine site-specific impacts in accordance with the use permit, license, or development application review process. However, this Program EIR can be used to simplify the task of preparing environmental documents on later parts of the Program or subsequent activities or projects. The Program EIR can provide the basis in an Initial Study for determining whether the later activity may have any significant effects, may be incorporated by reference as provided by the CEQA Guidelines [15168(d)(2)], and can be used to focus an environmental document on a subsequent project to permit discussion solely of new effects which had not been considered before.

This Program EIR analyzes the Program's environmental effects by evaluating the cumulative amount of cannabis cultivation and manufacturing development that could occur as a result of the Program or a reasonable "worst-case" scenario for a particular resource area (see also, Section 3.0, *Introduction and Approach to Analysis*).[1] This Program EIR describes the existing environmental conditions and regulatory setting of the County based on data from the 2016 County Pre-Application License Registration Process, public agency compliance and enforcement data, field surveys, stakeholder surveys and interviews, other local cannabis industry knowledge, and case studies. The EIR analyzes potential environmental impacts that could result from implementation of the proposed Program in the foreseeable future, and identifies mitigation measures where feasible and necessary to avoid or reduce potentially significant impacts.

1.5 Scope of the EIR

This EIR assesses the potential environmental impacts that could occur with implementation of the proposed Program. As stated earlier, the "Program" consists of adoption of General Plan/Local Coastal Program policies and amendments, and adoption of new ordinances addressing issuance of licenses for commercial cannabis cultivation and manufacturing, and zoning ordinance and other SCCC amendments regarding commercial cannabis cultivation and manufacturing permitting and other requirements. The County has defined a proposed "Project" for these aspects of the Program, as well as a proposed "More Permissive Project" for these aspects of the Program. Analysis of the differences

[1] The impacts that are evaluated are limited to those associated with expanded and new cultivation and manufacturing that is not already occurring as of the date the Notice of Preparation for this EIR was published in 2017. Discussion of the environmental baseline for the EIR analysis is provided in Section 3.0.

between the two projects is intended to result in information that is useful in making decisions about how to structure the Program that is ultimately recommended for adoption. The alternatives analysis also provides information regarding alternatives to both the defined Project and More Permissive Project. This Program EIR has been structured in this manner in order to provide high level information about regulatory choices and tradeoffs, as well as flexibility for decision-makers to adopt regulations that would fall anywhere within the range of the defined Program scenarios and the alternatives analyzed by this Program EIR.

The EIR evaluates potentially significant environmental impacts, including those associated with issues raised in public comments received in response to the Notice of Preparation (NOP) and at public workshops and hearings (see Appendix B, *NOP and Public Comments*). This scoping determined that the EIR should analyze the following issues (see Section 3.0, *Introduction and Approach to Analysis*):

- Aesthetics and Visual Resources
- Agricultural and Timber Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas (GHG) Emissions and Climate Change
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Public Services
- Population, Employment, and Housing
- Transportation and Circulation
- Utilities and Energy Conservation

This EIR addresses the topics referenced above and identifies potential environmental impacts associated with the Program, in accordance with the provisions of the state CEQA Guidelines. In accordance with state CEQA Guidelines §15128 (Effects Not Found to Be Significant), environmental impacts related to Noise and Mineral Resources were not considered significant and therefore were not fully discussed in the EIR (see Section 3.15, *Other CEQA Issues*).

Consistent with state CEQA Guidelines (§15126.6[d]), this EIR includes assessment of a reasonable range of alternatives to the Program, including alternatives that could feasibly attain most of the basic objectives while avoiding or substantially lessening one or more of the significant effects of the proposed Program (see Section 4.0, *Alternatives*).

1.6 Agencies and Roles

The EIR process for the Program involves the following interested agencies, as specified in the state CEQA Guidelines:

Lead Agency	The County of Santa Cruz is the Lead Agency as it is the agency with principal responsibility for approving or carrying out the project (CEQA Guidelines §15367). Within the County organization, the Office of Cannabis Licensing, along with other county agencies and departments will have roles associated with the Program, including the Planning Department for land use permit, building permit, environmental permit and code enforcement functions; as well as Environmental Health, County Sheriff's Office, and Agricultural Commissioner.
Responsible Agencies	Additional agencies with approval authority over aspects of the Program include the California Coastal Commission (CCC) (CEQA Guidelines §15381).
Trustee Agencies	State agencies with general management authority over specified natural resources of the state when the resources may occur within a Program area, including the California Department of Fish and Wildlife (CDFW), California Department of Parks and Recreation (CDPR), California Department of Food and Agriculture (CDFA), Regional Water Quality Control Board (RWQCB), and California Department of Conservation (CDOC) (CEQA Guidelines §15386).
Other Interested Agencies	Additional agencies that may be interested in the Program and its impacts, though would have no authority over Program approval or adoption, may include the Monterey Bay Air Resources District (MBARD), Department of Toxic Substances Control (DTSC), the Native American Heritage Commission (NAHC), California Department of Forestry and Fire Protection (CalFire), and the California Department of Transportation (Caltrans).

1.7 Environmental Review Process

The EIR process for the proposed Program consists of the following steps, as specified in the state CEQA Guidelines:

Notice of Preparation (NOP)/Public Scoping Meeting	The County issued an NOP on February 13, 2017 to request comments on the scope of the EIR. The NOP was published online at www.sccoplanning.com and circulated to relevant agencies, community organizations, and interested individuals in the County. A public scoping meeting was held on February 28, 2017; a 30-day public comments period closed March 15, 2017 (CEQA Guidelines §15082).
Draft EIR and Public Review Period	The County prepared and distributed a Notice of Availability (NOA) for the Draft EIR to relevant agencies and interested parties within the County on August 31, 2017. The NOA provided notice of a minimum 45-day public review and comment period for the Draft EIR, from August 31, 2017 to October 16, 2017, and the Draft EIR was made available on the County's website: http://www.sccoplanning.com/PlanningHome/Environmental/CEQAInitialStudiesEIRs/CEQADocumentsOpenforPublicReview.aspx, and at the County Planning Department and County libraries (CEQA Guidelines §15087).
Final EIR	The County prepares a Final EIR which includes the Draft EIR with any necessary revisions, public comments received on the Draft EIR, and a list of persons and entities who commented, and written responses to public comments submitted during the Draft EIR public review period. The Final EIR will be available to public agencies at least 10 days prior to the public hearing when certification is considered

	by the County Board of Supervisors. The Final EIR will be available for public review on the County's website: http://www.sccoplanning.com/PlanningHome/Environmental/CEQAInitialStudiesEIRs/CEQADocumentsOpenforPublicReview.aspx, and at the County Planning Department and County libraries (CEQA Guidelines §15089).
EIR Certification, Project Decision, Findings and Statement of Overriding Considerations	The County certifies that the Final EIR is completed in compliance with CEQA. According to Public Resources Code (PRC) Section 21081, when the EIR identifies significant environmental impacts that may result from a project, the lead agency's decision-making body must make specific findings before approving the project, and must adopt a Statement of Overriding Considerations (SOC) if potentially significant and unavoidable impacts are identified. The SOC must provide specific reasons in writing why the decision makers have determined that the benefits of the proposed project make its unavoidable adverse environmental impacts acceptable (CEQA Guidelines §15091 - 15093).
Mitigation Monitoring and Reporting Program (MMRP)	The County adopts a MMRP for mitigation measures that are part of Program approval (CEQA Guidelines §15097).
Notice of Determination (NOD)	The County files a NOD with the State Clearinghouse within five working days of the agency action to approve the Program (CEQA Guidelines §15094).

1.8 Areas of Known Public Controversy

CEQA requires that an EIR identify areas of controversy known to the Lead Agency, including issues raised by the agency as well as the public (CEQA Guidelines §15123). Based on County public hearings, C4 meetings, the NOP scoping meeting, and public workshops on the Program, as well as public letters received on the NOP (see Appendix B), the following environmental issues are known to be of concern and may be controversial. Each issue is further discussed in this EIR.

- Zoning restrictions for commercial cultivation and manufacturing sites;
- Compatibility with surrounding agricultural and timber land uses;
- Compatibility with nearby residential communities;
- Criminal activity;
- Loss of agricultural land;
- Loss of forested land;
- Loss of sensitive biological habitat;
- Degradation of natural environment;
- Aesthetics and views;
- Objectionable odors;
- Hydrology and water quality, including surface and groundwater sources;
- Water demand and supply;
- Fire hazards;
- Utilities and waste demand;

- Public services demand; and
- Cumulative impacts, such as changes in the character of communities and rural areas.

1.9 Organization of the EIR

The content and organization of this EIR are designed to meet the current requirements of CEQA and the state CEQA Guidelines. The required CEQA sections are referenced along with the contents below to demonstrate CEQA compliance.

Executive Summary (Section 15123) presents a summary of the Program and alternatives, potential impacts and mitigation measures, and conclusions regarding growth inducement and cumulative impacts.

Table of Contents (Section 15122) provides a list of the contents included within the EIR.

Chapter 1, Introduction, provides an overview of the EIR process, describes the purpose and scope of this EIR, and outlines required EIR contents and the organization of the EIR.

Chapter 2, Project Description (Section 15124), describes the location, details, and objectives for the Program.

Chapter 3, Introduction and Approach to Analysis (Sections 15125, 15126.2, 15126.4, 15128, and 15130), describes the existing environmental conditions and regulatory framework for each environmental resource area before Program implementation, methods and assumptions used in the impact analysis, criteria for determining significance, impacts that would result from the Program, and feasible mitigation measures that would eliminate or reduce significant impacts. Section 3.14, *Other CEQA Issues* (Section 15126.2), identifies insignificant issue areas, as well as significant and irreversible, potential growth-inducing, and significant and unavoidable effects.

Chapter 4, Alternatives (Section 15126.6), evaluates the environmental effects of Program alternatives, including the No Project Alternative. It also identifies the environmentally superior alternative.

Chapter 5, List of Preparers (Section 15129) and References (Section 15129), identifies the individuals and/or organizations involved in preparing this EIR, and identifies the documents (printed and website references) and individuals (personal communications) consulted during preparation of this EIR. This chapter includes the agencies and people consulted to ascertain information for the analysis of impacts and support for the conclusions made from the analysis.

Chapter 6, Mitigation Monitoring and Reporting Program (MMRP) (Section 15091), provides a program for reporting on or monitoring the changes and measures that are either required as part of the Program's adoption or made as future conditions of approval of projects or activities in order to avoid or substantially lessen significant environmental effects.

Technical Appendices provide information and technical studies that support the environmental analysis contained within this document, and include the NOP, responses to the NOP, and supporting technical studies.

Chapter 2
Project Description

2.1 Introduction and Overview

The County of Santa Cruz (County) is proposing a Commercial Cannabis Cultivation and Manufacturing Regulation and Licensing Program (Program). Currently, there are substantial levels of commercial cannabis cultivation and manufacturing occurring within the unincorporated area of the County. A fundamental purpose of the Program is to regulate allowable activities within the parameters of state and local law and thus to reduce illegal, unpermitted, and unlicensed commercial cannabis activities and associated impacts. Consistent with state law, the proposed Program would regulate commercial cannabis cultivation and cannabis product manufacturing within unincorporated areas of the County to balance the diverse demands for cannabis products with the health, safety, and welfare of the community, and to address the range of demands on County services and potential adverse effects on the environment and local community. The Program would regulate how, where, and how much cannabis and cannabis products may be legally commercially cultivated and manufactured to provide a reliable and high-quality supply, while also protecting the environment and neighborhood quality.

*The proposed Program would regulate **production methods, crop volumes,** and **growing locations** for commercial cannabis cultivation and manufacturing in the County.*

The Program involves three main components: 1) the Program would ultimately result in repeal of Chapters 7.126 and 7.128 of Santa Cruz County Code (SCCC) and adoption of a new Chapter 7.128 regarding licenses for the commercial cultivation of cannabis; 2) the Program would also adopt a new SCCC Chapter 7.132 addressing licensing and regulation of cannabis product manufacturing in the County; and 3) the Program would include amendments to the County's Zoning Ordinance (Chapter 13.10) and other relevant chapters of the SCCC, along with associated amendments to the County's General Plan/Local Coastal Program to identify land use designations and certain permit processes and regulations that could allow commercial cannabis cultivation and manufacturing.

The Program has 3 components for regulating commercial cannabis cultivation and manufacturing in the County:

- Amend the **SCCC**
- Amend the **General Plan/Local Coastal Program**; and
- Implement the **Licensing Program** to track and control cultivation and manufacturing sites in the unincorporated areas of the County.

Proposed revised SCCC Chapter 7.128 would update the Commercial Cannabis Cultivation and Licensing Program and proposed SCCC Chapter 7.132 would create the Cannabis Product Manufacturing Licensing Program. Additionally, the SCCC would be amended to include new Cannabis Home Occupation provisions, which would

regulate certain types of limited and ancillary cannabis manufacturing activities on sites that contain detached single-family dwellings. Both licensing programs would be overseen by the County's Cannabis Licensing Official to comprehensively monitor and control cultivation and/or manufacturing sites throughout unincorporated areas of the County. Licensing would be subject to review and payment of fees to allow the County to regulate growers and manufacturers consistent with the standards of the Program. Where the commercial cannabis cultivation or manufacturing activities involve structures and site development, the County's Planning Department will generally also be involved in reviewing land use applications for consistency with applicable use and development regulations, including issuance of development permit approvals and building permits for activities proposed to be licensed.

Under the proposed Program, commercial cannabis cultivation would generally become a principally or conditionally permitted use subject to restrictions to be implemented through the licensing program within areas zoned as follows:

- Agriculture (A),
- Commercial Agriculture (CA),
- Residential Agriculture (RA),
- Special Use (SU),
- Timber Production (TP),
- Commercial Services (C-4), and
- Industrial (M-1, M-2, M-3), including Quarry (Q) overlay

The proposed Program would prohibit commercial cannabis cultivation in Residential Rural (RR), Single Family (R1, RB), and Multiple Family (RM) Residential zone districts.

Within areas that would allow commercial cannabis cultivation, the Program would also include a range of exclusions (such as setbacks from specified features) and use prohibitions, based on the license type.

The two different scenarios of the Program include both the ***Project*** and the ***More Permissive Project,*** two potential scenarios that are analyzed at the same level of detail in this EIR.

During the Program initiation process, the County identified two regulatory scenarios to evaluate and compare at the same level of detail in the EIR: the Project and a More Permissive Project. The More Permissive Project generally increases the amount of cultivation that can occur, primarily through reduction of minimum parcel sizes in the A and RA zoning districts (from 10 acres to 5 acres, and from 5 acres to 2.5 acres, respectively), allowing cultivation within the 1-mile buffer area from the coastal zone for the RA, TP, and SU zoning districts, allowing cultivation within the 2nd Supervisorial District, reducing required setbacks from neighboring habitable structures (from 200 feet to 150 feet), and increasing allowable cannabis canopy limits (approximately double the levels of the proposed Project). This dual analysis will allow the County to compare the tradeoffs of increased licensing of commercial cannabis cultivation against the environmental and neighborhood impacts. Both Program scenarios also include cannabis products manufacturing regulations, as described below, which do not differ between the two scenarios.

Under the Program, cannabis product manufacturing implemented through the licensing program would become an allowable activity, subject to limits on the type and scope of manufacturing activities. Land use permit approvals are also required prior to issuance of a license, in accordance with the zoning ordinance use charts. Only very limited types of cannabis manufacturing/processing

activities would be allowed as ancillary uses at sites with detached single-family homes, consistent with proposed Cannabis Home Occupation regulations. In the following zoning districts, licenses for cannabis manufacturing would be issued either along with licensed commercial cultivation or as stand-alone manufacturing operations, as noted.

- Community Commercial (C-2) – only in conjunction with a licensed dispensary
- Commercial Services (C-4)
- Industrial (M-1, M-2, M-3), and Quarry/Industrial Overlay Designation (Q/I) designation in General Plan/Local Coastal Program [LCP])
- Special Use (SU) – with a compatible General Plan land use designation, and subject to limitations and requirements of the most comparable zoning district for that designation
- Timber Production (TP) – in conjunction with commercial cultivation and only on sites with a detached single-family dwelling
- Commercial Agriculture (CA) – in conjunction with commercial cultivation
- Agriculture (A), in conjunction with commercial cultivation
- Residential Agricultural (RA) – only on sites with a detached single-family dwelling and consistent with an approved Cannabis Home Occupation Permit
- Rural Residential (RR) – only on sites with a detached single-family dwelling and consistent with an approved Cannabis Home Occupation Permit
- Single Family Residential (R-1) – only on sites with a detached single-family dwelling and consistent with an approved Cannabis Home Occupation Permit
- Single Family Ocean Beach Residential (RB) – only on sites with a detached single-family dwelling and consistent with an approved Cannabis Home Occupation Permit
- Multi-Family Residential (RM) – only on sites with a detached single-family dwelling and consistent with an approved Cannabis Home Occupation Permit.

Most manufacturing activities are proposed to be conditionally permitted through required discretionary land use permit approval(s) in addition to a license.

Note that in addition to the two Program scenarios being analyzed as co-equal projects, this EIR also presents a range of alternatives in Section 4.0, *Alternatives*. The alternatives have been structured to provide even more information about possible ways to structure the Program, as well as to reduce potentially significant environmental impacts.

2.2 Existing Setting

2.2.1 Program Location

The County is located on the Pacific coast of California at the north end of Monterey Bay. The County lies approximately 65 miles south of San Francisco, 35 miles north of Monterey, and 35 miles southwest of the Silicon Valley. Adjacent counties include San Mateo to the northwest, Santa Clara to the northeast, San Benito to the southeast, and Monterey to the south. The County is the second

smallest county in California by land area, with 262,382 residents and a total area of 607 square miles, of which 445 square miles is land and 162 square miles is water (U. S. Census Bureau 2010).

The County extends along more than 29 miles of rugged mountainous watersheds and coastlines that support forests, sandy beaches, coastal lagoons, and areas of steep coastal bluffs. The County reaches approximately 10 miles inland from the coast to the crest of the Santa Cruz Mountains. The topography and terrain of the County is highly varied, including the steep slopes and peaks of the

The County of Santa Cruz is characterized by rugged coastlines and sandy beaches, flat coastal terraces, forested mountains, and agricultural land overlooking the Monterey Bay National Marine Sanctuary. Photo: Aerial Photo Source; Community Foundation of Santa Cruz

Santa Cruz Mountains in the north and northeast, coastal terraces in the mid-County where much of the urban population is located, and the alluvial southern area of the County which is mostly in agricultural use (County of Santa Cruz 1994). The County encompasses a diverse range of habitats, including redwood forests, mixed conifer hardwood forests, oak woodlands, coastal beaches and wetlands, and riparian woodlands along the San Lorenzo and Pajaro Rivers, as well as on major streams such as Scott, Soquel, and Aptos Creeks (County of Santa Cruz 2017).

2.2.2 Regions and Planning Areas

For planning purposes and to identify the unique characteristics of different areas of the County, 15 planning areas have been identified by the County in its General Plan and are used as a geographic basis for this Program (Figure 2-1). The County defined the planning areas to correspond to unique geographic regions within the County and to generally follow the boundaries of California Census Tracts. The planning areas were used during the County's cannabis license registration process in 2016 to identify the current and proposed locations of cannabis cultivation and manufacturing sites. To facilitate Program data and impact analysis, this EIR groups the planning areas into four regions based on physical setting and land use patterns: North Coast, Mountain, Urban, and South County (Figure 2-1).[1]

North Coast Region

The North Coast Region is characterized by its rugged coastline, coastal grassland, redwood forests, and Mediterranean climate.

The 72,673-acre North Coast Region lies in northwestern Santa Cruz County, extends approximately 6 miles inland and includes the North Coast and Bonny Doon planning areas. Unincorporated towns in this region include Davenport, a coastal community of approximately 400 residents, located on Highway 1 approximately 9 miles north of the City of Santa Cruz, and the communities of Swanton and Bonny Doon. Public road infrastructure is limited in this region, with Highway 1 providing the primary transportation corridor along the coast. Pine Flat Road, Bonny Doon Road, Swanton Road, and Last Chance Road provide access into the coastal foothills. Empire Grade runs northwest-southeast on the ridgeline. North Coast Region land uses are characterized by a mix of public lands, such as state parks, private agricultural and timber operations, and low-density residential neighborhoods with large single-family parcel sizes. Agriculture and some cattle grazing occur along the coastal terraces, with pockets of agricultural use occurring in the hillside and mountainous areas. Zoning districts in this region primarily allow for timber production, special use, residential, and parks/recreation, as well as the Lockheed Martin Santa Cruz ordinance test and design facility. Public lands include Big Basin Redwoods and Wilder Ranch State Parks, Cotoni-Coast Dairies National Monument, and a series of state parks and beaches along the shoreline. The climate

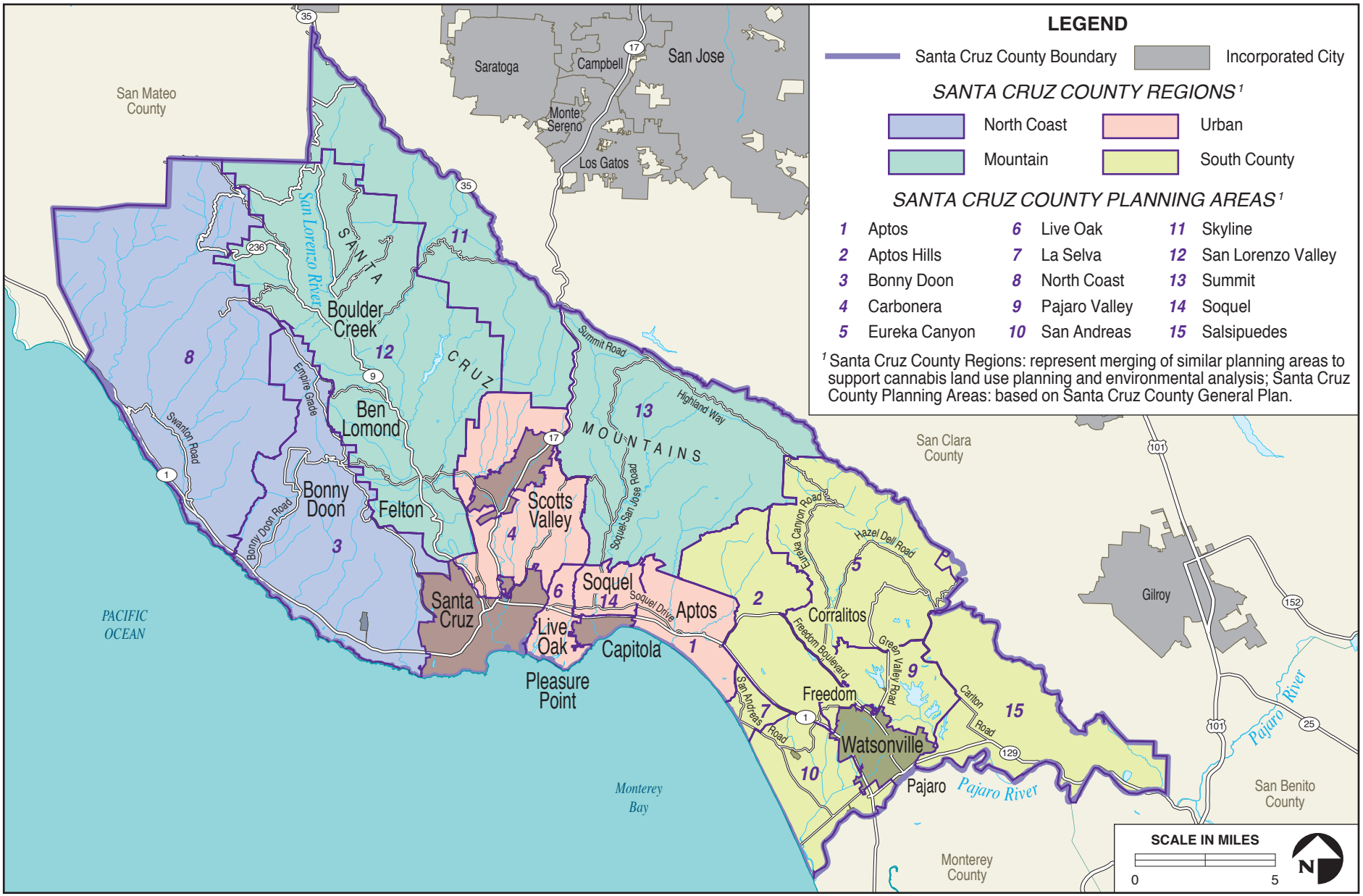
[1] The Program would apply in unincorporated areas only. Incorporated cities are noted for information purposes only.

is cool with fog and wind in coastal areas, with higher temperature and increased sunshine at higher elevations. This region's habitats include coastal sage scrub and grasslands in lower elevations and oak woodland, chaparral, and redwood higher in the mountains; riparian woodlands line the streams, often with estuaries at the shoreline. Areas of the Santa Cruz Sand Hills habitat area also lie within this region. The North Coast Region includes the Año Nuevo, Waddell, Scott, San Vicente, Laguna, Liddell, Majors, and Baldwin Wilder watersheds (County of Santa Cruz 2017a).

Mountain Region

The Mountain Region includes the Santa Cruz Mountain Range, which comprises deep valleys and forested slopes, with a temperate climate.

The 101,907-acre Mountain Region is in the northeastern portion of the County, extending from the ridgelines on the west side of the San Lorenzo Valley to the Santa Clara County line. The Mountain Region includes the San Lorenzo Valley, Summit, and Skyline planning areas and encompasses much of the Santa Cruz Mountain range. The unincorporated towns in this region include Felton, Ben Lomond, Brookdale, and Boulder Creek, which are small mountain communities with a total of approximately 15,200 residents clustered along Highway 9. Public road access is limited in this region with access to rural mountain neighborhoods outside the town centers provided by small rural roads and private drives. Empire Grade, Highway 236 (Big Basin Highway), and Jamison Creek Road provide access to rural areas on the west side of the region, while Bear Creek Road, Skyline Boulevard (Highway 35), Summit Road, and East Zayante Road provide access to the east. Unpaved logging and fire access roads are common throughout the area. Mountain Region land uses include small town commercial and residential cores along the San Lorenzo Valley, with private rural neighborhoods and timber operations in foothill and mountainous areas and numerous organized camps. Zoning districts in this region primarily allow for timber production, special use, residential, and parks/recreation. Public lands include Henry Cowell Redwoods, Castle Rock, and the Forest of Nisene Marks State Parks, as well as the Loch Lomond Reservoir, which is a major water source for the urban portion of the unincorporated County and City of Santa Cruz. The climate is generally warm and sunny in the summer and cold, wet, and subject to frosts during the winter. This region's habitats include dense redwood forest with clearings of oak woodland and chaparral, as well as the Santa Cruz Sand Hills habitat. The headwaters of the 25-mile long San Lorenzo River originate in this region above Boulder Creek; this is the largest watershed located completely within the County, encompassing 138 square miles. The Soquel Creek watershed also drains through this planning area in the hills above Soquel and Capitola (County of Santa Cruz 2017a).



amec foster wheeler

Countywide Planning Regions and Areas

FIGURE 2-1

Urban Region

Live Oak and Pleasure Point are unincorporated communities located between the cities of Capitola and Santa Cruz within the Urban Region.

The 26,023-acre Urban Region is in the central portion of the County and comprises the unincorporated Carbonera, Live Oak, Soquel, and Aptos planning areas. This region also includes the unincorporated communities of Rio del Mar and Seacliff. The incorporated cities in this region include Santa Cruz, Scotts Valley, and Capitola. The Urban Region supports densely populated urbanized communities with rural residential, agricultural, and forest lands in the inland hills. Land uses in the Urban Region are predominantly residential, with an unincorporated population of 33,220 residents living in Oak, Soquel, and Aptos. The Urban Region also contains much of the County's commercial and manufacturing/industrial land uses. Zoning districts in this region primarily allow for residential, commercial, industrial, public facilities, and parks/recreation. Public lands include portions of Henry Cowell Redwoods and the Forest of Nisene Marks State Parks. Highway 1 and Highway 17 provide regional access with connections to major public roads, including Soquel Avenue, 41st Avenue, Branciforte Drive, and Mount Hermon Road. The climate is generally clear and sunny in the inland areas with periods of fog and rain, while the coastal areas are temperate and often foggy. This region's habitats include riparian corridors, redwood forest, oak woodland, and chaparral, as well as Santa Cruz Sand Hills. The Baldwin Wilder, San Lorenzo, and Soquel Creek watersheds run through the Urban Region, connecting to the Pacific Ocean. The Baldwin Wilder watershed is located just north of the San Lorenzo River watershed. It drains an area of approximately 20 square miles and is comprised of Wilder Ranch State Park with some agriculture along the coast and a quarry along Old Dairy Gulch. San Lorenzo River flows from the crest of the Santa Cruz Mountains to the sea, through the densely populated San Lorenzo Valley and the City of Santa Cruz, connecting with the Pacific Ocean south of the city's tourist core that includes the Santa Cruz Beach Boardwalk and waterfront area. It drains an area of approximately138 square miles, including such major tributaries as Boulder Creek, Bear Creek, Love Creek, Zayante Creek, and Carbonera Creek. Soquel Creek drains an area of 42 square miles and flows from the Summit area to the Pacific Ocean bisecting the City of Capitola's residential and tourist districts at Capitola Beach. The Urban Region includes the lower portions of several other major and minor drainages, including Trout Gulch and Valencia Creeks, Aptos Creek, Rodeo Gulch Creek, and Arana Gulch Creek (County of Santa Cruz 2017a).

South County Region

Expansive fields of row crops, including top-valued strawberries, are characteristic of the coastal terraces in the South County Region.

The 55,846-acre South County Region is in the southeastern portion of the County and includes the Eureka Canyon, Aptos Hills, La Selva, San Andreas, Pajaro Valley, and Salsipuedes planning areas. This region includes the unincorporated communities of Corralitos, Freedom, La Selva Beach, Larkin Valley, and Amesti, as well as the incorporated City of Watsonville. The South County Region is characterized by expansive irrigated agricultural fields in coastal areas, including strawberries, row crops, nurseries, Brussels sprouts, and apples. Inland areas support rural residential and agricultural uses, including greenhouses, orchards, and equestrian facilities. Land uses in the South County Region are predominantly commercial agriculture, but include residential uses in small communities. Zoning districts in this region primarily allow for agriculture, special use, residential, and parks/recreation. Public lands include Manresa and Sunset State Beaches. The region is accessible via Highway 1 and Highway 152, with connections to key public roads, including Freedom Boulevard, Green Valley Road, Eureka Canyon, Highland Road, and San Andreas Road. The climate is generally clear and sunny in the inland areas with periods of fog and rain, while the coastal areas are temperate and often foggy. This region's most expansive natural habitats are in the inland foothills with redwood forest, oak woodland, and chaparral, with riparian areas extending to the coast, and multiple large sloughs and wetlands amidst coastal agricultural fields. The majority of the Aptos Creek watershed, the San Andreas watershed, the Corralitos watershed, and the Salsipuedes and Pajaro watersheds are included in the South County Region to the beaches (County of Santa Cruz 2017a).

2.2.3 Urban and Rural Areas

The County General Plan makes a distinction between urban and rural areas using an Urban Services Line (USL) and Rural Services Lines (RSL) (see Figure 2-2). A distinct boundary between urban and rural areas in the unincorporated area facilitates limiting new urban development to urban areas and protects agricultural land and natural resources in the rural areas. Urban development is restricted by the USL and is mainly located within the unincorporated communities of Live Oak, Soquel, Aptos, and Freedom, and in the four cities of Santa Cruz, Watsonville, Scotts Valley, and Capitola. Urban enclaves located outside of the USL can include urban densities, but may not have all urban services. These enclaves are defined by the RSL, and include the communities of Davenport, Boulder Creek, Boulder Creek Country Club, Bear Creek Estates, Ben Lomond, Felton, Paradise Park, La Selva Beach, Place de Mer, Sand Dollar Beach, Canon del Sol, Sunset Beach, Pajaro Dunes North, and Pajaro Dunes South.

2.2.4 Agriculture and Timber Industries

Agriculture and timber are important industries in the County, with large areas of timber production in the Santa Cruz Mountains falling within the TP zoning district which extends across 71,306 acres of the County. The intent of the TP zoning district is to protect and maintain the County's timberland, and to preserve agriculture and other open space uses where they are compatible with timberland uses.

Approximately 67 percent of the County's land area is forested, with timberland making up almost 44 percent of total County land area; active cropland occupies roughly 8 percent of the County's land

The County's two agricultural zoning districts are CA – Commercial Agriculture and A – Agriculture which comprise 82,422 acres of the County. The intent of the CA zoning district is to preserve commercial agricultural lands and their economic integrity. The A zoning district provides for single-family residential and non-commercial agricultural uses, such as family farming and animal raising, and limited commercial agricultural activities. Such lands are identified by the County as not as commercially viable as CA lands but still productive. Agricultural land protected for agricultural use and open space under a Williamson Act agricultural preserve contract is often identified with the overlay zoning "AP". In addition, the RA – Residential Agriculture zoning district is defined by the SCCC as a residential zone that permits both single-family residential and small-scale commercial agricultural uses.

The County has approximately 125,000 acres of timberland, which produced $4,907,000 in 2015. Photo: Big Creek Lumber

The County has approximately 24,000 acres of cultivated agricultural land and approximately 190,000 acres of forest land, of which 125,000 acres is timberland. Per the County's 2015 Crop Report, the total gross production value of Santa Cruz County agricultural commodities for 2015 was $625,438,000, including a timber value of $4,907,000. Agriculture is concentrated in the southern portion of the County, where top crops include strawberries and raspberries, artichokes, broccoli, Brussels sprouts, apples, and container and cut flowers (County of Santa Cruz 2015).

2.2.5 Commercial, Manufacturing, and Special Use Districts

The County has emerged as a center for the arts, the design and manufacture of sporting goods and other active lifestyle products, and technology. With local technology start-ups and connections with Silicon Valley, the region is experiencing growth in the technology sector fueled by the creation of small businesses and by independent freelancers who are now developing interest in manufacturing and special uses. The County provides zoning districts to support manufacturing and related uses in limited areas, including the Urban and South County Regions.

The Industrial zoning districts (M-1, 2, and 3) collectively make up 1,074 acres of the County, including approximately 887 acres within the M-3 with Quarry (Q) overlay, to provide area for manufacturing, research and development, industrial uses, and mining processes. The intent of the M zoning districts and Q overlay is to provide area for light and heavy industrial facilities, and M-3 allows for mineral extraction associated with the quarries in the County (Part III, Article IV, *Industrial Districts*, of SCCC Chapter 13.10, *Zoning Regulations*). As described below, there are eight quarries in the County, but only four currently operate, with others in the reclamation stage.

amec foster wheeler

Existing Setting for Cannabis Cultivation and Manufacturing

FIGURE 2-2

This page intentionally left blank.

Table 2-1 Quarries in Santa Cruz County

Quarry Name	Region	Mined Area (acres)	Status
Bonny Doon	North Coast	234	Closed (2009)
Cabrillo	South County	4	Closed (2005)
Felton	Mountain	86	Active - permitted through 2029
Hanson (Kaiser)	Urban	200	Closed (2003)
Olive Springs	Urban	48	Active - permitted through 2044
Olympia (Lonestar)	Urban	70	Closed (2002)
Quail Hollow	Mountain	105	Active
Wilder	North Coast	66	Active

Source: County of Santa Cruz 2017

The Special Use (SU) zoning district applies to 70,392 acres of the County. The intent of the SU zoning district is to provide for and regulate land use that requires flexibility of use and regulation, the development of land with a variety of physical constraints, and the development of land that is designated for mixed uses (Part III, Article VIII, *Special Use SU District*, of SCCC Chapter 13.10, *Zoning Regulations)*. Uses within SU zoning are subject to General Plan consistency findings as codified in SCCC Chapter 13.10.170.

The Commercial Services (C-4) zoning district applies to 132 acres of the County and generally applies to larger parcels near major roadways. The intent of the C-4 zoning district is to meet the commercial services needs of the various communities in the County by allowing a broad range of commercial services uses that are primarily nonretail and nonpolluting (Part III, Article VIII, *Commercial Services C-4 District*, of SCCC Chapter 13.10, *Zoning Regulations)*.

The Community Commercial (C-2) zoning district applies to 267 acres of the County and generally applies to commercial clusters and shopping centers in established communities. The intent of the C-2 zoning district is to provide centers of concentrated commercial uses accommodating a broad range and mixture of commercial activities, serving the general shopping and service needs of community-wide service areas, and including visitor accommodations (Part III, Article VIII, *Community Commercial C-2 District*, of SCCC Chapter 13.10, *Zoning Regulations)*.

2.2.6 Residential Areas

The urbanized areas of the County are characteristically residential with a combination of suburban town-centric neighborhoods, including Live Oak, Aptos, and Soquel in the Urban Region; Corralitos, Freedom, and La Selva in the South County Region; Boulder Creek, Ben Lomond, and Felton in the Mountain Region; and Bonny Doon and Davenport in the North Coast Region. In addition, rural residential uses and off-grid homes (often unpermitted) are located throughout the remote areas of the County, particularly in the Santa Cruz Mountains. Rural homes are often located on larger lots with limited access via private roads and driveways. Rural homes may coexist on sites harvested for agricultural or timber products or used for other agricultural uses, such as equestrian facilities.

The Residential zoning districts (R-1, RA, RB, RM, and RR) collectively make up 43,991.5 acres of the County, including approximately 27,959.9 acres within the RA district, which allows for small-scale commercial agricultural uses along with residential uses. The purpose of residential zoning is to

provide areas of residential use in locations and at densities consistent with the County General Plan. The intent of the residential zoning districts is to reserve areas for primarily residential uses in locations protected from the incompatible effects of nonresidential land uses (Part III, Article II, *Residential Districts*, of SCCC Chapter 13.10, *Zoning Regulations*).

The Residential Agricultural (RA) zoning district applies to 27,959.9 acres and generally applies to areas of residential use where development is limited to a range of non-urban densities of single-family dwellings in areas outside the USL and RSL. The intent of RA zoning is to allow small-scale commercial agriculture, such as animal-keeping, truck farming and specialty crops, to take place in conjunction with the primary use of the property as residential.

The Rural Residential (RR) zoning district applies to 1,525.3 acres and generally applies to areas of residential use where development is limited to a range of nonurban densities of single-family dwellings in areas having services similar to RA zoned areas, but with larger lot sizes than RA due to the pattern of development and use in the area.

The Single-Family Residential (R-1) zoning district applies to 13,230.2 acres and generally applies to areas of predominantly urban types of single-family residential development. The intent is to allow single family homes in areas which are currently developed to an urban density or which are inside the USL or RSL and have a full range of urban services, or are planned for a full range of urban services.

The Single-Family Ocean Beach Residential (RB) zoning district applies to 19.8 acres and accommodates single family dwellings on existing lots of record near the cliffs and the ocean beach; where lots abut on and obtain access from a street which is generally parallel to both the beach and the cliff.

The Multi-Family Residential (RM) zoning district applies to 1,256.4 acres and provides for areas of residential uses with a variety of types of dwellings, both detached and attached, in areas which are currently developed to an urban density or which are inside the USL or RSL and have a full range of urban services.

2.2.7 Public Services

Public services within unincorporated areas of the County are provided by a wide range of agencies, with incorporated cities often providing their own services. The Santa Cruz County Fire Department (SCCFD) and the California Department of Forestry and Fire Protection (CalFire) provide fire protection services to unincorporated communities under a mutual aid agreement. Under this agreement, the Cal Fire Unit Chief serves as the County Fire Chief and County Fire Marshal (SCCFD 2017). In the nearby incorporated regions, the Cities of Santa Cruz and Scotts Valley both maintain their own Fire Department for fire and emergency services; Aptos/La Selva Fire District serves the Aptos and La Selva areas; the Central Fire Protection District serves the communities of Capitola, Live Oak and Soquel; the Watsonville Fire Department serves both the 6.6 square mile city as well as an approximate 14 square mile area of the nearby unincorporated County, such as the town of Freedom, under a mutual aid agreement. Other fire departments in the County are in Ben Lomond, Boulder Creek, Branciforte, Felton and Zayante. The Santa Cruz County Sheriff's Office provides primary law enforcement services in unincorporated areas (County of Santa Cruz 2017b). The Cities of Santa Cruz, Scotts Valley, Capitola, and Watsonville maintain their own police departments. Pacific Gas and Electric (PG&E) provides electric service and natural gas service in urban communities. Five major water agencies serve unincorporated areas: Santa Cruz Municipal Utilities and the San Lorenzo Valley, Soquel Creek, Watsonville, and Central Santa Cruz water districts, although multiple small and

private/mutual water companies also provide water service in more rural and isolated areas. Solid waste in the County is serviced by Recycling Centers and Greenwaste. Refer to Section 3.11, *Public Services* and Section 3.14, *Utilities and Energy Conservation* for more detail.

2.2.8 Transportation System Overview

The County is served by a range of transportation infrastructure, including limited rail and non-commercial air transport, and a network of highways, primary and secondary roads, and narrow rural roadways that extend across the Santa Cruz Mountains and through the rural areas of Pajaro Valley. The County is connected to adjacent counties by five major state highways within the jurisdiction of the California Department of Transportation (Caltrans). State Route (SR) 1 (Highway 1) follows the coastline through the County, while SR 17, SR 9, SR-129, and SR-152 connect the coast with inland areas of the County. Limited recreational and freight rail services are provided on the railroad owned by the Santa Cruz County Regional Transportation Commission along the coast of the County, though passenger train service is not available. A small airport accommodating private planes is located in Watsonville. Refer to Section 3.13, *Transportation and Circulation* for more detail.

2.2.9 Regulatory Context

Summary of Cannabis Regulation

The County has been wrestling with how to regulate cannabis related issues for 25 years, since voters enacted Proposition A, the Compassionate Use Act, in 1992

The laws and regulations surrounding cannabis cultivation and manufacturing are complex and vary considerably among the federal, state, and local levels of government. The Federal Controlled Substances Act of 1970 makes it a crime under federal law to manufacture, distribute or dispense, or possess cannabis. However, states and local jurisdictions can regulate cannabis if their laws do not positively conflict with the Controlled Substances Act. Key elements of the recent regulatory history and current regulatory framework were described in the "Program Context" section of Chapter 1 (the Introduction) of this EIR and are also summarized below, with earlier regulatory history provided in Appendix D.

- In 2013, the County adopted a new SCCC Chapter 7.124, which prohibited medical cannabis retail businesses (dispensaries), but granted limited immunity for businesses that obeyed the new Chapter 7.124.
- In 2014, the County adopted SCCC Chapter 7.126, which prohibited medical cannabis cultivation businesses, but granted limited immunity for businesses that obeyed Chapter 7.126. This appeared to have encouraged a sharp rise in illegal cannabis cultivation that negatively impacted the environment and increased neighborhood compatibility concerns.
    - To address expanding cannabis cultivation and related adverse effects, the County adopted Ordinance No. 5201 in 2015, which repealed SCCC Chapter 7.126 and adopted a new Chapter 7.126 that banned medical cannabis cultivation entirely.
    - Subsequently, a petition to overturn Ordinance No. 5201 via voter referendum successfully qualified for inclusion as a ballot measure.
    - The County Board of Supervisors repealed Ordinance No. 5201, which removed the need for an election and re-instated the 2014 version of Chapter 7.126.

- The Board of Supervisors subsequently created the Cannabis Cultivation Choices Committee (C4) in 2015 to advise the County on the creation of a new medical cannabis cultivation ordinance.
- In September of 2015, California legislators passed the Medical Marijuana Regulation and Safety Act (MMRSA), which established California's first statewide regulatory system for medical cannabis businesses.
- In November 2016, California voters approved Proposition 64, the Adult Use of Marijuana Act (AUMA), which legalized the personal (non-medical) adult use and cultivation of cannabis.
- In June 2017, the California Legislature passed Senate Bill 94, the Medicinal and Adult-Use Cannabis Regulation and Safety Act (MAUCRSA), which effectively combines MMRSA with AUMA to create a hybrid regulatory structure to address both medical and recreational cannabis activities under the state's pending licensing program.

While the state is setting up its commercial cannabis licensing program under MAUCRSA, local governments can choose to adopt local ordinances to permit or license local commercial cannabis cultivation. Soon after MMRSA was enacted in 2015, the County enacted SCCC Chapter 7.128, which created an interim licensing program to regulate the commercial cultivation of medical cannabis while the C4 and the County worked on drafting components of a permanent program (the proposed Program). The proposed Program involves the replacement of Chapter 7.128 to provide a means for regulating the commercial cultivation of cannabis countywide, consistent with the MAUCRSA. The proposed Program also involves new regulations governing cannabis product manufacturing activities in the unincorporated area under a new SCCC Chapter 7.132 and new SCCC Cannabis Home Occupation regulations.

County Cannabis Cultivation Registration and Licensing Process

The County initiated a license pre-application registration process in 2016 as a first step toward licensing cannabis cultivation. Registration forms were made available to cultivators who wanted to obtain a license in the future to commercially cultivate cannabis in the County once the regulatory and licensing provisions of the proposed Program are adopted. Under the Program (both scenarios), only those applicants who registered through this process would be allowed to apply for a local cultivation license once the proposed ordinance goes into effect, except that farmers producing non-cannabis crops on CA zoned land for at least three years prior are eligible to apply for a license without registering first.

The registration form attempted to capture the location, type, size, number of plants, number of employees, water supply, and other details of each registrant's cultivation site, as well as any plans for expansion or relocation in the future. The registration form also requested information for whether manufacturing of cannabis products would also occur onsite, though details of the type of manufacturing were not requested. At the close of the registration period in November 2016, 951 existing cannabis cultivation operations located throughout the County were registered. Of those, 760 registrants are continuing with the licensing process as of February 2017.

Three types of cultivation sites exist based on the registration data:

- Sites that meet the Program's standards and restrictions and can remain in place;

- Sites that do not currently meet the Program's standards and restrictions for licensing, but can be reasonably brought into conformance with site design changes and operational improvements; and
- Sites that cannot meet the Program's standards for licensing and must be relocated by the registrant to be eligible for a license.

2.2.10 Existing Cannabis Cultivation and Manufacturing

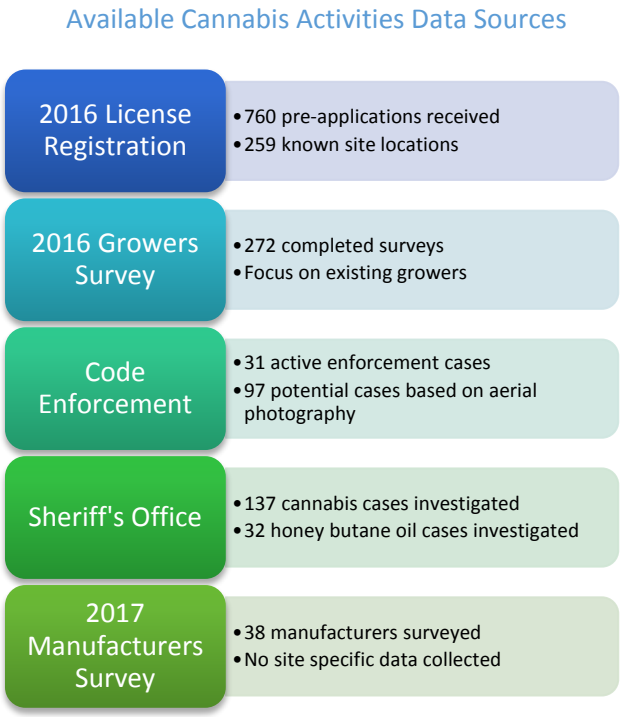
Understanding the Environmental Baseline: Existing Conditions for Cannabis Cultivation and Manufacturing

Baseline conditions are defined as the existing physical setting that may be affected by the Program (State CEQA Guidelines, § 15125, subd. (a)). This environmental setting constitutes the existing physical conditions against which the County will determine whether impacts from the Program and alternatives are significant. Thus, baseline includes conditions that may have been the result of prior illegal activity, and the baseline includes difficult-to-quantify levels of cannabis cultivation and manufacturing. The impacts of the Program are defined as changes to the environmental setting, or baseline, which are attributable to the Program's proposed implementation of licensing and land use regulations and policies. For this analysis, the baseline is the cannabis cultivation and manufacturing that was occurring in the County in February 2017, when the NOP for this EIR was published. The potential environmental impacts of the Program are those associated with any new activity, or expansion of existing activity, beyond that baseline level that is attributable to the Program. It is that additional increment of cultivation and manufacturing that is the subject of this environmental analysis, pursuant to the California Environmental Quality Act (CEQA).

This section describes, as best as possible based on reasonable efforts to obtain data, the environmental baseline conditions for cannabis cultivation and manufacturing, respectively. Additionally, the approach to impact assessment related to the environmental baseline conditions is described in Section 3.0.2, *Assessment Methodology.*

Historically, cultivation of cannabis and manufacturing of cannabis products has been illegal, which means that these activities have occurred unofficially and secretively in the County and have not been thoroughly documented. As a result, there are no complete and reliable records for the existing locations, total area, or productivity of existing cannabis cultivation and manufacturing in the County, though from related records it is known that these activities do currently occur within the County and represent a significant portion of the local agricultural and manufacturing economy.

While the amount of cannabis cultivation and manufacturing currently taking place is difficult to quantify, a range of data sources are available that, taken together, indicate the probable maximum and minimum levels of existing activity. For this EIR, five sources of data were used to bracket the amount of current activity and to characterize, as much as possible, where the cultivation and manufacturing are occurring (see Appendix D). These are the 2016 County Commercial Cannabis Cultivation License Registration database, the 2016 Medical Cannabis Growers Survey (conducted by Santa Cruz Mountains for Sustainable Cannabis Medicine, March, 2016), the 2017 Cannabis Product Manufacturers Survey (conducted by the County Licensing Office), the County Planning Department's list of active and potential enforcement cases against cannabis grow sites, and the County Sheriff's Office's list of enforcement cases related to cannabis cultivation and manufacturing in 2015 and 2016.[2]



Additionally, in January and February 2017, site visits and interviews were conducted by staff members from the County and the EIR consulting team. Site visits consisted of visiting 13 cannabis cultivation and manufacturing sites to observe and record the operations, verify the registration data provided by the cultivators, and interview the cultivators about the technique, materials, and demands of the cultivation and/or manufacturing operations. Anonymous profiles of the sites visited are available in Appendix D. Additional direct interviews in January and February 2017 included County departmental lead staff (including the Sheriff's Office, Code Enforcement, and Cannabis Licensing Office) as well as cannabis cultivators and manufacturers in Santa Cruz County, a Bonny Doon neighbors group, and regional agency staff, including CalFire, the California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB). For this EIR, a range of likely existing baseline levels and locations of commercial cannabis activities is described based on available data sources and field observations. At a minimum, existing commercial cannabis activities include the 567 sites, out of 760 registered, that are identified by registration data as currently cultivating as of 2016, as described further below. At a maximum that is difficult to substantiate, anecdotal descriptions of the County's existing cannabis industry from the cultivation community indicate that there could be up to 10,000 cultivators or manufacturers located throughout the County, including approximately 300 to 350 established commercial cultivators. It is estimated that there are currently about 100 larger/higher-yield cannabis product manufacturers and from 200-300 smaller/lower-yield manufacturers. It is reasonable to consider that the "anecdotal" possible existence of many thousands more existing "micro" cannabis operations are most likely very small-

[2] Beginning in 2015, the County Sheriff's Office investigates cannabis cultivation and manufacturing operations only in response to complaints logged or as a result of criminal investigations.

scale growers or manufacturers that carry out activities within garages, bedrooms, kitchens, backyards, small outdoor areas and the like, in manners that do not attract public attention and may end up continuing as unlicensed operations. A majority of these likely grow for personal use, with "extra" or small yields sold commercially. Based on that reasonable assumption, this portion of the baseline is assumed by this EIR to not change a great deal from existing conditions as a result of the Program (i.e., the existing "micro" activity is not affected as a direct or indirect consequence of County implementation of the Program, with these type of growers assumed to continue to operate in the unregulated and unpermitted illegal market for the foreseeable future). Over time, that type of cultivation may be more affected by market conditions as the industry matures, due both to legalization of up to six plants as personal grows, due to operation of the legal commercial cannabis marketplace, and due to increased reporting and enforcement activities related to cannabis operations.

This EIR is being prepared to evaluate the potential environmental impacts of implementing a Program of licensed, permitted and legal operators in the future. Based on the County's proposed Program, only cultivators who properly registered, or meet the condition of having been farmers for three prior years on CA zoned land, or are able to comply with adopted cannabis manufacturing regulations, will be eligible for licenses. Therefore, for the purposes of the EIR's impact analysis, a reasonably likely level of existing cannabis activities based upon registration data and analysis of farming conditions is established and described below. The EIR aims to capture the additional cultivation and manufacturing operations that would result from the Program based on considering the 760 registrants as a substantial sample of the overall cannabis industry, which could contribute up to an additional 193 commercial cannabis cultivators beyond baseline conditions under the Program (baseline is thus considered as the 567 existing cannabis cultivation sites that registrants indicated are currently growing cannabis).

Existing Cannabis Cultivation: Describing the Baseline Conditions

Types of Cannabis Cultivation

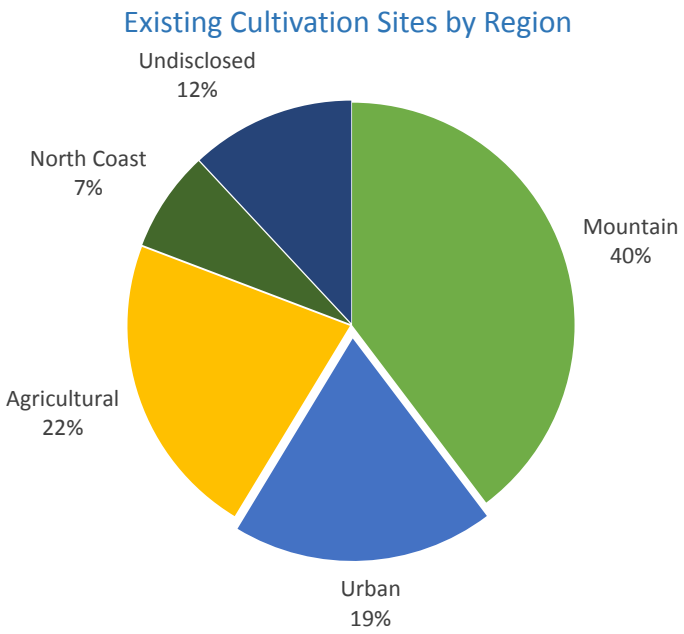
A wide range of cannabis cultivation types occurs in the County, in a variety of settings, including small to large greenhouse growers, outdoor growers on mountain hillsides, and indoor growers in commercial and industrial areas. While some growers prefer to cultivate outdoors, most current outdoor growers aspire to operations that will cultivate partially or exclusively within greenhouses. Reasons include the economics of ability to grow multiple harvest cycles per year, control over growing conditions such as moisture and pests, better security, and better quality flowers that are more marketable. Descriptions of the types of cultivation follow:

- **Indoor** – cultivation occurs in an enclosed space with full suppression of natural light. Artificial lights, irrigation, dehumidifiers, and heating, ventilation, and air conditioning ("HVAC") equipment are used to control interior climate. Indoor facilities are typically secured and locked to prevent trespassing and theft. This EIR assumes that cannabis grown in buildings averages four harvests per year.
- **Outdoor** – cultivation occurs in open-air with access to only natural light. Cultivated area can either have unobstructed access to sunlight or can be covered with a light-permeable temporary structure such as a traditional hoop house with transparent cover and no electrical components. A traditional hoop house is typically 12 feet in height, may be disassembled or moved throughout the day, and involve no foundation, lighting or HVAC improvements.

Outdoor cultivation can be, but is not always, secured with fencing and located in relatively inaccessible areas on private properties to dissuade trespassing and theft. Outdoor cultivation in some cases occurs through trespass on public lands. Usually, the cannabis plants grown outdoors are not planted directly into native soil, but are in soil-filled containers or bags. This EIR assumes that cannabis grown outdoors averages two harvests per year.

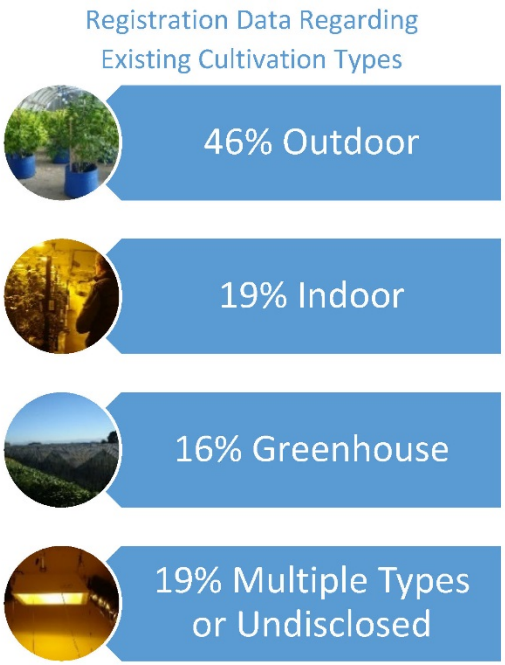
- **Greenhouse and Non-traditional Improved Hoop Houses** – this type of cultivation occurs inside a greenhouse structure, which can provide mixed light sources. Passive greenhouses use only natural light, though it can be controlled with shading, and typically use drip or recirculating irrigation. Mixed light greenhouses supplement natural light with light suppression/shielding and artificial lights, along with HVAC and other climate controls, and irrigation plumbing. Greenhouses may or may not be secured and locked to prevent trespassing and theft. Non-traditional hoop houses are commonly used for cannabis cultivation, and from a regulatory standpoint they are considered to be greenhouses. Non-traditional hoop houses vary from the traditional hoop house in that they are not set up to be quickly dismantled, often having paving or impervious surfaces inside, include electrical lighting and irrigation features, are sealed or otherwise insulated from outside moisture, and typically include mechanical ventilation. Due to the variety of set-ups observed in the field, with some producing two harvests per year and others four harvests per year, this EIR assumes that cannabis grown in these types of facilities averages three harvests per year.

Estimating the Size of the Existing Cultivation Industry



As reviewed earlier in this Chapter, while the general types of cannabis cultivation that occurs in the County are known, it is difficult to confirm or estimate the amount and location of existing cannabis cultivation. Estimates recorded during interviews with people in the local cannabis industry in January and February 2017 range from 1,800 up to 10,000 commercial cultivators in the County, but these values are unsubstantiated by any reliable data. This difficulty in estimation is due largely to the lack of record keeping for past or current cannabis-related activities, since cannabis cultivation and manufacturing have historically been illegal. Past sources of data have mainly included enforcement and prosecution data related to raids of illegal grow sites and, as such, only capture a fraction of the total cannabis cultivation and manufacturing activities occurring in the County.

Data gathered during the 2016 License Registration and the 2016 Growers Survey provides information for a sample of 796 cultivation sites.[3] These data have shortcomings; for example, all data is user-reported so there is no reliable way to confirm the data, and the data does not capture the whole cannabis industry in the County, such as "garage grows" (which are considered by this EIR to be an aspect of the baseline that would continue into the foreseeable future, although potentially reduced over time through private market forces and government enforcement). Despite these shortcomings, the 2016 survey and registration data are the best sources to characterize the types and distribution of growing, though not necessarily the total number or volume of production. Taken together, these data indicate that 62 percent of the cultivation currently occurs within the Mountain Region and South County Region of the County. These data indicate that only 7 percent of cultivation occurs in the North Coast Region.



Source: 2016 County Commercial Cannabis License Registration

Considering the registration data only, 46 percent of existing cultivation occurs outdoors using sunlight, 16 percent occurs within greenhouses, and 19 percent occurs indoors. Approximately 19 percent was either undisclosed or is a mix of indoor, outdoor, and/or greenhouse cultivation on a single parcel. About 64 percent of existing cultivation sites have a residential unit on site. Approximately 34 percent of cannabis canopies are under 500 square feet (sf) and only 13 percent are larger than 5,000 sf. The average canopy size is approximately 3,000 sf. From the license registration data, the largest cultivation canopies are 1 acre in size. Many respondents to the 2016 Growers Survey indicated that cultivation provided cannabis products not only for sale but also for personal medical use or for a family member's medical use, which may explain the wide range of canopy sizes currently under cultivation. The license registration data captured a total of 36 acres of existing cultivation occurring Countywide.

Approximately 567 Licensing Program registrants reported a total existing cultivation of **36 acres**, which constitutes an unknown but potentially substantial percentage of total Countywide cultivation

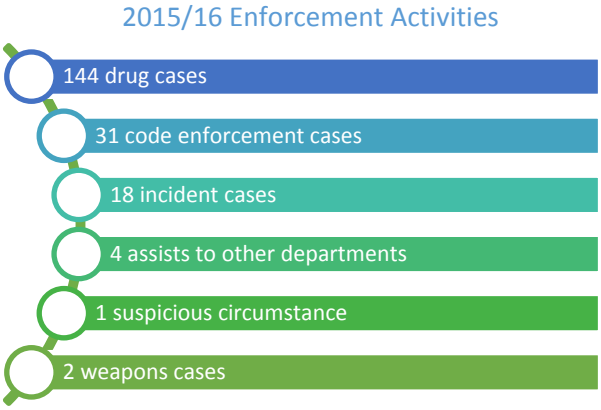
[3] Note: There is an unknown degree of overlap between 2016 Cannabis Growers Survey respondents and 2016 Licensing Program registrants.

Additionally, there are 200 known cannabis sites based on research of aerial photography, code enforcement case data, and other visual observations conducted by county enforcement staff case data. The total acreage of these types of sites has not been undocumented, but these 200 are considered additional to the number of registration cultivators because subjects of enforcement are not considered to be included within those that voluntarily registered with the County.

During 2015/2016, the County recorded **200** cases involving cannabis, including:

- **31** Planning Department enforcement cases, and
- **169** Sheriff's Office law enforcement cases.

32 of these cases were related to manufacture of butane honey oil (BHO).



In total, available data sources identified **996** potential existing cannabis sites.

The resultant total of 996 existing sites, which includes the 796 known cultivators based on registration and survey data along with the 200 cannabis enforcement case data, certainly does not represent the actual level of cannabis cultivation and manufacturing occurring in the County, as the data was collected either voluntarily (survey and registration data) or as the result of pro-active enforcement and citizen complaints (enforcement data), and with some potential to overlap between data sources. Anecdotally, the County Sheriff's Office estimates at least 1,800 cultivation sites exist currently in the County.

As discussed earlier, members of the cannabis cultivation community estimate the total number of existing sites could reach approximately 10,000 sites, if all the smaller "garage grow" types are added to the between 300 to 350 established commercial cultivation operations (Amec Foster Wheeler 2016a and 2016b). The actual amount of the existing activity is unknown and is not reasonably expected to be discoverable as part of the Program, and the potentially existing thousands of garage-grow types of operations is stable both as part of the existing condition baseline and a portion of future cultivation activity for the foreseeable future that remains unlicensed and illegal. It is noted that the unincorporated area currently contains about 57,000 housing units, and if there were 9,000 or more "micro" garage-/bedroom-growers, then that would mean that over 15 percent of all housing units/properties in the unincorporated area would be involved with cannabis cultivation. Based upon County staff knowledge of neighborhoods and the housing supply, this is likely an unreasonably high number, but as this type of activity is not expected to be affected directly or indirectly by the County's adoption of the Program, it is not further analyzed by this EIR. Additional information describing the environmental baseline for this EIR is available in Section 3.0, *Introduction and Approach to Analysis* and potential opportunities for cultivation and manufacturing in Section 2.3.3, *Potential Cannabis Cultivation and Manufacturing*.

Existing Cannabis Product Manufacturing

Types of Cannabis Product Manufacturing

A range of cannabis product manufacturing also occurs in the County, including the manufacturing of concentrated extracts with processes that generate tinctures, hash, kief, butane honey oil, and supercritical carbon dioxide (CO_2) oils or infusions thereof. Cannabis product manufacturing is defined as production, preparation, propagation, or compounding of manufactured cannabis products either directly or indirectly, or by extraction methods, independently by means of chemical synthesis, or by a combination of extraction and chemical synthesis, at a fixed location that packages or repackages cannabis. Descriptions of manufacturing processes are available in Appendix D. These products are made through a variety of manufacturing processes that range from low input/low risk to high input/high risk, as described below. Detailed descriptions of manufacturing processes are available in Appendix D.

- **Infused Products** - Infuses raw cannabis flower/leaves or prepared concentrate into different mediums (e.g., oil, milk, butter, other lipids) to make new products such as: edibles like baked goods, the production of lotions and salves, soaps and the like, and vape pens.
- **Non-flammable Extraction** - Using cold water, heat press, lipid (butter, milk, oil) or other non-chemical extraction method to make bubble hash, kief, rosin, cannabis-infused lipid, etc.; CO_2 extraction to make cannabis concentrates/oil (closed loop only) under low pressure.
- **Flammable or High Pressure Extraction** - Compressed and uncompressed liquid solvents using pentane, hexane, butane, propane, ethanol, etc. to make cannabis concentrates/oil (closed loop only); CO_2 extraction to make cannabis concentrates/oil (closed loop only) under higher pressure; Post-extraction refinement, taking previously extracted cannabis concentrates and further refining through processes such as chromatography, to make distillates.

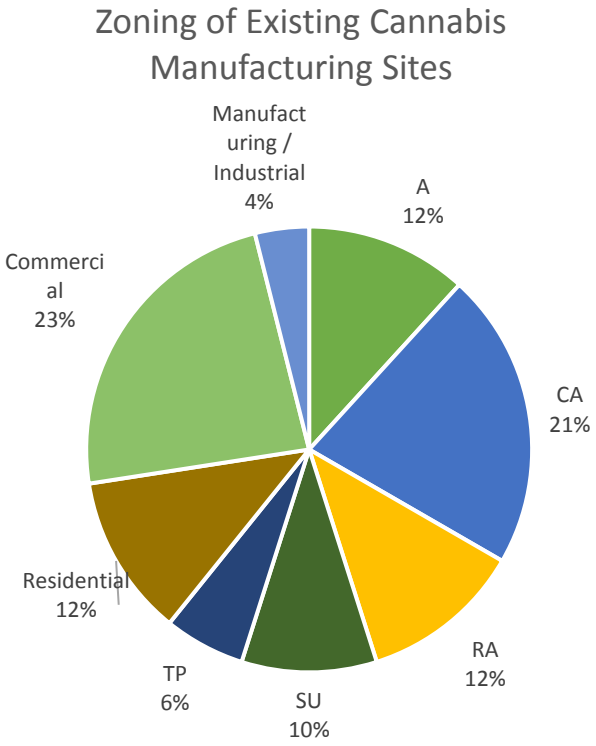
Estimating the Size of Existing Cannabis Manufacturing Industry

At least 46 manufacturers are known, but it is estimated that 100 larger/higher-yield and 200 to 300 smaller/lower-yield manufacturers currently operate in the County.

Though the 2016 License Registration asked respondents to indicate whether cannabis manufacturing would occur onsite, the intent of the registration was to collect information from cultivators who would seek a license to cultivate, not manufacture, under the Program. As such, the manufacturing data from the registration process is less reliable. For example, only 8 percent of existing cultivation sites reported manufacturing operations onsite, while 88 percent reported no manufacturing occurs onsite and 4 percent did not reply. This low percentage does not comport with information gathered during interviews with cannabis industry representatives in early 2017. These interviews, along with the Cannabis Manufacturers Survey results and the 2016 License Registration data, indicate there are at least 46 and up to 100 existing "larger/higher-yield" manufacturers. In addition, it is estimated that there are between 200 to 300 "smaller/lower-yield" manufacturers and up to 1,000 micro or home-based manufacturers currently operating in the County (resident operation ancillary to residence).

Additionally, while the 2016 License Registration data did not collect data regarding location and type of product manufactured, the Cannabis Manufacturers Survey and interviews with the cannabis industry provided some information about the type and intensity of existing manufacturers. A total of

37 existing manufacturers provided survey responses to help describe the range and level of manufacturing currently occurring in the County. For example, 48 percent of surveyed manufacturers use flammable extraction processes while 52 percent use non-flammable, with some overlaps where manufacturers partake in both types. The concentrates are then manufactured into edibles, topicals, and vape pens for distribution to dispensaries. A wide range of chemical and base materials are used depending on the manufacturing process, including ethanol, CO2, butane, propane, and other natural gases, as well as isopropyl (rubbing) alcohol, hydrogen, liquid nitrogen, and lipids, such as coconut/olive oil and butter. These chemicals are used during the manufacturing process and are typically stored onsite. Equipment required also varies depending on the manufacturing process and can include machinery engineered specifically for extraction, such as closed loop CO_2 extraction machines, distillation machines, rosin presses, and chromatography machines, to simple household appliances, such as crockpots, ovens/stoves, and food processors or blenders. Additionally, manufacturers use machinery to package products, such as capsule fillers.



Existing cannabis product manufacturers are located throughout the County on properties zoned for agriculture, timber production, residential uses, commercial uses, and manufacturing/industrial uses. Only 27 percent of the survey respondents reported operating on commercial or manufacturing/industrial properties. The floor area required for manufacturing ranges from under 500 sf to over 5,000 sf, with the most common area of between 1,000 sf and 2,500 sf. Manufacturers operate at least 40 hours per week but some may produce cannabis product 24 hours per day to maximize batches and output. These operations require employees onsite. Smaller and/or less labor intensive operations may employ one to three people, but larger and/or more complex operations vary in employment levels, but on average typically require six employees. Based on site visits and interviews with industry representatives, about one-half of cultivation sites engage in some level of manufacturing activity, which is assumed to continue to be the case since agricultural processing and manufacture is allowed to occur on agricultural lands. While the survey characterized existing manufacturing, it also indicated that 94 percent of existing manufacturers would like to expand their business to produce more products both in diversity and amount.

2.3 Proposed Program

The Program is a regulatory program to manage and monitor legal and permitted commercial cannabis cultivation and associated manufacturing in unincorporated areas of the County through the adoption of General Plan/Local Coastal Program policies and ordinances and establishment of a licensing program. The Program would regulate how, where, and how much cannabis may be commercially cultivated to provide an adequate supply while also protecting the natural environment, local economies, and neighborhood quality. The Program would also specify and regulate how and where cannabis, including extracts and infused products, may be manufactured and licensed in the County. Consistent with state law, the Program is intended to balance the demands for cannabis and cannabis products with the health, safety, and welfare of the community and the environment. As described in Section 1.0, *Introduction,* the Program was developed based on input from the C4 and other stakeholders.

Commercial cannabis cultivation would be regulated under the Program to protect the quality of neighborhoods and the environment.

The Program would apply to unincorporated regions of the County where proposed amendments to the General Plan/Local Coastal Program and SCCC would allow for commercial cannabis cultivation and manufacturing. The location and method of cannabis cultivation and product manufacturing would vary throughout the County under the ordinance standards and licensing provisions of the Program. While the Program would apply to applicable zoning districts countywide, the County's 2016 License Registration data indicates that most future cannabis cultivation planned by current registrants would occur in rural areas. The San Lorenzo Valley in the Mountain Region contains the highest percentage of current registrants for licensing of existing and future cannabis cultivation sites, followed by the South County Region. Further, the Mountain Region also contains the highest portion of registrants that manufacture cannabis products onsite, followed by Live Oak in the Urban Region.

2.3.1 Program Objectives

State CEQA Guidelines require that the EIR project description include a statement of the objectives of the proposed Program. The primary objectives of the Program are to:

1. Regulate commercial cannabis cultivation and manufacturing of cannabis products within Santa Cruz County in a manner consistent with state law, and allow the orderly development and oversight of commercial cannabis cultivation and manufacturing businesses within the County;

2. Develop a program that encourages cannabis cultivators and cannabis product manufacturers to operate legally and secure necessary permits and licenses to operate in full compliance

with County regulations, maximizing the proportion of activities within the program and minimizing unlicensed activities;

3. Provide efficiency and clarity in the commercial cannabis cultivation and manufacturing licensing and permit processes, regulations, and standards to facilitate participation and use by applicants;
4. Prevent impacts of cannabis cultivation and manufacturing sites on children and sensitive populations;
5. Encourage the commercial cultivation and manufacturing of high quality local cannabis products that meet the demand for Santa Cruz cannabis and cannabis products, including the needs of medical patients and their caregivers, as well as adult personal use as authorized under Proposition 64;
6. Develop a legal, local cannabis industry to improve the County's tax base in balance with other objectives;
7. Ensure compatibility of commercial cannabis cultivation and manufacturing sites with surrounding land uses, especially residential neighborhoods, educational facilities, agriculture operations, and timber production;
8. Minimize adverse effects of commercial cannabis cultivation and manufacturing on the natural environment, natural resources and wildlife, including riparian corridors, wetlands and sensitive habitats, as well as effects on water supply, water quality and instream flows;
9. Regulate sites and premises used for commercial cannabis cultivation and manufacturing to avoid the risks of criminal activity, degradation of the visual setting and neighborhood character, obnoxious odors, hazardous materials, and fire hazards;
10. Ensure cannabis is cultivated and manufactured into products in a manner that supports public health and safety;
11. Ensure adequate law enforcement and fire protection response to commercial cannabis cultivation and manufacturing sites; and
12. Promote energy and resource efficiency in cannabis cultivation and manufacturing of cannabis products.

During the Program initiation process, the County identified two regulatory scenarios for cannabis cultivation to evaluate and compare at the same level of detail in the EIR: the Project and a More Permissive Project. The County Board of Supervisors initially reviewed the Project scenario and initiated environmental analysis under CEQA. The More Permissive Project was developed by County staff to provide additional information to guide selection of a final Program by the County.

Both the Project and the More Permissive Project meet the Program objectives described above; however, they differ in the degree to which they meet each individual Program objectives and how they balance among competing priorities in establishing allowable cultivation and manufacturing locations and intensities. Each scenario also differs in the type, nature, and degree of resulting environmental impacts (see Section 3.0, *Introduction and Approach to Analysis).* Under the More Permissive Project, the County could potentially accommodate larger and more numerous commercial cannabis cultivation sites, which would increase the amount of cannabis produced within

the County under a license to operate consistent with County regulations (see Section 2.3.2, *Program Components*).

2.3.2 Program Components

To ensure that commercial cultivation of cannabis and manufacturing of cannabis products in the County occurs in a way that complies with applicable state and local laws, the Program has been designed to maintain a healthy environment, and ensure safe communities. The Program proposes to:

1. Amend the SCCC to provide commercial cannabis cultivation and manufacturing licensing regulations in Chapter 7.128 (Commercial Cannabis Cultivation) and Chapter 7.132 (Cannabis Manufacturing);
2. Amend the General Plan/Local Coastal Program and SCCC Chapter 13.10, *Zoning Regulations*, to identify land use categories in which cannabis cultivation and manufacturing are permitted, and to establish permitting processes, including for limited cannabis manufacturing home occupations as an ancillary use of detached single family homes;
3. Amend the SCCC to establish zoning and other regulations for permitting cannabis-related use and development activities; and
4. Implement the permitting and licensing program to track and control cultivation and manufacturing sites in the unincorporated areas of the County. Development standards would provide guidance on how to authorize the location and methods of cultivation and manufacturing for licensed grow sites and avoid adverse effects on natural resources and communities to the greatest extent feasible. Proposed zoning district restrictions, setbacks, minimum parcel size, exclusions, and licensing program requirements would limit overall potential cultivation and manufacturing to substantially less than the theoretical maximum level based only on zoning designations. Drafts of the proposed ordinances for SCCC Chapter 7.128 (Commercial Cannabis Cultivation), Chapter 7.132 (Cannabis Manufacturing), and proposed amendments to Chapter 13.10 and General Plan/Local Coastal Plan are found in Appendix C. Additionally, specific information related to the Project and More Permissive Project and are available online at:

   http://www.sccoplanning.com/PlanningHome/Environmental/CEQAInitialStudiesEIRs/CannabisRegulationsEnvironmentalReview.aspx ..

Commercial Cannabis Cultivation and Manufacturing Licensing Program

The proposed amendments to Chapter 7.128 and the new Chapter 7.132 would create the Commercial Cannabis Cultivation and Manufacturing Licensing Program, operated by the County Licensing Official and other County staff, to provide a comprehensive licensing program to monitor and control cultivation and manufacturing sites throughout the unincorporated area of the County. The licensing program would allow cultivation of cannabis and manufacturing of cannabis products in accordance with MAUCRSA, which passed with SB 94 on June 15, 2017 to combine MMRSA and AUMA, along with local requirements. Only commercial cultivators who registered under the County's registration process in 2016 would be eligible to apply for a cultivation license under the

Under the Program, to legally cultivate, any commercial cannabis cultivator or manufacturer would be required to obtain a license from the County.

Project, except for farmers operating on CA zoned properties for at least three years, who would be eligible for a cultivation license without registering first. Furthermore, only those cultivators who secure a County license and associated land use permits during the licensing program time frame would be allowed to commercially cultivate cannabis or manufacture cannabis products and obtain appropriate mandatory state-issued licenses. Licensing would be subject to review and payment of fees to allow the County to manage implementation of the development and licensing standards proposed under the Project or the More Permissive Project.

To secure a license to cultivate cannabis, an applicant must have been operating an established cultivation site since 2013, or must have been engaged in commercial farming of another crop on a parcel zoned for Commercial Agriculture (CA) for 3 consecutive prior years at the time of adoption of the Program. Through the County's registration process, cultivation sites were identified that: 1) conform to the Project or More Permissive Project; 2) may be brought into conformance through modification to cultivation practices and/or on-site location; or 3) are not suitable for cultivation, and would be required to move to a different parcel that meets the criteria established by the Project or More Permissive Project to obtain a license.

The time to apply for licenses to conduct cannabis manufacturing activities is not proposed to be limited, at least initially, and will be subject to restrictions and development permit requirements equivalent to existing restrictions of SCCC on comparable activities, plus additional restrictions to address public health and safety concerns specific to cannabis manufacturing activities under the proposed Program.

Proposed Zoning Restrictions for Commercial Cultivation and Manufacturing

Under both the Project and the More Permissive Project, outdoor cannabis cultivation with a local license would become either a principally permitted or conditionally allowed use within areas zoned Residential Agriculture (RA), Special Use (SU)[4], Timber Production (TP), Agriculture (A), Commercial Agriculture (CA), Community Services (C-4), Industrial (M-1, M-2, M-3) with Quarry Overlay (Q). Properties in CA, A, C-4, and M/Q may be licensed within the coastal zone and 1-mile buffer as long as they are outdoors or in existing structures. Properties are excluded from licenses if zoned RA, SU, or TP within an area defined by the Coastal Zone + 1-mile buffer inland for the Project, and excluded within the Coastal Zone (but no 1-mile buffer exclusion) for the More Permissive Project (see Figures 2-2, 2-3, and 2-4). Parcels that are zoned CA, A, RA, SU, TP (subject to the requirements of the Forest Practices Act), as well as M-3 (Mineral Extraction Industrial), may be appropriate for outdoor and indoor cannabis (including greenhouses). Indoor cultivation would also be considered as appropriately located in M-1 (Light Industrial), M-2 (Heavy Industrial), and to a limited extent in some C-4 (Commercial Services) locations and would require a use and/or development permit. In addition to the zoning requirement the Program includes a range of restrictions and exclusions, such as setbacks and restrictions on onsite cultivation methods, technologies, and techniques, based on the permit approved and/or license type issued. The exclusions and restrictions differ between the Project and the More Permissive Project according to zoning district, which are described in detail in this section.

[4] Where the General Plan land use designation is implemented by a zoning district in which cannabis cultivation is allowed.

Commercial cannabis manufacturing would become an allowable use with approved land use permits in the SU (with limitations), M1, M2, M3, C-4 districts, as well as in C-2 only in conjunction with a licensed dispensary. Certain zoning districts would only allow manufacturing along with licensed commercial cultivation, where allowed, while some districts would allow stand-alone manufacturing operations with the appropriate land use permit and license. Commercial cannabis product manufacturing would also become an allowed use within TP, CA, A, AP, and RA zoning districts only in conjunction with onsite licensed cannabis cultivation. Manufacturing would be subject to restrictions on manufacturing type, scope, and materials based on zoning; most manufacturing activities would require discretionary development permit approvals, depending on type and/ or scope, as further described herein. Further, cannabis home occupations would be allowed within all eligible zoning districts on properties with detached single-family dwellings. A "cannabis home occupation" would allow non-volatile manufacturing of smaller quantities of cannabis products, such as edibles and topicals, using imported cannabis materials or extracts. Cannabis home occupations would be allowed within all eligible zoning districts, but would likely be most common in residential areas due to the restriction that it may only occur on properties with detached single-family dwellings. Commercial cannabis product manufacturing would become an allowable use as an ancillary home occupation associated with sites with detached single-family dwellings, with no employees allowed (except through county approval of a conditional use permit on RA and RR parcels that would allow employees) and limits on the nature and extent of activity.

Proposed Development Standards for Commercial Cultivation

Minimum Parcel Sizes for Cultivation

The Program would specify minimum parcels sizes for each zoning district that accommodates commercial cannabis cultivation. Any properties that are smaller than the minimum parcel size for each zoning district would not be eligible for licensing. The minimum parcel size would generally decrease under the More Permissive Project compared to the Project, to allow more opportunity for legal cultivation on smaller parcels (Table 2-2).

Table 2-2 Minimum Parcel Sizes

Zoning District	Project	More Permissive Project
CA	1 acre	1 acre
A	10 acres	5 acres
RA	5 acres	2.5 acres
C-4	None	None
M-1, -2, or -3 (incl. with "Q" designation)	None	None
TP	5 acres	5 acres
SU	5 acres	5 acres

Maximum Cultivation Canopy Size

The Program would limit the maximum "canopy" size, based upon the total of the diameter of individual plants (the space between plants is not counted toward the allowable canopy area). Canopy size would be limited to a specified percentage of the parcel size with a fixed maximum square footage allowable by zoning district. The maximum canopy size would generally increase under the More

Permissive Project compared to the Project to allow more opportunity for cultivation (Table 2-3). For C-4 and M zoned properties under the Project scenario, there is a 100,000-sf limit on the total allowed canopy within both districts combined. The County would license cultivation up to this limit on a first come, first served basis. Under the More Permissive Project scenario, the limit is raised to 150,000 sf. When the applicable limit is reached, the limit may be raised by the Board of Supervisors based upon a recommendation by the Licensing Official.

Table 2-3 Maximum Canopy Size

Zoning District	Project	More Permissive Project
CA	2% of parcel size, or maximum 22,000 sf	4% of parcel size, or maximum 44,000 sf***
A	1.5% of parcel size, or maximum 10,000 sf	3% of parcel size, or maximum 20,000 sf
RA	1.25% of parcel size, or maximum of 5,100 sf	2.5% of parcel size, or maximum 10,200 sf
C-4	A maximum of 22,000* sf	A maximum of 22,000** sf
M-1 or -2	A maximum of 22,000* sf	A maximum of 22,000** sf
M-3 (incl. with "Q" designation)	A maximum of 22,000* sf	A maximum of 44,000** sf
TP	1.25% of parcel size, or maximum 5,100 sf on parcels <10 acres; 1.25% of parcel size, or maximum 10,000 sf on parcels >10 acres	2.5% of parcel size, or maximum 10,000 sf on parcels <10 acres; 2.5% of parcel size, or maximum 20,000 sf on parcels >10 acres
SU	1.25% of parcel size, or maximum 5,100 sf on parcels <10 acres; 1.25% of parcel size, or maximum 10,000 sf on parcels >10 acres	2.5% of parcel size, or maximum 10,000 sf on parcels <10 acres; 2.5% of parcel size, or maximum 20,000 sf on parcels >10 acres

Notes:
*100,000 sf limit on total canopy in zoning districts C-4 and M combined.
**150,000 sf limit on total canopy in zoning districts C-4 and M combined. Also, 44,000 sf is rounded up to convey 1 acre, which is 43,560 sf and the highest amount that the State plans to license in the near term.

Required Residence for Cultivation

The Program includes a requirement for an onsite residential unit in some zoning districts to ensure that a cultivation site is serviced by water, power, and wastewater management systems, to encourage continuous habitation in the interest of site security, and to encourage a sense of neighborhood participation and connectivity. It should be noted that under the California Building Code, legal single-family dwellings can be constructed with sizes as small as about 300 square feet, as long as building standards are met. Development of new single-family homes would be required to meet applicable zoning and building code requirements and comply with applicable limitations. Use of a generator as a primary energy source is not allowable under the proposed Licensing Program. Table 2-4 details the whether a residential unit is required on a parcel by zoning district. Neither the Project nor the More Permissive Project require homes on parcels within zoning districts CA, C-4, and M-1,2,3 including a "Q" designation (for Quarry).

Table 2-4 Residential Unit on Parcel Required

Zoning District	Unit Required by Project and More Permissive Project
CA	No
A	Yes
RA	Yes
C-4	No
M-1,2, or 3 (incl. with "Q" designation)	No
TP	Yes
SU	Yes

Restrictions on Cultivation within the Coastal Zone + 1-mile Buffer

The Program proposes unique regulations for cannabis cultivation within the Coastal Zone as designated by the State of California plus a 1-mile buffer inland from the Coastal Zone boundary (see Figure 2-2). These restrictions aim to balance cannabis cultivation with management of resources in the coastal setting, such as timber, agriculture, visual resources, visitor serving uses, and residential uses. Table 2-5 details the differences between the Project and the More Permissive Project regarding whether commercial cannabis cultivation would be allowed within the Coastal Zone + 1-mile buffer, by zoning district. Cultivation within CA, A, M, and C-4 is allowed within the whole of the Coastal Zone + 1-mile buffer under both Program scenarios. However, the Project bans cultivation within RA, TP, and SU zoning districts in the Coastal Zone + 1-mile buffer. Additionally, under the Project in the Coastal Zone + 1-mile buffer, cultivation may only take place outdoors, or in existing indoor spaces. Applicants may not construct new structures, including but not limited to greenhouses, to cultivate cannabis in this area. The More Permissive Project allows for cultivation within the 1-mile buffer of the Coastal Zone for RA, TP, and SU zoning districts, but not within the Coastal Zone itself.

Table 2-5 Cultivation within the Proposed Coastal Zone + 1-mile Boundary

Zoning District	Project	More Permissive Project
CA	Cultivation allowed outdoors or in existing indoor or greenhouse spaces	Cultivation allowed outdoors or in existing indoor or greenhouse spaces
A	Cultivation allowed outdoors or in existing indoor or greenhouse spaces	Cultivation allowed outdoors or in existing indoor or greenhouse spaces
RA	No commercial cultivation	Cultivation allowed only within the 1-mile buffer area of Coastal Zone; not within Coastal Zone itself
C-4	Cultivation allowed	Cultivation allowed indoor only
M-1,2,3 (incl. with "Q" designation)	Cultivation allowed	Cultivation allowed indoor only, except outdoor allowed on "Q" sites
TP	No commercial cultivation	Cultivation allowed only within the 1-mile buffer area of Coastal Zone; not within Coastal Zone itself
SU	No commercial cultivation	Cultivation allowed only within the 1-mile buffer area of Coastal Zone; not within Coastal Zone itself

Cultivation within the Urban and Rural Services Lines

The Program proposes unique regulations for cannabis cultivation within the Urban and Rural Services Lines (USL+RSL) designated by the County (see Figure 2-2). These restrictions are intended to limit cannabis cultivation within urban areas where conflicts may be more common, such as with schools and neighborhoods. Table 2-6 details whether commercial cannabis cultivation is allowed for both the Project and the More Permissive Project within the USL+RSL, by zoning district.

Table 2-6 Summary Cultivation within Urban and Rural Services (USL+RSL) Lines

Zoning District	Project and More Permissive Project
CA	Cultivation is allowed within the USL+RSL only in the Coastal Zone + 1 mile
A	Cultivation is allowed within the USL+RSL only in the Coastal Zone + 1 mile
RA	No commercial cultivation is allowed within the USL+RSL
C-4	Cultivation is allowed indoors within the USL+RSL only in the Coastal Zone + 1 mile
M-1,2,3 (incl. with "Q" designation)	Cultivation is allowed indoors (except Q sites may also grow outdoors) within the USL+RSL only in the Coastal Zone + 1 mile
TP	No commercial cultivation is allowed within the USL+RSL
SU	No commercial cultivation is allowed within the USL+RSL

Cultivation Types Allowed within Supervisorial District 2

The Project and the More Permissive Project differ in restrictions on commercial cannabis cultivation within County Supervisorial District 2 (see Figure 2-2). Specifically, under the Project, in District 2 all cannabis cultivation must occur indoors and the minimum parcel size is larger than 5 acres in all eligible zoning districts. Under the More Permissive Project, these restrictions would not apply. Supervisorial District 2 has a combination of rural land and residences that led to the Project scenario limiting cultivation to indoor environments on larger parcels to address potential land use conflicts.

Required Growing Area Setbacks and Separation Requirements from Existing Features and Uses

The Program also includes physical restrictions to cultivation growing areas to control where and how cannabis could be cultivated on a site-by-site basis. Primarily, the Program specifies parcel or growing area separation requirements from sensitive uses such as parks, libraries, and schools, and setbacks from environmental features such as creeks. Maintaining distance between cultivation and adjacent uses and resources is intended to minimize land use conflicts and potential hazards to public health and safety and the environment. The More Permissive Project generally reduces required parcel or growing area separations and setbacks, which would increase the potential area available for cultivation within a site. Under the Project, required setbacks range from 50 feet up to 600 feet. Under the More Permissive Project, required setbacks range from 50 feet to 300 feet. Table 2-7 details the differences between the Project and the More Permissive Project in required parcel or growing area separation from municipal boundaries, schools, libraries, parks, and drug treatment facilities to the closest property line of the parcel on which cannabis is being cultivated. Table 2-8 details the differences between the Project and the More Permissive Project in required setbacks and exceptions to setbacks for public right-of-way, streams and wetland areas, or habitable structures and the

growing area on the cultivation site. Consistent with state law, no cultivation would be allowed on a parcel within 600 feet of a school for either scenario. Setbacks and separation requirements to growing areas would be measured as the horizontal distance from any of the identified features or parcel boundary to the closest growing area of the cultivation site, without regard for intervening structures.

Table 2-7 Required Parcel Separation Distances

Project	More Permissive Project
No cannabis cultivation would be allowed on a parcel within 600 feet* of a school parcel line for either Program scenario.	
No cannabis cultivation allowed on parcels within 600 feet of the parcel line of: • Municipal boundary • Library • Alcohol or drug treatment facility • Any park other than a State Park within the USL	No cannabis cultivation allowed on parcels within 300 feet of the parcel line of: • Municipal boundary • Library • Alcohol or drug treatment facility • Any park other than a State Park within the USL

*Horizontal distance is measured from any of the features above to closest parcel boundary with cultivation onsite, without regard for intervening structures.

Table 2-8 Required Setbacks from Cultivation Area

Project	More Permissive Project
No cannabis cultivation allowed within:	No cannabis cultivation allowed within:
• 200 feet from a habitable* structure on a neighboring parcel. o >100 feet may be allowed as an exception granted by the Licensing Official	• 100 feet from a habitable structure on a neighboring parcel.
• 300 feet from a State Park within USL	• 300 feet from a State Park within USL
• Parcels 1-5 acres - 100 feet from public ROW	• Parcels 1-5 acres - 50 feet from public ROW**
• Parcels 5-10 acres - 200 feet from public ROW	• Parcels 5-10 acres - 100 feet from public ROW**
• Parcels > 10 acres - 300 feet from public ROW	• Parcels > 10 acres - 150 feet from public ROW**
• 100 feet from a perennial stream	• 100 feet from a perennial stream
• 50 feet from an intermittent or ephemeral stream, or in violation of SCCC Chapters 16.30 (Riparian) or 16.32 (Sensitive Habitat), whichever is most restrictive	• 50 feet from an intermittent or ephemeral stream, or in violation of SCCC Chapters 16.30 or 16.32, whichever is most restrictive
• 100 feet from high water mark (HWM) of water body	• 100 feet from HWM of water body

Notes:
*Horizontal distance is measured from any of the features above to closest growing area of cultivation onsite, without regard for intervening structures.
Per CalFire, habitable structure is a building that contains one or more dwelling units or that can be occupied for residential use
****No ROW setback is required for indoor cultivation in C-4, M-1, M-2, or M-3 zoning districts.**

Multiple Cultivation Licenses per Parcel

The Program addresses situations where multiple licensees could cultivate on the same property. Co-location is expected to occur on larger properties that have adequate space for multiple tenants, either within structures or outdoors. This provision would allow for cooperative cultivation and consolidation of licensees into one appropriate location, with the attendant potential for minimizing land use conflicts and environmental impacts. Under the Project, multiple licenses on one property would only be allowed on CA zoned parcels larger than 40 acres, and on M- and C-4 sites, and would require permission from the Licensing Official. Even with multiple cultivators, the total allowed canopy could not exceed 22,000 sf per parcel. Under the More Permissive Project, multiple licenses would be allowed by right for all eligible zoning districts, if the total canopy does not exceed the maximum canopy square footage restrictions for the zoning district. On CA parcels, the More Permissive Project would increase the maximum canopy size to 44,000 sf, which could better facilitate co-location.

Imported Water for Cultivation

The allowable sources of potable water for irrigation and other onsite uses differ between the Project and the More Permissive Project. The Project requires that the source of water be approved and be onsite, which would allow municipal water, permitted wells, and legal stream diversions with water rights. The More Permissive Project would allow those onsite sources as well as importing water by truck for initial filling of water storage tanks required to meet Fire Code standards. Imported water to fill water storage tanks would only be allowed from a purveyor licensed by the state to sell water from within Santa Cruz County or an adjacent county.

Opportunities to Register for a License

Under the Project and the More Permissive Project, only cannabis cultivation registrants who completed a license pre-application to the County by November 6, 2016 are eligible to receive a license to cultivate commercial cannabis, except that those farmers that have commercially farmed another crop on a parcel zoned for Commercial Agriculture (CA) for 3 consecutive prior years are eligible to obtain a license without having registered during the registration period. There is no registration process proposed for cannabis product manufacturers, who would be able to apply for a license on an ongoing basis. Whether there would be an eventual cap on the number or type of manufacturing licenses or any future additional registration period for cultivation licenses, or whether the Board might consider any other new or substantial changes to the proposed Program, is not addressed by this EIR, and would be future considerations by the Board of Supervisors that would be subject to further environmental review for CEQA compliance.

Uniform Regulations for Commercial Cannabis Cultivation

Additional restrictions that are uniform in all zoning districts are detailed below. There are no differences in these restrictions between the Project and More Permissive Project.

- No cultivation allowed on a parcel within 600 feet of a parcel containing a school, per state law.
- No cultivation within a residence or residential garage.
- Cultivation area must not be visible from public ROW.

- No night lighting other than security lighting shall be visible from the subject parcel, with lighting managed to not spill onto neighboring properties or skyward.
- No onsite advertising beyond allowed business ID signs per SCCC Chapter 13.10.580-585 and 13.20.130 in the Coastal Zone.
- No generators as an energy source for cultivation (or for any associated processing/ manufacturing) or for required homes, outside of limited use of a backup generator during an emergency.
- Energy efficient cultivation methods are required.
- Minimize impacts to sensitive habitat and species and comply with SCCC Title 16 Environmental Resources ordinances.
- Minimum 6-foot-tall opaque fence, constructed of non-plastic material and with locked gate, is required for all outdoor grows, although exceptions for open agricultural lands may be granted by the Licensing Official.
- No license may be issued where the water source is shared without the permission of all interested parties.
- No license may be issued where the water source is surface water without proof of valid water rights.
- No license may be issued without appropriate site access and water availability for firefighting purposes.
- No genetically engineered cannabis is allowed.
- Must comply with all local, state, and federal laws regarding storm water management, pesticide, herbicide, and rodenticide application, worker safety, and chemical storage and use.

Each cultivation site developed and operated consistent with the Program would trigger a unique combination of regulations depending on the location, setting, size, and surrounding uses of a site. In addition, all cultivation sites would be subject to existing regulations of the SCCC for site use and development, including the County Zoning Ordinance (Chapter 13.10) and other land use regulations, the Building Code (SCCC Title 12), the Fire Code (SCCC Chapter 7.92), and ordinances of Title 16, Environmental Regulations.

Proposed Development Standards for Manufacturing of Cannabis Products

The Program includes comprehensive regulations in proposed Chapter 7.132 of the SCCC, along with new regulations in Chapter 13.10, to address how, where, and how much manufacturing of cannabis products may occur in the County. Manufacturing of cannabis products would be addressed under the following license classes:

- Class 1: Infused products
- Class 2: Non-flammable extraction or extraction involving pressures less than 2,000 pounds per square inch (psi)
- Class 3: Non-flammable extraction or extraction involving pressures less than 2,000 psi and infused products

- Class 4: Flammable extraction; non-flammable extraction or extraction involving pressures of 2,000 psi or greater

All commercial manufacturing activities would require a Cannabis Manufacture License in addition to any applicable use and/or development permits identified in SCCC Chapter 13.10, Zoning Regulations. Some classes of license types may also allow "lower" class activities to be included. Any manufacturing that does not fall within one of the above license classes would not be allowed in the County, such as open blast hydrocarbon manufacturing.

Commercial cannabis manufacture would only be allowed in zoning districts specified by the proposed SCCC Chapter 7.132, and cannabis home occupations involving cannabis manufacturing would only allow certain types of activity, and only as ancillary uses to detached single-family dwellings. Manufacturing regulations would not differ between the Project and the More Permissive Project. Under both the Project and the More Permissive Project, cannabis product manufacturing would be allowed with conditions in CA, A, RA, R-1, RM, RB, RR, M-1, M-2, M-3, C-2, C-4, TP, and SU[5] zoning districts, with approval of a required discretionary use permit, and a development permit and building permit for new construction. Depending on size and scope, certain manufacturing activities would be prohibited or require discretionary development permit approvals in certain zones. Cannabis product manufacturing would become an allowable use within C-2, C-4, M-1, M-2, M-3 and SU districts either along with licensed commercial cannabis cultivation or as stand-alone cannabis manufacturing operations, and with approval of required discretionary land use permits. Manufacturing would be conditionally allowed with approval of required land use permits within A, RA, CA, and TP so long as manufacturing occurs along with licensed cannabis cultivation that is occurring on the parcel.

Cannabis manufacturing would be allowed in R-1, RM, RB, RA and RR as a cannabis home occupation business, subject to proposed regulations for SCCC 13.10 for Cannabis Manufacture Home Occupation Permit regulations (see Section 2.3.8, *Zoning Ordinance Amendments* and Appendix C); manufacturing on RA and RR zoning would be subject to regulations for cannabis home occupation businesses, but may have employees and may import cannabis plant material if a conditional use permit is obtained as provided in SCCC Chapter 13.10. Table 2-9 summarizes the licensing regulations by eligible zoning district.

Cannabis product manufacturing would become an allowable use within C-2, C-4, M-1, M-2, M-3 and SU districts either along with licensed commercial cannabis cultivation or as stand-alone cannabis manufacturing operations, but on C2 it may only occur on the same site as a licensed dispensary. Manufacturing would be conditionally allowed within A, RA, CA, and TP so long as manufacturing is ancillary to cannabis cultivation that is occurring on the parcel. In nearly all cases, approval of required discretionary land use and development permits would be required for manufacturing activities or development, along with approval of a license.

[5] Where General Plan designation is implemented by a zone district in which cannabis manufacturing is allowed.

Table 2-9 Cannabis Product Manufacturing Regulations

Zoning District	Proposed Allowed Cannabis Product Manufacturing
CA, A, and AP	• All classes of manufacturing allowed; however, manufacturing only allowed in existing structures within Coastal Zone + 1-mile buffer • Manufacturing only in conjunction with licensed commercial cultivation onsite • Multiple licensees may operate on the same parcel
R-1, RB, and RM	• Manufacturing only allowed as a cannabis manufacturing home occupation business, carried out by inhabitant and no other employees allowed • Only Class 1, 2, and 3 manufacturing allowed; Class 4 manufacturing is prohibited • CO_2 extraction under Class 2 and 3 manufacturing is prohibited • Requires a permitted, detached single family residence onsite; no manufacturing is allowed in multi-family units or attached units and only 20 percent of the unit may be used for manufacturing; • Licensee must be full-time resident; only one licensee per parcel • Commercial kitchens not allowed
RA	• Manufacturing allowed only as a cannabis manufacturing home occupation business, using only up to 20 percent of the home for manufacturing; • Only Class 1, 2, and 3 manufacturing allowed; Class 4 manufacturing is prohibited • CO_2 extraction under Class 2 and 3 manufacturing is allowed only where equipment pressures do not exceed 2,000 psi, are not located in a habitable structure, and operate in a secure and permitted accessory structure • but may exceed limits if restrictions on cannabis grown onsite or imported cannabis are observed • Requires a permitted, single family residence onsite; no manufacturing is allowed in multi-family units or attached units • Licensee must be full-time resident; only one licensee per parcel. Employees other than inhabitant may be allowed with conditional use permit approval. • Commercial kitchens are allowed
RR	• Manufacturing allowed as a cannabis manufacturing home occupation business, but may exceed limits if restrictions on imported cannabis are observed • Only Class 1, 2, and 3 manufacturing allowed; Class 4 manufacturing is prohibited • CO_2 extraction under Class 2 and 3 manufacturing is allowed only where equipment pressures do not exceed 2,000 psi, are not located in a habitable structure, and operate in a secure and permitted accessory structure • Requires a permitted, single family residence onsite; no manufacturing is allowed in multi-family units or attached units and only 20 percent of the unit may be used for manufacturing • Licensee must be full-time resident; only one licensee per parcel. Employees other than inhabitant may be allowed with conditional use permit approval. • Commercial kitchens are allowed
C-4	• All classes of manufacturing allowed • Multiple licensees may operate on the same parcel • Commercial kitchens allowed and may be shared by multiple licensees • Not more than 20 persons may engage in manufacturing during any one shift

Table 2-9 Cannabis Product Manufacturing Regulations (Continued)

Zoning District	Proposed Allowed Cannabis Product Manufacturing
C-2	• Manufacturing only allowed in conjunction with a licensed dispensary • Only Class 1, 2, and 3 manufacturing allowed; Class 4 manufacturing is prohibited • Multiple licensees may operate on the same parcel • Commercial kitchens allowed and may be shared by multiple licensees • Not more than 10 persons may engage in manufacturing during any one shift
M-1, M-2 & M-3	• All classes of manufacturing allowed • Multiple licensees may operate on the same parcel
TP	• Manufacturing must co-occur with licensed commercial cultivation onsite; carried out by inhabitant and no other employees allowed • Only Class 1, 2, and 3 manufacturing allowed; Class 4 manufacturing is prohibited • Requires a permitted, detached single family residence onsite and only 20 percent of the unit may be used for manufacturing; • No imported cannabis plant material allowed unless a conditional use permit is approved • Any new structure developed for manufacturing must be located within 200 feet of other buildings on the parcel, subject to discretionary permits • No timberland conversion allowed for cannabis manufacturing facilities
SU	• Manufacturing allowed only where a parcel has a general plan designation that supports CA, A, RA, R-1, RM-RB, RR, M-1, M-2, M-3, C-2, C-4, and TP zoning districts consistent with the manufacturing requirements for the correlating specific zoning district.

Criteria for licensing of cannabis product manufacturing would address a range of manufacturing characteristics depending on the zoning of the subject manufacturing site, including the cannabis extraction method, the size of the cannabis manufacturing facility, the parcel size, and the number of employees, as applicable. Criteria for a license would also address whether the extraction process is Class 1, 2, or 3, indicating relatively low risk equipment, processes and materials; or Class 4, which would involve processes, equipment or substances that are higher risk, including those that are potentially are flammable, explosive, or have other similar effects if an uncontrolled release occurs. In general, Class 1, 2, and 3 manufacturing processes produce tinctures (using alcohol), hash, and similar products involving extraction with low risk solvents, such as cooking oils, butter, or water, no solvents such as with industrial pollen extractors used to make kief, and low pressure. Class 4 manufacturing processes generally involve extraction using chemicals that have explosive potential if an uncontrolled release occurs, or high pressures, such as can be found in hydrocarbon extraction including butane or high pressure CO_2 extraction processes, respectively, to make extracts that can be further refined (using methods such as chromatography) Additionally, post-processing that uses extracted cannabis products to make other final products, including edibles, inhalers, capsules and salves/lotions, would be licensed activities subject to review by the Licensing Official involving Class 1-4 manufacture types. Packaging incidental to manufacture would be permitted.

Additional information about manufacturing of cannabis products is available in Section 2.3.4, *Types of Cultivation and Manufacturing.* Licenses would be issued by the cannabis licensing office following site investigations, and payment of fees. Additional approvals or permits may be required from other County departments, such as Planning and Environmental Health, depending on scale and type of operation.

2.3.3 Potential Cannabis Cultivation and Manufacturing under the Program

To evaluate the impacts associated with new and expanded cultivation and manufacturing beyond the baseline activity that currently exists, the general location, type and amount of potential future cannabis activities was estimated based on the 2016 License Registration data, 2017 Cannabis Manufacturers Survey, and interviews with local cannabis industry representatives. Additionally, to disclose the effects of the proposed Program, a GIS-based analysis of the Project and More Permissive Project scenarios was conducted to determine the areas of the County where commercial cultivation and manufacturing would be allowed, considering all the various prohibitions and restrictions proposed in the Project and More Permissive Project scenarios. The resulting map was then compared to the License Registration data in order to understand what portion of registrants are cultivating on sites that would be eligible for licensing under the Program.[6] Below, the results of this analysis are described and used to bracket the maximum and minimum acreage amounts that could be available for licensed cultivation (and associated processing/manufacturing) that may occur under both the Project and More Permissive Project.

Summary of Commercial Cannabis Cultivation (Projected)

Area of Eligibility for Cultivation under the Program

The Program would limit future cannabis cultivation to specified zoning districts. Locations that are eligible on the basis of zoning would then be further filtered by prohibitions and restrictions including separation of uses, required setbacks and minimum parcel sizes. The area of eligibility for each scenario was determined by applying the physical restrictions, such as setbacks, buffers, and limits on cultivation, then totaling the remaining area by zoning district.[7] As described below, the More Permissive Project has a greater area of eligibility than the Project, which is as expected since the More Permissive Project generally has fewer physical restrictions, such as smaller setback requirements and smaller minimum parcel size requirements.

Under the Project, there are 6,228 parcels totaling 147,750 acres within which cultivation could occur on portions of those parcels with a license and any required permits. (Figure 2-3). Under the More Permissive Project, the number of eligible parcels rises to 8,888 within a total of 164,721 acres within the County, an increase of approximately 16,971 acres over the Project (Figure 2-4). Over 80 percent of the eligible area is zoned CA, TP, and SU (Table 2-10). The increase in eligible area under the More Permissive Project scenario is driven primarily by decreased required minimum parcel sizes and setbacks, as described in Section 2.3.2, *Program Components* (See also, Appendix C). Note that none of the above or below numbers relate to area, sites or canopy account for non-Program-generated existing regulatory limitations on implementation of cannabis cultivation activity on any parcel, such as limits on physical development (e.g., greenhouses, homes, access roads, septic tanks, water storage tanks) of parcels or sites identified in the following tables.

[6] Many registrants opted not to disclose their specific location on the registration form. Only the forms that included a specific location were able to be compared to maps of area eligible for cultivation.

[7] Proposed required setbacks from public roadway right of way and habitable structures was not including in the GIS-based analysis since these features are not available as geodata. These restrictions would incrementally reduce the area of eligibility for the Project and More Permissive Project scenario, but the reduction would be nominal.

Later in this analysis, the reasoning supporting the projection that a total of up to 190.1 acres of new cultivation may occur under the Program within these much larger eligibility areas is explained.

Table 2-10 Total Area of Cultivation Eligibility by Zoning District by GIS Analysis

Zoning District	Eligible Acres Under Project	Eligible Acres Under More Permissive Project	*Increase*
A	6,857	8,630	*1,773*
RA	10,577	17,823	*7,246*
CA	37,328	38,003	*675*
TP	41,732	45,157	*3,425*
SU	50,240	54,058	*3,817*
C-4	71	82	*11*
M-1	58	68	*10*
M-2	74	74	*0*
M-3	812	826	*14*
Total	147,750 acres	164,721 acres	*16,971 acres*

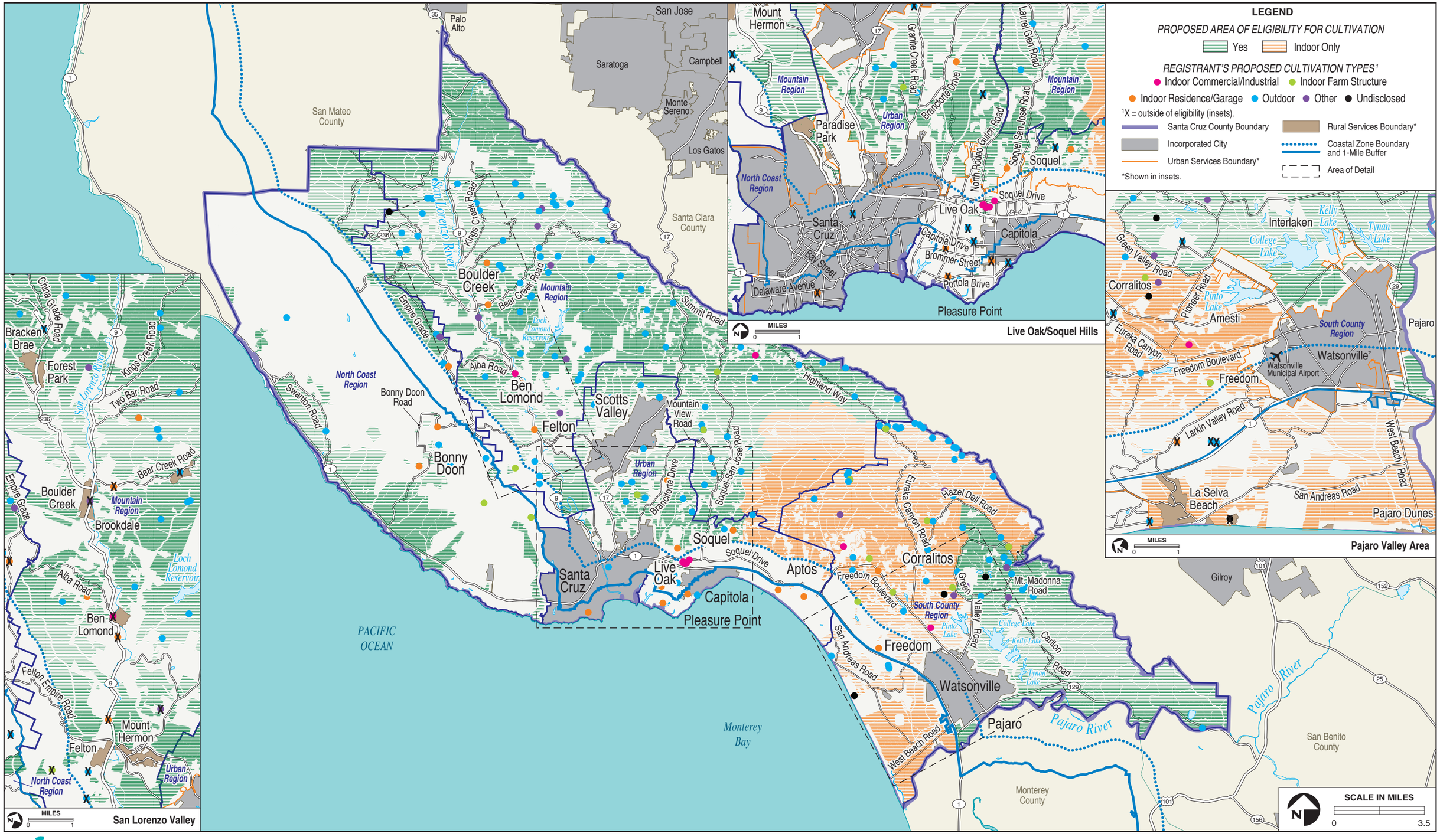
Source: County of Santa Cruz GIS

Based on registrations for which registrants provided site locations, between 42 percent and 64 percent of registrants are requesting a license to cultivate cannabis on parcels that fall within a zoning and parcel size that is eligible under either the Project or the More Permissive Project, respectively. However, between 36 percent and 44 percent of the registrant-identified sites would fall out and not be eligible for a cultivation license once additional filters related to other geographic requirements are applied.

In addition to general eligibility that is based on the location and land use criteria described above, total cultivated cannabis canopy would be limited Countywide for the following reasons:

- The Licensing Program limits the total number of legal commercial cannabis cultivators eligible for a license to those that have registered or have been farmers in the CA zoning district for the 3 years prior in the County;
- Many eligible parcels in the County would not be cultivated due to environmental constraints, including topography, access, vegetation, soils, solar access, and owners/tenants who have no need or desire to cultivate cannabis.

Note that for the purposes of disclosure, the total area that is potentially eligible for cultivation licensing has been mapped and reported, subject to the limits on data that have been described. However, specific locations that will ultimately be cultivated are unknown, and forecasting of these specific locations is too speculative for meaningful analysis under CEQA. Rather, this information has been provided to characterize the theoretical maximum extent of or possible locations for growing within eligible areas that meet the proposed regulations for cannabis cultivation under the Program, not necessarily the area that will ultimately be licensed and cultivated. As will be explained, analysis in this EIR supports a total projected number of new acres cultivated for cannabis under the Program at 190.1 acres.

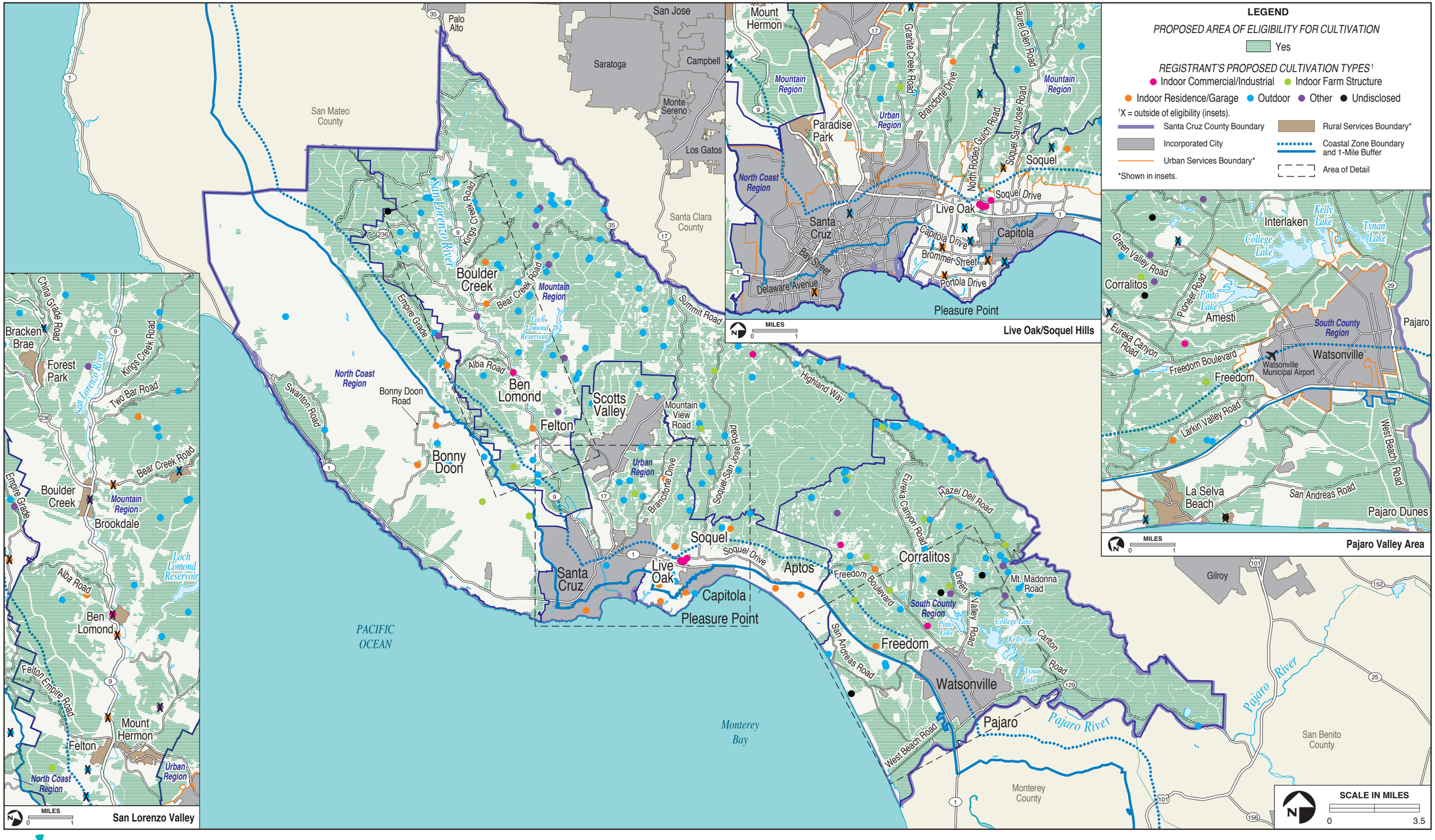


amec foster wheeler

Project Scenario – Countywide Commercial Cannabis Cultivation License Eligibility

FIGURE 2-3

This page intentionally left blank.



amec foster wheeler

More Permissive Project Scenario – Countywide Commercial Cannabis Cultivation License Eligibility

FIGURE 2-4

This page intentionally left blank.

Opportunity for Cultivation under the Licensing Program, Projected Using Registration Data

With the implementation of the Program, the number of licensed cultivation sites within the County would be largely fixed by the registration pre-applications for licensing that were received prior to November 6, 2016. Only cultivators who registered during the 90-day process in 2016, who are either already on an eligible parcel or could locate to an eligible parcel under the Program and can secure a local and state license along with any required land use or other permits, would be allowed to commercially cultivate cannabis in the County. Registrants had to demonstrate they are currently cultivating or had been cultivating within the last three years. In addition to registrants, people with a history of commercial farming on CA zoned property for three prior years are eligible to apply for a license in the future without having registered in 2016.

The County's 2016 License Registration period identified 760 cultivators who would seek a license to cultivate cannabis commercially under the Program (this number does not include agricultural operations on CA zoned land who are eligible for future cultivation licenses and were not required to register). Of these 760, 567 are currently cultivating and 193 represent future cultivators. Registrants were not required to provide details about the location of the proposed cultivation sites, but out of 760 registrants, 259 did provide addresses; the remaining 501 cultivators registered anonymously[8], though 298 of those anonymous registrants did provide the planning area of the proposed cultivation site. The following data was collected from the registration process.

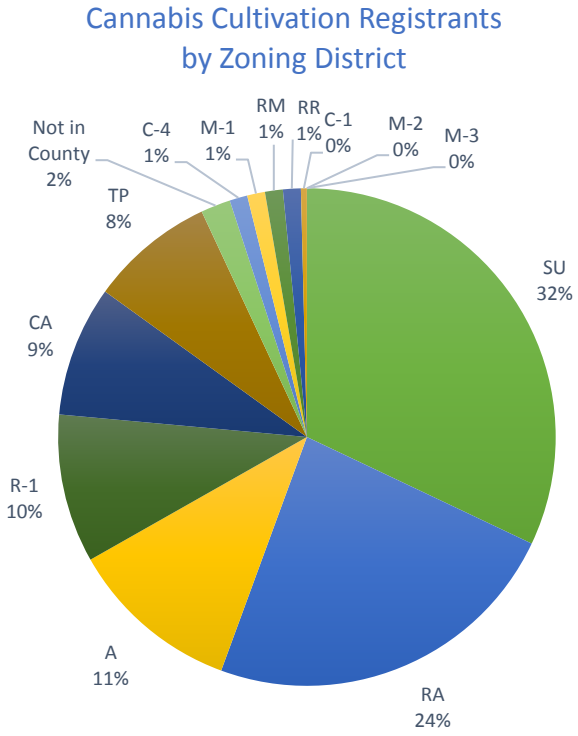
Using the subset of the licensing data with 259 registrant-provided locations, the portion of cultivation sites that would be eligible under both the Project and the More Permissive Project can be quantified to characterize the distribution of registrants Countywide (Table 2-11). Of the 259 registrant-provided locations, 222 are located on parcels that are generally zoned appropriately for cannabis cultivation under the Program. The remaining 37 registrant-provided locations lie on parcels that are not zoned appropriately for cannabis cultivation under the Program, including 25 sites on Single Family Residential (R-1), 3 sites on Multi-Family Residential (RM), 3 sites on Rural Residential (RR), 1 site on Neighborhood Commercial (C-1), and 5 sites lie outside of County jurisdiction in cities or adjacent counties. It is important to note that the registration data indicates the current locations where registrants are cultivating; 48 percent of registrants have plans to move their cannabis cultivation to a different site, and many reported that this change is intended to permit an increase in the total amount of cannabis to be cultivated.

It should be recognized that the purpose of the Program is not only to limit total activity but to *regulate* as much activity as possible, and it is likely that existing activity will continue whether legally or illegally.

[8] Anonymous registration was allowed based on public feedback indicating that, due to concerns about potential prosecution, many existing cultivators would be resistant to registering their activities. Although anonymous registrants were not required to provide an address, they were asked to provide other location information. In order to obtain a license, physical address details will be required from each cultivator in the future.

Table 2-11 Eligibility of Registrant-Identified Cannabis Cultivation Sites by Zoning

Total Sites in Eligible Zoning Districts		Total Sites in Ineligible Zoning District	
A	29	C-1	1
CA	22	R-1	25
RA	61	RM	3
C-4	3	RR	3
M-1	3	Not in County	5
M-2	0	**Total**	**37**
M-3	0		
SU	83		
TP	21		
Total	**222**		



Source: Santa Cruz County GIS and 2016 County Commercial Cannabis License Registration

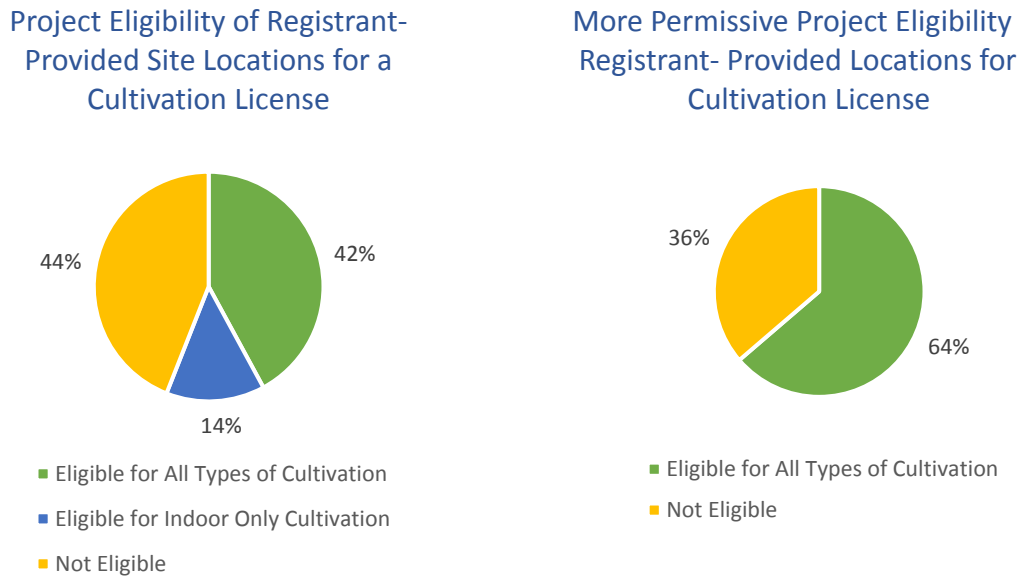
While over 85 percent of the registrant-provided sites for cannabis cultivation under the Program would fall on parcels with eligible zoning districts, additional geographic restrictions proposed by the Project and the More Permissive Project would eliminate some of these potential sites from eligibility. Geographic restrictions, including minimum parcel sizes, parcel separation requirements, and setbacks from key features such as schools, streams, libraries, and municipal boundaries, further exclude parcels from license eligibility. Also, other requirements such as that a single-family dwelling must be provided on site, and that Fire Code requirements for road access and water storage must be met, further limit eligibility.

Under the Project, the total eligible locations are reduced by these regulations by 35 percent (from 222 to 145 registrant-provided locations) and by 26 percent under the More Permissive Project (from 222 to 165 registrant-provided locations) (Table 2-12). The minimum parcel size requirements, described in Section 2.3.2, *Program Components,* have the greatest effect in eliminating potential registrant-provided cannabis cultivation sites from eligibility, particularly in the Mountain Region where smaller agricultural and timber parcels under 5 acres in size would not be eligible for a cultivation license. Further, the differences between the standards and restrictions in the Project and the More Permissive Project would result in a difference in eligibility of only 20 sites. Of the registrant-provided sites information, only 56 percent would be eligible for a cultivation license under the Project scenario and 64 percent would be eligible under the More Permissive Project once the full suite of proposed regulations, including minimum parcel sizes and setbacks, is considered.

Table 2-12 Summary of Eligibility of Registered Cultivation Sites for Which Location Information was Provided

	Project	More Permissive Project
Total Sites	**259**	**259**
Potentially Eligible Sites after Program Regulatory Constraints are Considered	145 (56 %) (109 – All Cultivation Types; 36 – Indoor Only)	165 (64%)
Potentially Ineligible Sites	114 (44%)	94 (36%)

See also Figures 2-3 and 2-4



Source: Santa Cruz County GIS and 2016 County Commercial Cannabis License Registration

While it is not possible to know the number of cultivators who will be able to relocate from a site setting that is not eligible for licensing to a parcel that is eligible, because it is the County's goal to assist all 760 registrants in finding a suitable location and configuration consistent with the Program, and in order to perform a conservative environmental analysis, this EIR assumes that each of the 760 registrants locates a suitable property and cultivates under the Program.

Effect of Exception from Registration for Commercial Farmers, and Availability of Underutilized Greenhouses

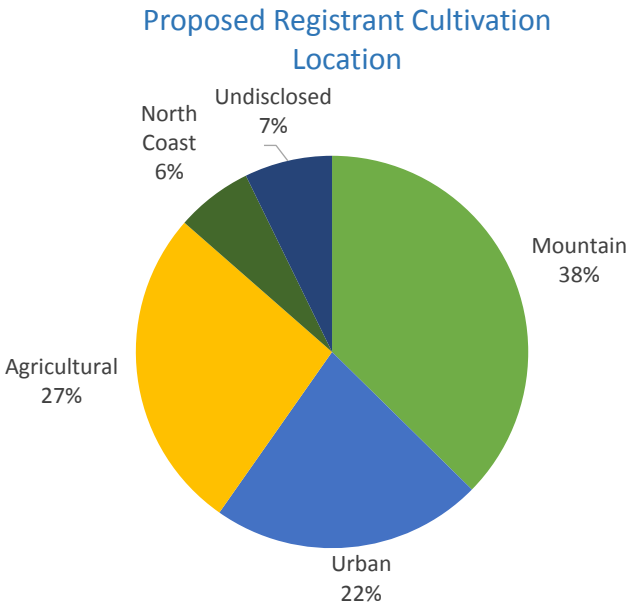
The estimate of total eligible sites taken from License Registration data does not capture potential cultivation by farmers who have been farming crops other than cannabis commercially on CA zoned property for at least three prior years, who are not required to register as a pre-requisite to obtaining a cannabis cultivation license. In total, 37,328 acres of CA zoned land would be eligible for cultivation licensing under the Project, and 38,003 acres would be eligible under the More Permissive Project, an increase of 675 acres. It is extremely unlikely that over the life of the Program, licenses would be requested and/or received for the entire eligible area in CA zoning, as existing and proposed General Plan policies emphasize the need to protect lands for food production and to balance the level of

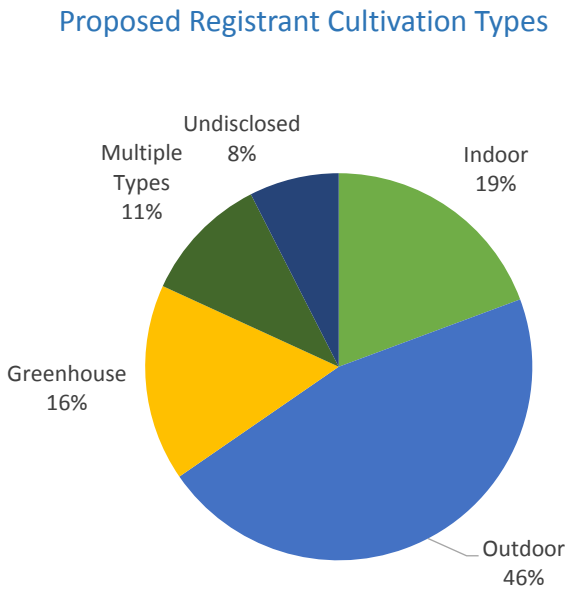
cannabis cultivation within the County with other crops and agricultural pursuits, and applications for discretionary permits to allow construction of new greenhouses could be denied by the County if imbalance was occurring. However, it is foreseeable that some number of farmers operating existing agricultural businesses on CA, particularly within greenhouses that are fallowed or underutilized, would seek a license for cannabis cultivation in the future. Farmers with underutilized greenhouses in the South County Region are likely to seek cannabis cultivation licenses. Greenhouses are in demand for commercial-scale cannabis cultivation, and, paired with future potential market declines for some crops such as for cut flowers and potted plants grown indoors in existing greenhouses, there is a strong incentive for certain farmers to switch to cannabis.

Interviews conducted in January and February 2017 with local cannabis and agricultural industry representatives indicated that declines in the cut flower and nursery plants industry over the past decade have led to strong interest in cannabis cultivation in place of those agricultural products in existing greenhouses. There are approximately 197 acres in the County dedicated currently to indoor cut flowers and indoor potted plant cultivation that may be appropriate for conversion to cannabis in the future (County of Santa Cruz, 2013 Climate Action Strategy). While this subset of the total existing greenhouse area does not represent the only greenhouses that may convert to or establish cannabis cultivation, the market declines referred to above makes these greenhouses the most likely to be available. While it is reasonable to assume that not all owners will desire to cease operations and lease their facilities for cannabis cultivation, this EIR conservatively assumes that 75 percent of the 197 acres could convert, for a total of 147 acres of future cannabis cultivation within this subset of existing greenhouses, and this figure is used by the EIR as a reasonable projection of the potential maximum buildout that may occur on CA parcels, predominately in South County within existing greenhouses. Under both the Project and the More Permissive scenarios, canopy limits per parcel are proposed to still apply, limiting the buildout potential.

Location of Cultivation by Region Based upon Pre-Application Registration Data

While few registrants provided specific site addresses, most of the registrants did provide the general location of the proposed cultivation site based on planning area and region. Based on all registration data collected, 38 percent of the registrant-provided cultivation sites would be in the Mountain Region and 27 percent are in the South County Region under the Program. Outdoor and greenhouse cultivators comprise 62 percent of the registrants, while 19 percent would cultivate in other indoor settings. Under the existing setting, canopy sizes range widely, with 28 percent under 500 sf and 49 percent over 1,000 sf. Of note, 48 percent of registrants have plans to move their cannabis cultivation to a different site or expand their operations onsite, with many reporting that this change is intended to permit an increase in the total amount of cannabis to be cultivated.





Source: 2016 County Commercial Cannabis License Registration

Estimated Licensed Commercial Cannabis Canopy

The Program could license up to **190 acres** of new and expanded commercial cannabis canopy Countywide

The total cannabis canopy requested by all the license registrants would be 44.3 acres, which includes 36 acres of cannabis canopy being cultivated as of 2016 (see Section 2.2.10, *Existing Cannabis Cultivation and Manufacturing*). When asked about plans for cultivation onsite or on a new site, registrants propose an increase of 34.8 acres of cannabis canopy for a total of 79.1 acres in the future, though this figure may be exaggerated from what would be feasible since it appears that many applicants entered the maximum canopy size that the Program would allow to ensure their registration information would enable potential cultivation of a maximum canopy in the future. Further, as discussed above, ongoing licensing of commercial farmers who operate on parcels zoned CA that do not currently grow cannabis may contribute up to 147 acres of additional cannabis canopy, which is projected to occur predominantly in South County. Taken together, the Program could license up to 190 acres of commercial cannabis canopy Countywide, assuming, as discussed above, all registrants find an eligible location on which they can cultivate the size operation indicated on their registration forms.

Summary of Cannabis Cultivation Program Countywide

The data from registrants who provided specific locations and registrants who provided only the name of the Planning Area, the analysis of total eligible area of the County describes potential cannabis cultivation, as summarized below (Table 2-13):

Table 2-13 Estimated Cultivation under the Program

	Project	More Permissive Project
Program Eligibility		
Total Eligible Area (Maximum – other requirements would reduce extent)	147,750 acres	164,721 acres
Total Eligible Parcels (Maximum – other requirements would reduce extent)	6,228	8,888
Registration Data Summary		
Total Registrants	760	
Total Anonymous Registrants	437	
Total Registrant-Provided Site Addresses	259	
Total Registrant-Provided Addresses by Planning Area/Region	298	
Total Sites Currently Cultivating	567	
Total Future Cultivation Sites	193	
Total Eligible Sites based on Registrant-Provided Addresses	145	165
***Existing* and Projected Future Additional Licensed Commercial Cannabis Canopy by Registrants and Eligible CA Farmers [9]**		
Total Existing Canopy	*36.0 acres*	
Proposed Additional Future Canopy by Registrants [(44.3 – 36) + 34.8]	**43.1 acres**	
Estimated Additional Future Canopy by Eligible Farmers in Existing Greenhouses on CA- zoned land	**147 acres**	
Total Projected Commercial Cannabis Canopy[10]	**190.1 acres**	

Based on the County's 2016 licensing data, 46 percent of registrants are seeking licenses for outdoor cultivation and 16 percent are seeking licenses for greenhouse grows. Only 19 percent of registrants are seeking indoor only cultivation (assumed as within buildings). A total of 19 percent of registrants either did not disclose or reported multiple methods. For this EIR, that 19 percent is distributed evenly to outdoor, indoor and greenhouse, which results in the following projected cultivation types by registrants for the new 43.1 acres they intend to grow:

REGISTRANTS - New Cannabis Cultivation Distribution

Indoor - 19 percent becomes 25 percent of the 43.1 acres, resulting in 10.8 acres as indoor cultivation

[9], [13] 190.1 acres is the increment of additional future cultivation that is the subject of the environmental impact analysis

Greenhouse - 16 percent becomes 22 percent of the 43.1 acres, resulting in 9.5 acres as indoor cultivation

Outdoor - 46 percent becomes 53 percent of the 43.1 acres, resulting in 22.8 acres as outdoor cultivation

EXISTING FARMERS - New Cannabis Cultivation

Existing greenhouses are converted to cannabis use, assumed to occur at 147 acres, primarily in facilities that have traditionally been used for growing cut flowers and potted plants to cannabis.

The above distribution means that of the projected new 190.1 acres of cannabis cultivation, 167.3 acres (88 percent) will be grown indoors or in greenhouses, and 22.8 acres (12 percent) will be grown outside. This concentration of indoor growing is consistent with observed trends in the industry, with the 12 percent outdoor level within the County, which is higher than the 5 percent national average, likely due to continuation of historic patterns of outdoor growing by long-time County growers. Outdoor grow sites are assumed to yield 2 crops per year, greenhouses/non-traditional hoop houses average 3 crops per year, and within indoor buildings 4 crops per year.

Indoor cultivation has a much higher impact on energy use and the impacts associated with that use. Greenhouses use less energy than indoors within buildings, but more than outdoor cultivation. See Section 3.0, *Introduction and Approach to Analysis* for additional information about EIR methodology and assumptions.

As stated previously, there is no way of reasonably forecasting the level of cannabis cultivation activity that may continue into the future without benefit of a license or appropriate permits. However, it is relevant to note that the production and sales costs per unit of legally-grown cannabis (labor + land + compliance + taxes) in the County will be high relative to certain other regions of the state, and experience in Colorado and other states has shown that there remains sufficient financial incentive for illegal growers to continue. California is understood to produce much more cannabis than can be consumed in-state, so illegal export-focused operations (even with the risk premium) will continue to be very profitable until such time that federal prohibition may end. Thus, some unquantifiable level of illegal cultivation is expected to occur within the County in the future.

Summary of Projected Commercial Cannabis Manufacturing

As discussed in Section 2.2.10, *Existing Cannabis Cultivation and Manufacturing,* precise estimation of existing and potential number of licenses that could be issued to cannabis product manufacturers under the Program is not possible, due to the existing hidden nature of these activities and the unknown nature of future demand for cannabis products, especially those for personal adult use which will become legal for sale by State law in 2018. Unlike cannabis cultivation licensing, the County did not conduct a specific registration for interested manufacturers to determine the number, type, and location of potential manufacturing sites. Further, only 8 percent of existing cultivation sites reported manufacturing operations onsite as well, while 88 percent reported that no manufacturing occurs onsite and 4 percent not indicating. This low response rate indicates that the 2016 Licensing Registration data is not a reliable source to indicate how many additional licenses may be requested and issued to cannabis product manufacturers in the County.

To help inform the estimate of projected commercial cannabis manufacturing, the County conducted surveys with local suppliers of cannabis manufacturing equipment in May 2017. These surveys provided insight into the size and scale of existing and growing demand for cannabis manufacture

equipment and facilities. Also, feedback from a dispensary in the region indicates that the dispensary plans to accommodate an estimated 20 percent growth in processed/manufactured cannabis products annually, beginning in 2018 when licensing becomes available from the County and the state, reflecting the new adult recreational cannabis market in addition to the medical cannabis market. This high rate of growth in demand for processed/manufactured cannabis products is consistent with the growth rate that Colorado has experienced for such products.

As described in Section 2.2.10, *Existing Cannabis Cultivation and Manufacturing,* it is estimated that there are currently between 46 and 100 manufacturers in the County that are larger/higher-yield operations, often producing concentrates which are assumed to predominantly use Class 4 processes to manufacture cannabis products. These larger operations are assumed to average 6 employees per business, meaning there are up to 600 existing employees involved with cannabis manufacturing at the larger operations. There are also an estimated 200 to 300 existing smaller/smaller-yield operations, with an average of 2 employees per site, for another 600 existing employees at the smaller operations. These numbers are based on interviews with industry representatives, who also indicate that about one-half of those employees (600) should be assumed to also be involved with cultivation work at existing cultivation sites, with the other 600 not located at cultivation sites. This EIR therefore assumes a total of 400 existing manufacturing operations as part of existing baseline conditions (100 larger operations and 300 smaller operations), which is assumed to continue into the foreseeable future.

Given the 20 percent growth projections for cannabis manufactured products, this could conservatively (it could be lower) result in up to 20 new higher-yield manufacturers and up to 60 new small-yield manufacturers per year, for a total of 80 new manufacturing operations per year. For this EIR analysis, it is reasonable to assume that this number of new manufacturers seeking licenses would occur annually as an ongoing typical rate until the industry stabilizes, which for the purpose of this EIR is assumed to occur in five years, for a total of 400 new manufacturing operations over the next five years.[11] This growth in cannabis manufacturing would generate 600 new jobs assumed to be co-located at licensed cultivation sites with employees also doing cultivation work, and another 600 new jobs that would be located on other eligible properties that are appropriately zoned. These numbers reflect an assumed doubling of cannabis manufacturing activity from existing conditions over the next five years. Additionally, proposed General Plan policies call for maintaining a balanced range of industries within the County, in order to prevent displacement and exclusion of other industries that provide for a varied and more stable economy in the County. Since nearly all cannabis manufacturing activities will require a discretionary use permit, the County could deny applications if it determined the level of cannabis manufacturing was having negative impacts on the economy and public welfare.

In addition, there are many existing micro or home-based manufacturers, perhaps as many as 1,000, producing for personal use with some also selling commercially. This EIR considers that existing baseline activity will continue into the foreseeable future, and is not directly or indirectly affected by the County's implementation of the Program. The state licensing process may be perceived as an obstacle for "micro" small-yield operations who will face significant competition in the industry. For the purposes of this EIR, then, it is assumed that only 8 new micro businesses per year over the five-year stabilization period would seek manufacturing licenses (which is 10 percent of the other 80 new

[11] A five-year stabilization period is based on the fact that other areas in the state will also allow manufacturing, and many areas have existing warehouses and suitable spaces at lower cost than typically occurs in Santa Cruz due to limited supply of available space and low vacancy rates.

manufacturing operations per year). Therefore, it is projected that a total of 40 "micro" home-based manufacturing licenses would be issued within eligible areas Countywide. As these home-based operations generally are not allowed to hire employees (the operation is ancillary to the residential use), it is assumed that there is no net new employment from home-based businesses.

Unlicensed Cannabis Activities

There is an unknown amount of cannabis cultivation and/or manufacturing activity in the County by non-registrants. This includes cultivators who did not participate in the registration process, did not know about the license registration process, or who plan to cultivate cannabis or manufacture cannabis products without a license.

It is anticipated that unlicensed cannabis cultivation and manufacturing would continue to occur in the County both by non-licensees, non-registrants, and registrants who do not move to an eligible location, even after the Program is implemented. The number of illicit cannabis operators may be anticipated to change and expand with Program implementation and overall legalization of cannabis in the state. However, the level and areas of cultivation and amount of cannabis product being produced illegally is not able to be characterized accurately, due to the extent of unknown and untracked activity. However, there would be no on-going immunity for unlicensed cultivation activities under the proposed Program, which may discourage unlicensed activity, especially over time as increased enforcement is undertaken and given that illicit goods will not be eligible for sale in the State of California.

Additional analysis of cultivation by non-registrants is provided in Section 3.0, *Introduction and Approach to Analysis,* including estimates of the amount and location of non-registered cultivation.

Potential Cannabis Activities by Geographic Region

The level and type of potential commercial cannabis cultivation in the County would vary dramatically by geographic region under the Program. The North Coast Region, Mountain Region, Urban Region, and South County Region are profiled below, and the potential extent of future cannabis cultivation under both the Project and the More Permissive Project is quantified for each region. A combination of location, environmental setting and existing and proposed County regulations drives the type and amount of cultivation that is potentially able to be licensed within each region. As it is projected that one-half of manufacturing operations would occur at licensed cultivation sites, at least one-half of the manufacturing industry would reflect the same distribution. The remaining manufacturing is assumed to occur within eligible zoning districts, but it is not possible to project areas or regions.

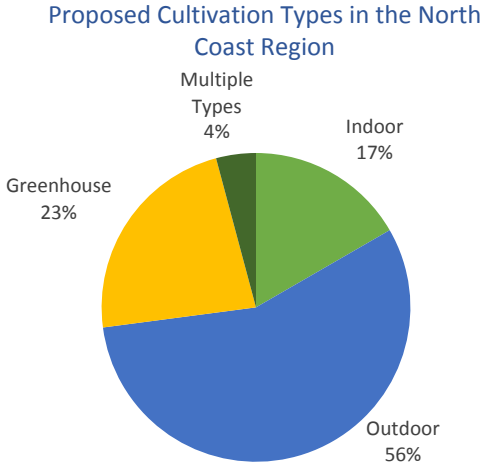
NORTH COAST REGION: POTENTIAL COMMERCIAL CANNABIS ACTIVITIES

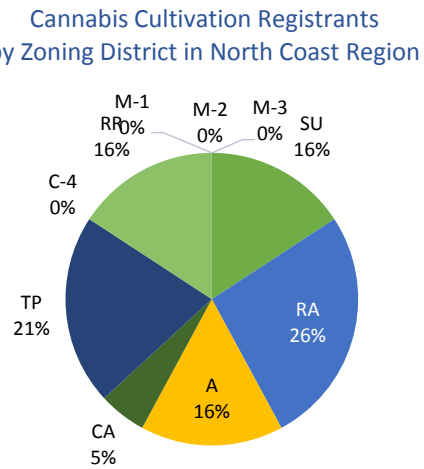
The North Coast Region has a relatively low level of response to the licensing process with only 49 registrants. Cultivation is expected to be licensed primarily in Bonny Doon.

The North Coast Region has between 16,718 acres and 21,674 acres and between 256 and 462 parcels theoretically eligible for cultivation under the Project and the More Permissive Project, respectively. Only 49 registrants applied for licenses to cultivate cannabis in the North Coast Region and 4 registrants reported cannabis product manufacturing onsite. Registrants in the North Coast Region propose a total of 123,527 sf or approximately 2.84 acres of cannabis canopy.[12] Approximately 79 percent of registrants applied to cultivate outdoors or indoors, including within greenhouses. Indoor cultivation other than greenhouses does not appear to be as desirable in this region. Notably, the North Coast Region is largely rural and undeveloped, but the former Davenport Cement Plant site includes approximately 106 acres zoned M-2 and the Bonny Doon Quarry includes approximately 234 acres zoned M-3 with a Quarry overlay, which may accommodate cultivation and manufacturing.

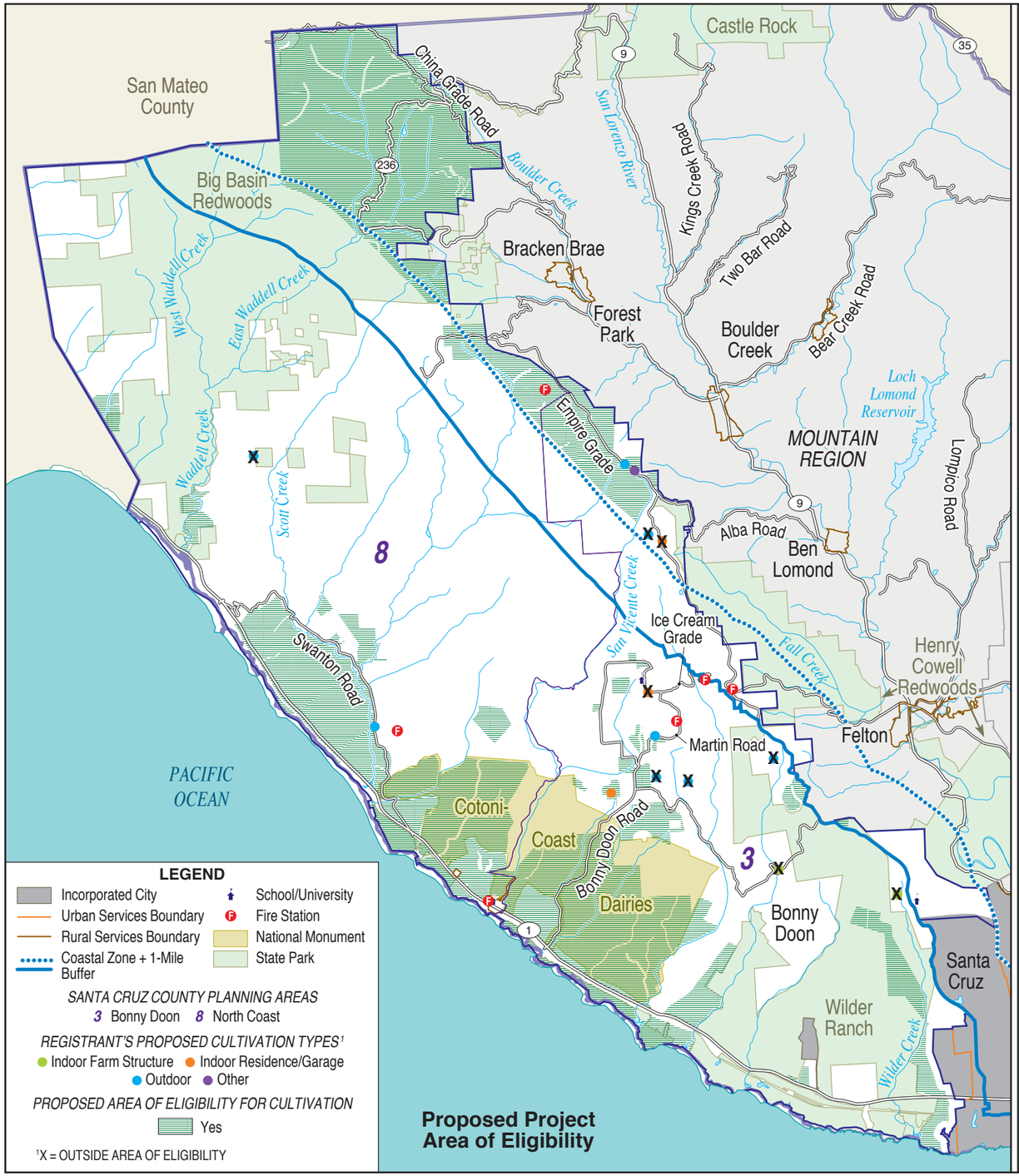
Table 2-14 North Coast Region Registration Data

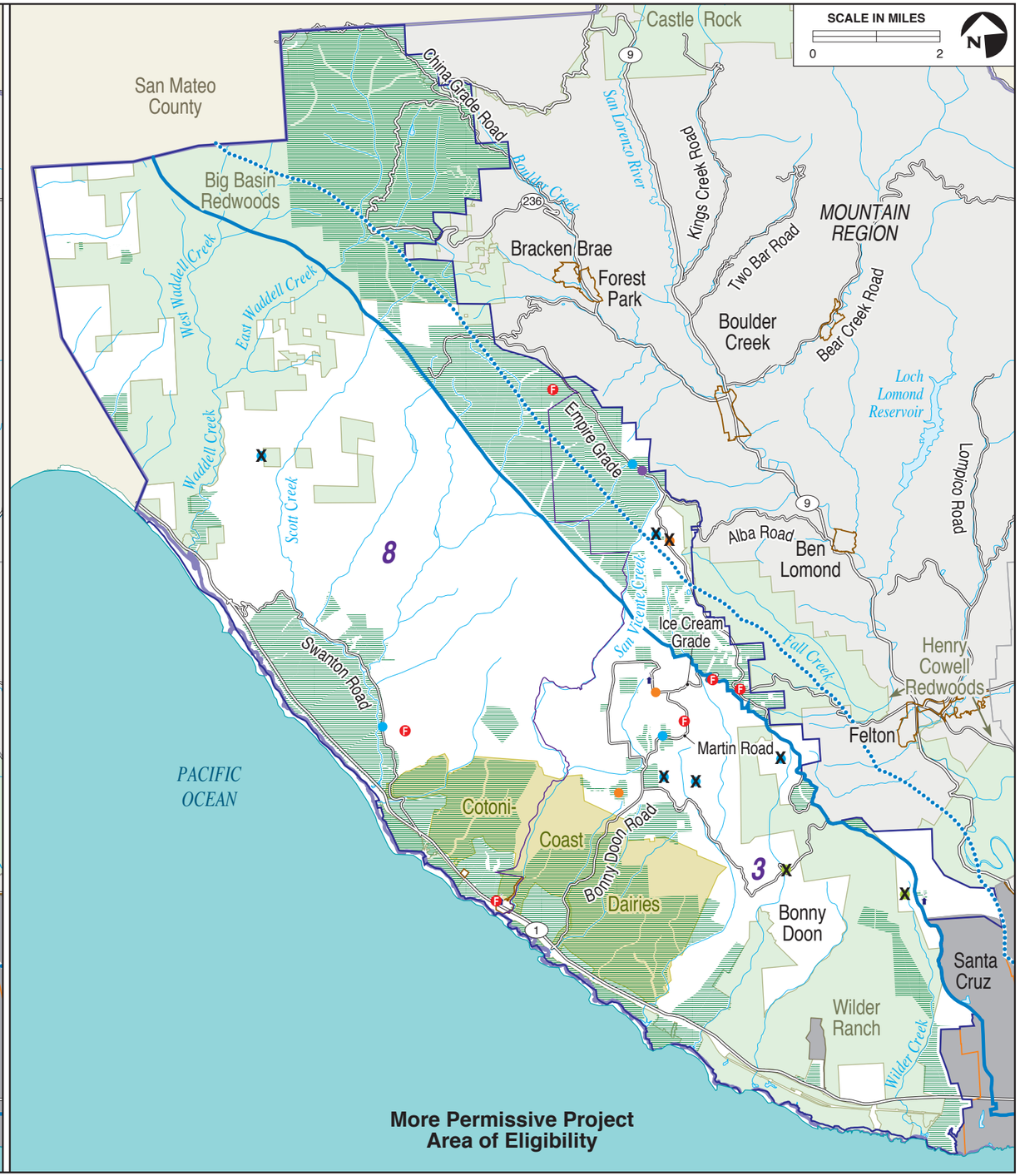
Total registrants	49	
Registrants Cultivating in 2016	44	
Registered total canopy	2.84 acres	
Manufacturing onsite	4 sites	8.2%
Residential Unit Onsite	40 sites	81.6%
Generator Onsite	8 sites	16.3%
Pesticide/Rodenticide Use Onsite	10 sites	20.4%





[12] See Appendix D for additional regional details and theoretical yield calculations and assumptions.





amec foster wheeler

North Coast Region Cultivation Scenarios

FIGURE 2-5

This page intentionally left blank.

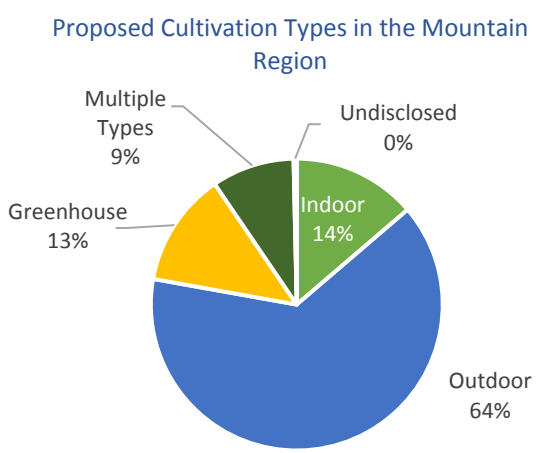
MOUNTAIN REGION: POTENTIAL COMMERCIAL CANNABIS ACTIVITIES

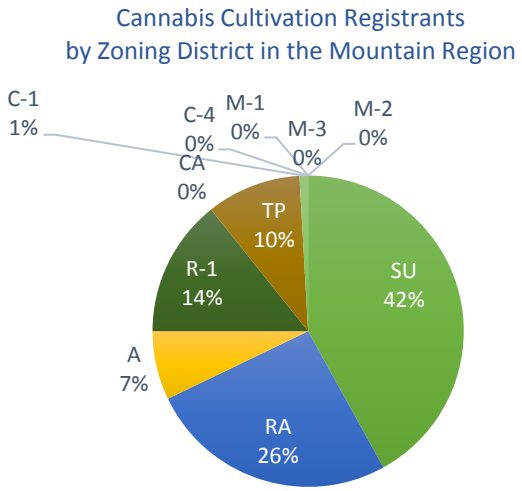
The Mountain Region received 285 applicants primarily for outdoor and greenhouse grows. Cultivation within the Mountain Region would occur primarily on SU, TP, and RA zones.

The Mountain Region contains the greatest amount of acreage theoretically eligible for cannabis cultivation of the four County regions. Between 70,618 acres and 75,452 acres and between 861 and 1,454 parcels are theoretically eligible for cultivation under the Project and the More Permissive Project, respectively. 285 registrants applied for licenses to cultivate cannabis and 18 registrants reported cannabis product manufacturing onsite.[13] Registrants in the Mountain Region propose a total of 786,182 sf or approximately 18.05 acres of cannabis canopy. Approximately 77 percent of registrants applied to cultivate outdoors or in greenhouses. Indoor cultivation other than in greenhouses does not appear to be as desirable in this region. Notably, the Mountain Region is rural residential in character, so there are few warehouse or commercial areas that would support large-scale indoor cultivation. However, existing closed quarries zoned M-3 may accommodate both indoor or outdoor cultivation and manufacturing following amendments to quarry restoration plans.

Table 2-15 Mountain Region Registration Data

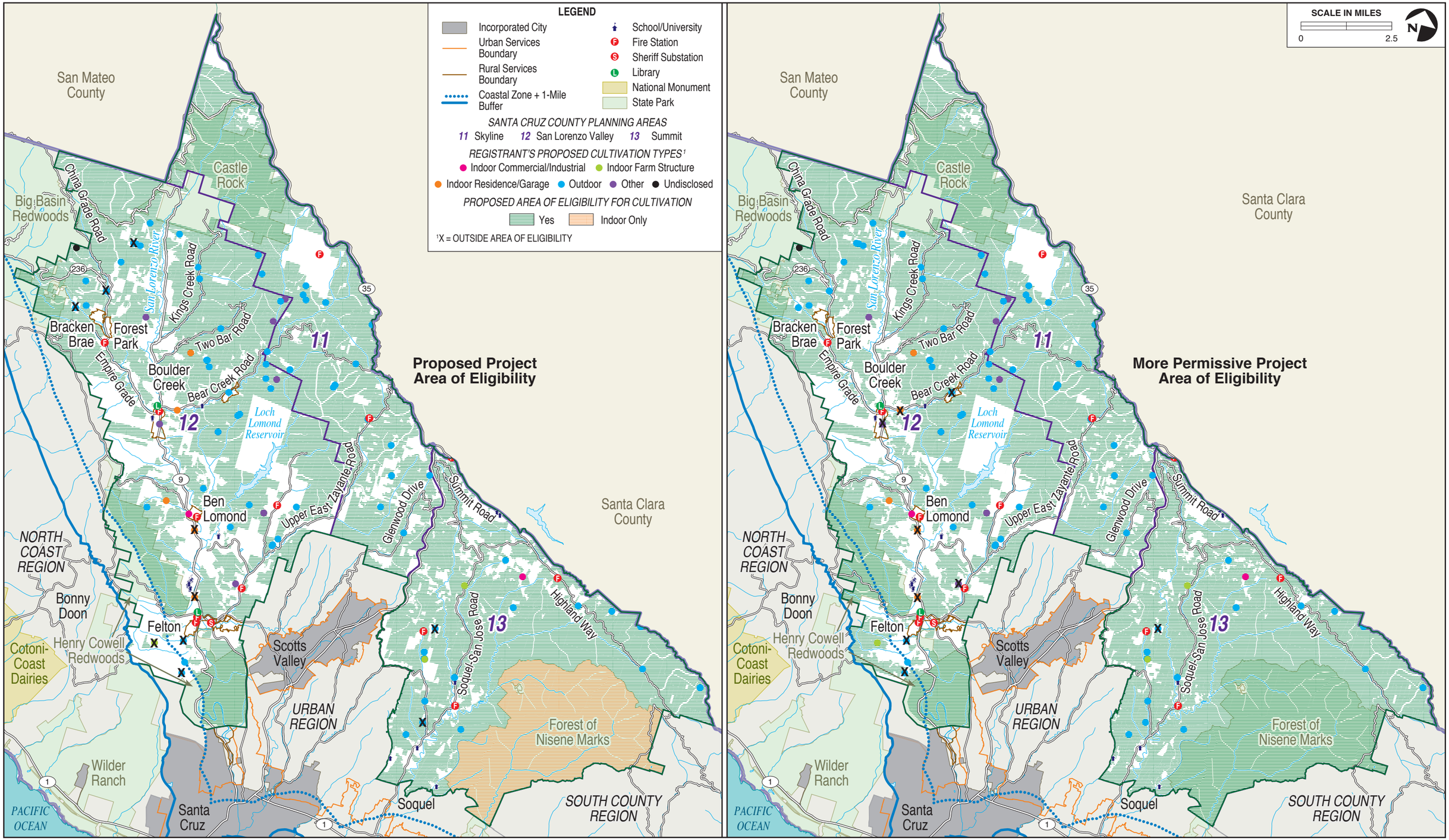
Total registrants	285	
Cultivating in 2016	240	
Registered total canopy	18.05 acres	
Manufacturing onsite	18 sites	6.3%
Residential Unit Onsite	181 sites	63.5%
Generator Onsite	98 sites	34.4%
Pesticide/Rodenticide Use Onsite	29 sites	10.2%





[13] See Appendix D for additional regional details and theoretical yield calculations and assumptions.

This page intentionally left blank.



amec foster wheeler

Mountain Region Cultivation Scenarios

FIGURE 2-6

This page intentionally left blank.

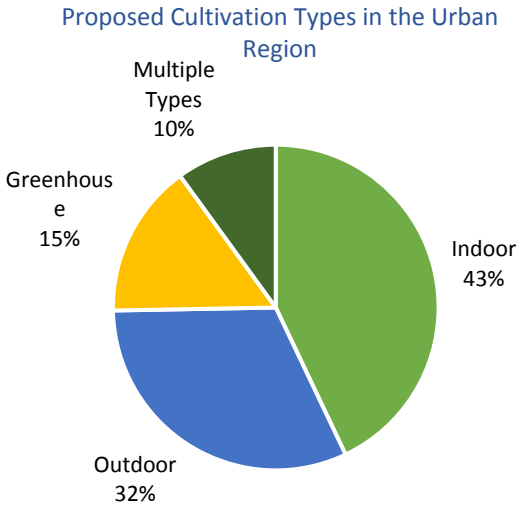
URBAN REGION: PROJECTED COMMERCIAL CANNABIS CULTIVATION

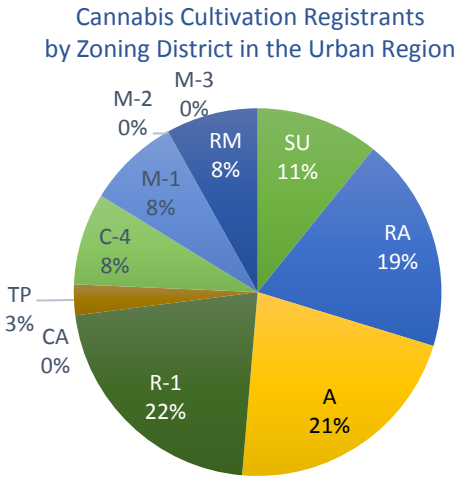
The Urban Region received 171 applicants primarily for indoor grows. The Urban Region provides warehouse and manufacturing land uses that would support the interest in indoor cultivation.

The Urban Region has between 9,626 acres and 12,486 acres and between 905 and 1,540 parcels theoretically eligible for cultivation under the Project and the More Permissive Project, respectively. 171 registrants applied for licenses to cultivate cannabis and 13 registrants reported cannabis product manufacturing onsite. Registrants in the Urban Region propose a total of 271,880 sf or approximately 6.24 acres of cannabis canopy.[14] Approximately 58 percent of registrants applied to cultivate indoors or in greenhouses. Notably, the Urban Region provides much of the County's warehouse or commercial areas that would support larger-scale indoor cultivation that are not greenhouses; therefore, indoor cultivation would be expected to primarily occur in commercial/industrial buildings and licensed accessory structures. 28 percent of Urban Region registrants are on residentially zoned properties, which would not be eligible for licensing.

Table 2-16 Urban Region Registration Data

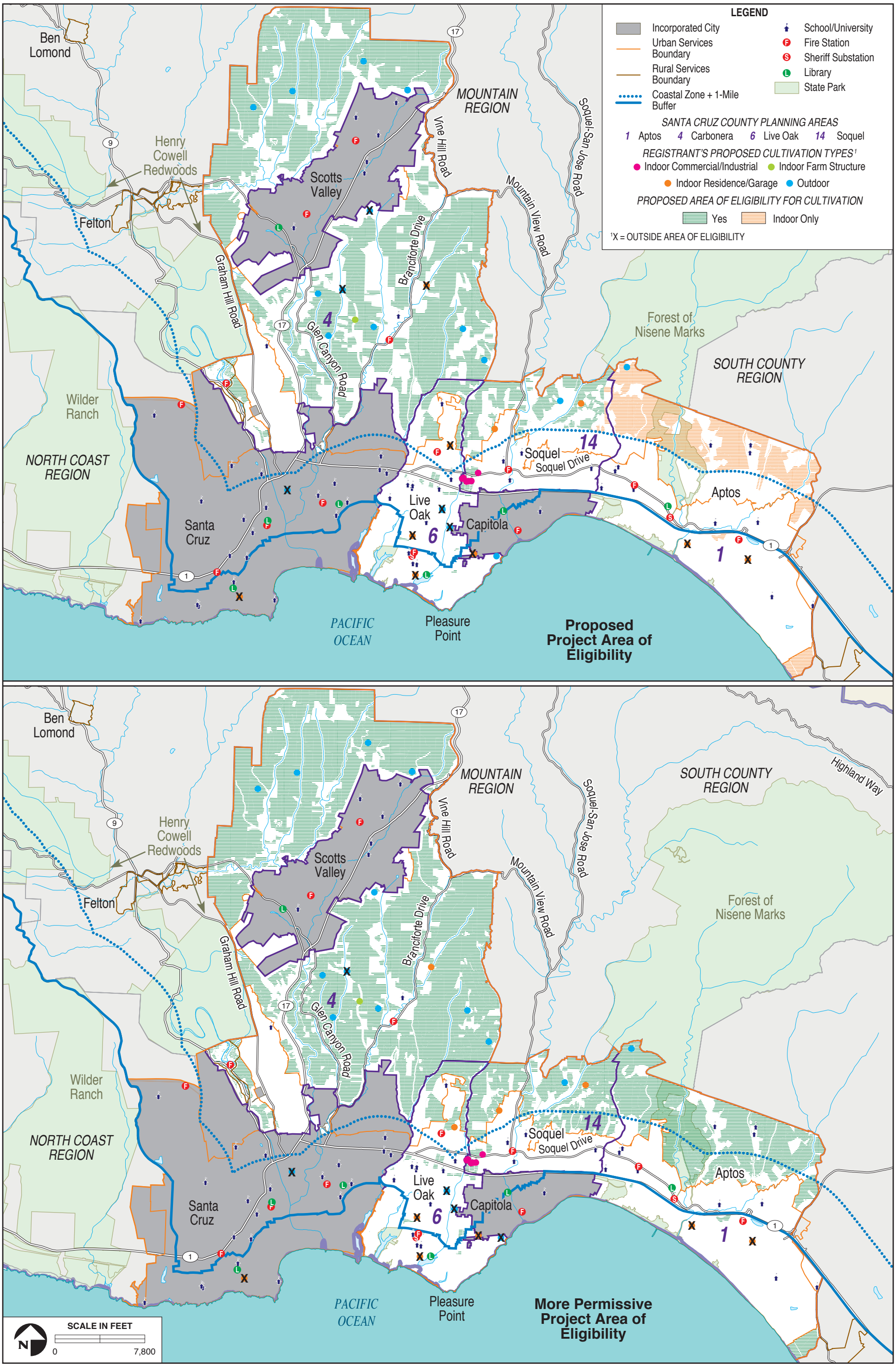
Total registrants	171	
Cultivating in 2016	130	
Registered total canopy	6.24 acres	
Manufacturing onsite	13 sites	7.6%
Residential Unit Onsite	111 sites	64.9%
Generator Onsite	26 sites	15.2%
Pesticide/Rodenticide Use Onsite	27 sites	15.8%





[14] See Appendix D for additional regional details and theoretical yield calculations and assumptions.

This page intentionally left blank.



amec foster wheeler

Urban Region Cultivation Scenarios

FIGURE 2-7

This page intentionally left blank.

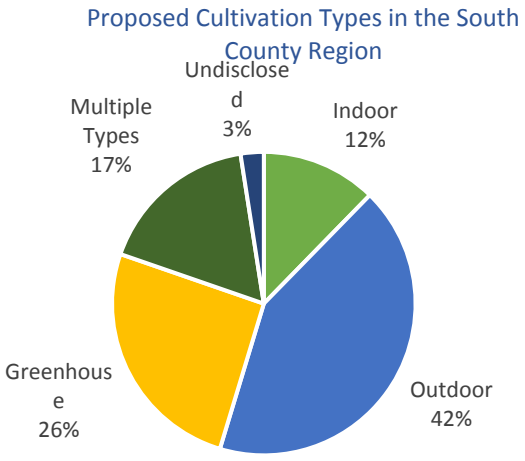
SOUTH COUNTY REGION: POTENTIAL COMMERCIAL CANNABIS ACTIVITIES

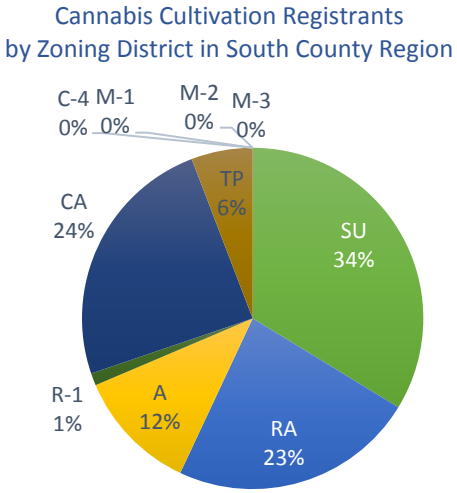
The South County Region received 204 applicants primarily for outdoor grows. The region provides greenhouses that would support the interest in greenhouse and indoor cultivation.

The South County Region contains the greatest number of parcels theoretically eligible for cannabis cultivation of the four County regions, comprising between 50,788 acres and 55,109 acres with 2,379 to 3,106 parcels theoretically eligible for cultivation under the Project and the More Permissive Project, respectively. 204 registrants applied for licenses to cultivate cannabis and 11 registrants reported cannabis product manufacturing onsite. Registrants in the South County Region propose a total of 743,793 sf or 17.08 acres of cannabis canopy.[15] Approximately 68 percent of registrants applied to cultivate outdoors or in greenhouses. Notably, the South County Region provides much of the County's greenhouses that would support large-scale greenhouse cultivation (considered to be "indoor"); therefore, licensed indoor cultivation with light suppression is expected to primarily occur in licensed greenhouses in this region. Additionally, certain farmers on CA zoning who have operated for at least 3 years prior have not been required to register in order to receive a license, so additional cultivators are likely to receive licenses in the South County Region over the life of the Program, which has been assumed to occur at 147 acres within existing greenhouses.

Table 2-17 South County Region Registration Data

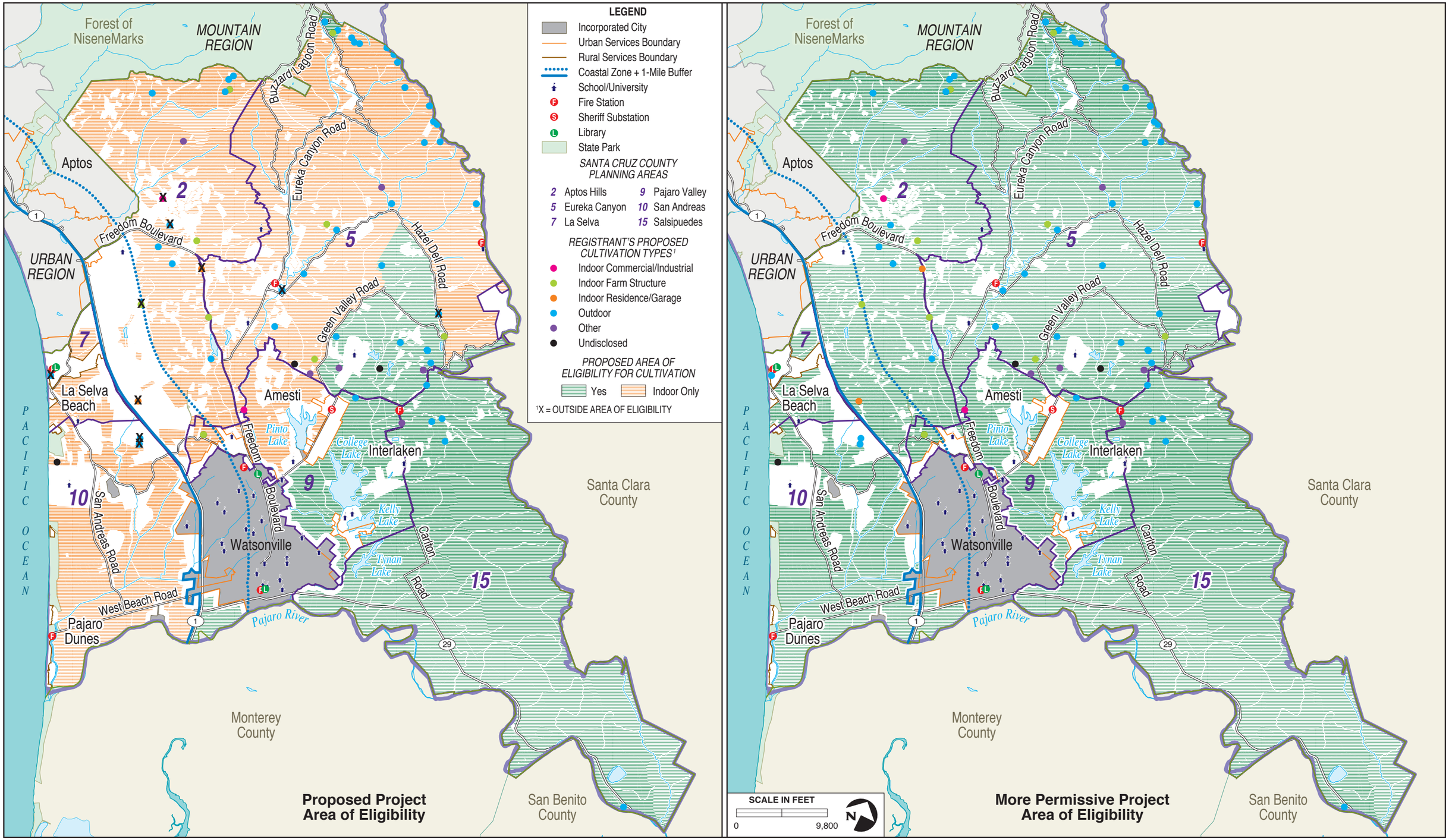
Total registrants	204	
Cultivating in 2016	148	
Registered total canopy	743,793 sf	
Manufacturing onsite	11	5.4%
Residential Unit Onsite	125	61.3%
Generator Onsite	22	10.8%
Pesticide/Rodenticide Use Onsite	33	16.2%





[15] See Appendix D for additional regional details and theoretical yield calculations and assumptions.

This page intentionally left blank.



amec foster wheeler

South County Region Cultivation Scenarios

FIGURE 2-8

This page intentionally left blank.

Forecasting Trends in Cannabis Industry

Based on recent surveys conducted by national independent cannabis organizations, commercial cannabis cultivation in the U.S. is trending toward more indoor and greenhouse grow operations, rather than outdoor grow operations, with approximately 80 percent of cultivators growing at least partly indoors (Cannabis Industry Times 2016). This is primarily due to the financial benefits of automated systems that can monitor and manipulate climate conditions in the grow room and allow for increased growing cycles annually which allows higher profit. Automation allows cultivators to maximize the number of production cycles and yields, and advanced growing techniques such as hydroponics have elevated not only the quality of cannabis produced, but also the profits from selling a higher quality product (Max Chaiken 2009). Greenhouse cultivation also reduces energy costs as compared to other indoor building grows, and has increased in popularity with 41 percent of cultivators who do not currently grow in a greenhouse, planning to add greenhouse facilities to their operations in the next two years (Cannabis Industry Times 2016). In 2016, outdoor grow operations are estimated to comprise just 5 percent of the national cannabis cultivation market (Cannabis Industry Times 2016). Greenhouses are being considered "indoor" rather than "outdoor" by this EIR, and even traditional "hoop houses" are typically improved to an extent that they become treated as greenhouses by regulators.

However, these trends observed across the U.S. may not be fully applicable at a local level. In most parts of the USA, cannabis cultivation is not yet legal, so indoor and greenhouse cultivation may be preferable for growers to hide and protect cultivation from law enforcement.

2.3.4 Types of Cultivation and Manufacturing

Cannabis cultivation occurs in a variety of forms, generally distinguished and characterized by indoor operations, outdoor operations, and greenhouse operations. For the purposes of analysis in this EIR, a summary description of typical methods, technologies, and materials is provided below. A more detailed discussion of the range of operations is contained within Appendix D.

Indoor

Cannabis can be grown indoors in a soil-like medium with pre-made or commercial soil in 1.5 to 3 gallon pots, or using hydroponics under artificial light which allows the cultivator complete control over the growing environment. A typical indoor plant growth cycle can range from six weeks to nine months, usually averaging two to four months for each cultivation event, depending upon the species, and enabling year-round cultivation. One light that casts 45000 lumens [typically, typical of high intensity discharge (HID) lighting used for indoor grows, is enough to cover a growing area of approximately 3 feet by 3 feet. An average of 4 crops per year is assumed.

Mixed Light/Greenhouse

Mixed light growing combines artificial light with sunlight, and can be used for light deprivation growing practices. Greenhouses are the most common form of mixed light growing. Hoop houses are typically modified to be operated as greenhouses.

Greenhouse growing combines natural sunlight with growing in a glass or plastic structure. Greenhouse cultivators can control temperature, humidity, soil, air circulation, and light. Greenhouses can also be equipped with supplemental lighting fixtures, which allow the greenhouse to be used in

the winter, when days are shorter. While extensive supplemental lights are often used, greenhouse growing reduces the amount of electrical power used, in comparison to indoor grows. This type of growing also allows multiple grow cycles. An average of 3 crops per year is assumed.

Outdoor

Cannabis grown outdoors is primarily grown in fabric or wooden containers of pre-made or commercial soil, or in some cases planted directly in the ground. It was observed during visits to 13 cannabis cultivators in January and February 2017 that outdoor cultivators in the County typically use non-native soils in aboveground containers; only one cultivator planted starts in native soils on site. Appendix D provides profiles of the 13 growers visited as part of this EIR analysis. The plants need fertile soil and long hours of daylight; therefore, cannabis is generally sown from late spring to early summer, and harvested from late summer to early fall. Growers generally choose areas that receive 12 hours or more of sunlight a day, which means that foggy areas of the County are not desirable for outdoor growing. Fog also introduces excessive moisture to the growing buds, which results in mold that can destroy a crop. Growers may cultivate on their own property or practice guerrilla farming; which means planting cannabis in remote areas such as forest clearings or mountain ridges on lands that they do not own. An average of 2 crops per year is assumed.

Manufacturing Cannabis Products

Cannabis product manufacturing starts with harvested flower buds and trim which have been cured and dried so they are ready for consumption. Cannabis flower buds and/or trim may be chopped and further dried. High quality cannabis buds are typically sold as-is without further processing. Remaining parts of the cannabis harvest can be processed into a variety of cannabis products though infusion and extraction.

A rosin press consists of two heated plates which are intensely pressed together (typically between 300 to 600 psi used) to convert hashish into rosin.

Washed cannabis plant material may be introduced directly into some products, such as butter for infusion into baked goods, or finely chopped in a blender or food processor for cannabis juice or placed in alcohol to make tinctures. Cannabis plant material may also be sifted and processed using a series of screens (producing dry sift), using ice-water (producing ice water hash), using dry ice (producing dry ice hash aka "kief"), or in a heated press to make rosin.

For solvent extraction, a solvent is pumped through compressed cannabis material to extract Tetrahydrocannabinol Acid (THCA), Cannabidiol Acid (CBDA), plus other cannabinoids and terpenes. The solvent may be butane, propane, pentane, hexane, CO_2, a combination of butane and propane, or food grade alcohol. The extracted material is then heated in a ventilated oven to decarboxylate both the THCA into Tetrahydrocannabinol (THC) and the CBDA into Cannabidiol (CBD) and other cannabinoids. This process may produce live resin, shatter, and/or sugar wax. The extracted material may be sold as-is, or may be further refined by alcohol distillation, winterization (super-cooling in

alcohol to remove plant lipids and waxes), filtering, or by chromatography.[16] The resultant product may then be infused to make tinctures, edibles, salves, vaporizers, or drinks. The resultant product may also be sold for dabbing (the flash vaporization of cannabis concentrates once applied to a hot surface and inhaled). See Appendix D for additional information on manufacturing techniques.

2.3.5 Construction Methods

Any proposed grading necessary to construct cultivation or manufacturing sites would be subject to SCCC Chapter 16.20, *Grading Regulations*. Any proposed new buildings dedicated to cultivation or manufacturing would be subject to SCCC Chapter 12.10, *Building Regulations*, and SCCC Chapter 13.10, *Zoning Regulations,* along with other SCCC regulations, such as Title 16*, Environmental and Resource Protection*. Discretionary permits for new buildings and development may be subject to further environmental review per CEQA. New buildings, or existing buildings used for cannabis manufacturing or cannabis activities involving employees is usually classified as an "F" industrial occupancy under the Fire Code, which means that compliant road access to sites (generally 20 feet wide), as well as access to municipal water or high capacity water storage tanks, are required for compliance with the County Fire Code.

Indoor

Indoor cultivation and manufacturing would occur within existing buildings or within new buildings constructed for the purposes of commercial cannabis activities.

Repurposing Existing Buildings

Based on observations of 13 existing cannabis cultivators and several manufacturers in January and February 2017, indoor cannabis activities commonly occur within repurposed existing buildings. Construction of indoor cultivation and manufacturing sites could involve the repurposing and remodeling of existing buildings. Construction methods employed in existing indoor facilities converted to grow sites would include the installation of additional lights, fans, filters, and sufficient ventilation and electrical systems. Improvements would also likely be made to water lines and fire detectors/sprinklers. Improvements to accommodate manufacturing activities would vary based on product type and processes.

New Buildings for Indoor Activities

Construction of new buildings to serve as indoor grow or manufacturing sites would involve the typical methods of building a greenhouse, commercial space, manufacturing facility, or warehouse depending on the type of site. Hoop houses that are improved with electrical, mechanical and/or ventilation are considered greenhouses by the building code, meaning that these types of non-traditional hoop houses are subject to the requirement for a building permit. Development, grading, and building would be subject to all existing regulations and required land use permit approvals under the SCCC. Plumbing and electricity lines, hardware for lights, light movers, ballasts, vent fans, intake fans, and exhaust fans would be installed, subject to regulation. Improvements for roads, driveways, parking, and utilities may be required. As many registrants propose cannabis activities in

[16] Chromatography is a laboratory process for the separation of a mixture by passing it in solution or suspension through a medium in which the components move at different rates.

rural areas, it is likely that existing roads will require significant upgrades to meet County Fire and Cal Fire regulations.

Outdoor

Construction methods employed in outdoor grow sites could include grading to level or tier the site (depending on site topography), site preparation to clear any impeding vegetation or debris, building construction for accessory structures for drying and curing after harvest, construction of residential units, and paving for parking areas used by the site manager and employees.

Greenhouse

There are two main types of greenhouses used in cannabis cultivation: greenhouses for outdoor cultivation, which only use natural light; and greenhouses for indoor cultivation, which supplement natural light with artificial lights and utilize a light suppression system to stimulate the flowering phase of the plants. As stated earlier, non-traditional hoop houses improved for cannabis cultivation are greenhouses for the purpose of regulation and licensing.

It is expected that many cultivators would seek out existing greenhouses to lease, rather than build new structures, but some new greenhouse construction may occur under the Program. Construction of new greenhouses would be required to adhere to SCCC Zoning Regulations, Chapter 13.10.636, *Greenhouses*, which governs new greenhouse development and replacement/reconstruction of existing greenhouses (County of Santa Cruz 2016c). Regulations of the County Building Code would also apply along with other regulations depending on site location.

There are typically three types of greenhouses constructed:

- **Attached greenhouses** – Lean-to greenhouses lean up against the outside of a house or another building. They are particularly efficient because they receive heat that leaks through the wall of the adjacent structure. They are connected to another structure and constructed with glass or plastic.
- **Freestanding greenhouses** – Greenhouses that stand on their own. Also known as detached greenhouses, freestanding greenhouses have the advantage of being able to be placed in the most appropriate location on a site.
- **Connected greenhouses** – This type of greenhouse includes multiple greenhouses that have been attached to each other. One controlled climate for temperature and other environmental elements is maintained, allowing for large commercial operations to be energy and cost-efficient.

Construction methods of greenhouses would vary depending on the size and type of greenhouse. Construction often begins with grading to level the site and site preparation to clear any vegetation or debris. Depending on the cultivator's preference, the floor of the greenhouse would either be left as natural ground, or a semi-permeable or impermeable floor would be installed. The SSCC includes regulations addressing allowed floor materials to preserve the productivity of agricultural soil. Domed ceiling greenhouses would be constructed with steel supports or PVC tubing. The covering on the greenhouse would be constructed with either glass, fiberglass, or plastic material, such as UV-stabilized polyethylene. Hard, double-walled plastic such as multiwall polycarbonate or corrugated polycarbonate can be used to strengthen the covering.

2.3.6 Program Phasing

Implementation of the Program would involve different steps depending on the eligibility of cultivation sites and availability of appropriate cultivation and manufacturing locations. To commercially grow cannabis or manufacture cannabis products under the Program, cultivators and/or manufacturers must:

- Demonstrate that they are already cultivating and are eligible to continue doing so with a valid license (for cultivation).
- Bring a non-compliant site into compliance, consistent with the SCCC, to receive a license to cultivate or manufacture.
- Obtain discretionary approvals, if needed, for land use development permits (including coastal development permits if applicable), and grading and/or building permits, prior to obtaining final license approval.

2.3.7 General Plan and Local Coastal Program Amendments

The Program would require amendments to Chapter 2, *Land Use*, and Chapter 5, *Conservation and Open Space*, of the 1994 General Plan/Local Coastal Program, to make commercial cannabis cultivation and manufacturing an allowable use within the County. Specific policies guiding regulation of such activities may also be added. See Appendix C for complete draft text of proposed amendments.

2.3.8 Zoning Ordinance Amendments

The Program would require amendments to Chapter 13, *Planning and Zoning Regulations*, of the SCCC, referencing the regulations in the proposed SCCC Chapter 7.128 and Chapter 7.132 to make it clear that commercial cannabis cultivation and manufacturing are allowable uses in eligible zoning districts, to indicate when discretionary approvals are required and the processing requirements for those approvals, and to provide detailed regulations where needed, such as for manufacturing cannabis products as a home occupation. See Appendix C for complete draft text of proposed amendments.

2.4 Required Actions and Approvals

The County is the Lead Agency for the proposed Program, consistent with state CEQA Guidelines Section 15065(b). As such, this EIR will be used by the County to both evaluate the potential environmental impacts that could result from implementation of the Program, and develop changes in the proposed Program and/or adopt mitigation measures which would address those impacts. The County Board of Supervisors will consider adoption of the Program after certification of the Final EIR. Pursuant to CEQA Guidelines Section 15093, the decision-makers must "*balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable*." If the County, as Lead Agency, approves the proposed Program and significant, unavoidable environmental impacts have been documented, a statement of overriding considerations must be written, which shall state

the specific reasons to support the approval based on the Final EIR and/or other information in the record.

Implementation of the proposed Program would require the following regulatory and/or legislative actions by the County Board of Supervisors, following recommendation from the Planning Commission, as well as subsequent action by the California Coastal Commission:

1. Certify the Final EIR.
2. Consider and adopt Findings and a Statement of Overriding Considerations as necessary.
3. Adopt General Plan amendments, as well as Local Coastal Program amendments for the portion of the County within the Coastal Zone (followed by certification of the amendment by the Coastal Commission).
4. Repeal SCCC Chapters 7.126 and 7.128 at appropriate time.
5. Adopt proposed SCCC Chapter 7.128 and Chapter 7.132.
6. Adopt implementing Zoning Ordinance and other SCCC amendments.

Chapter 3
Environmental Impact Analysis

3.0 Introduction and Approach to Analysis

This chapter discusses the environmental impact analysis approach, methodology, and cumulative project scenario for the County of Santa Cruz (County) Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program). This section describes the environmental baseline as accurately as possible, given the limits of the available data for the existing cannabis industry in the County. The approaches and methodologies to assess direct, indirect, and secondary impacts of both the Project and More Permissive Project scenarios described in Chapter 2, *Project Description*, are also described. Further, the assumptions used by this analysis for the amount and location of development associated with commercial cannabis activities, including site improvements required by the Santa Cruz County Code (SCCC), are detailed in this Chapter.

3.0.1 Environmental Resources Analyzed in the EIR

The scope of this Environmental Impact Report (EIR) is based on the Project Description outlined in Chapter 2, and the Notice of Preparation (NOP) (Appendix B), focusing on potentially significant impacts of the Program on environmental resources. This chapter evaluates the potential for environmental impacts in 14 resource areas which were identified during the NOP scoping process:

- Section 3.1, "Aesthetics and Visual Resources"
- Section 3.2, "Agricultural and Timber Resources"
- Section 3.3, "Air Quality"
- Section 3.4, "Biological Resources"
- Section 3.5, "Cultural Resources"
- Section 3.6, "Geology and Soils"
- Section 3.7, "Greenhouse Gas Emissions and Climate Change"
- Section 3.8, "Hazards and Hazardous Materials"
- Section 3.9, "Hydrology and Water Quality"
- Section 3.10, "Land Use and Planning"
- Section 3.11, "Public Services"
- Section 3.12, "Population, Employment, and Housing"
- Section 3.13, "Transportation and Circulation"
- Section 3.14, "Utilities and Energy Conservation"

Sections 3.1 through 3.14 provide detailed discussions of the environmental baseline or setting, methodology for impact assessment for the resource, impacts associated with the Project and More Permissive Project, and mitigation measures designed to reduce significant impacts where required and when feasible. The level of impact that will remain after mitigation is implemented and cumulative impacts also are discussed. Additionally, Section 3.15, *Other CEQA Issues,* identifies other California Environmental Quality Act (CEQA) resource areas for which implementation of the Program was found to have no significant effect on the environment, in this case Noise and Minerals, and provides a brief discussion of why they were not analyzed as primary environmental resources areas in this EIR. Section 3.15 also addresses growth inducing effects of the Program.

3.0.2 Assessment Methodology

Establishing the Baseline Environmental Conditions

Baseline conditions are defined as the existing physical setting that may be affected by the Program (State CEQA Guidelines, § 15125, subd. (a)). Baseline conditions are the local and regional physical environmental conditions as they existed at the time of the Notice of Preparation (NOP), which was published on February 13, 2017. This environmental setting constitutes the baseline physical conditions against which the County will determine whether impacts from the Program and alternatives are significant. The impacts of the Program are defined as changes to the environmental setting that are attributable to Program. Existing cultivation and manufacturing activities are part of the baseline because they are part of the existing environmental condition, even if illegal and difficult to fully describe. Therefore, it is only the projected new and expanded cannabis cultivation and manufacturing activities, which are not part of the baseline, that are the focus of this EIR.

Because the existing cannabis industry has been illegal, subject to sometimes vigorous law enforcement action (even while sometimes qualifying for limited immunity from local law enforcement action), and typically exists largely in remote, mountainous, poorly accessed, and/or well-screened regions of the County, precise and reliable data on existing cannabis cultivation and manufacturing is difficult to obtain. Information on the existing environmental baseline has been obtained from the 2016 Cannabis Growers Survey acquired during the Cannabis Cultivation Choices Committee (C4) process, 2016 County License Registration data, 2017 Cannabis Manufacturers Survey conducted by the County, 2015/16 cannabis enforcement case data from the Santa Cruz County Sheriff's Office, the County Planning Department's active zoning or permit enforcement case data, information from the Regional Water Quality Control Board and California Department of Fish and Wildlife, and interviews with representatives of or participants in the cannabis industry.

Commercial cultivation sites within Santa Cruz County can be small-scale indoor or outdoor operations with less than 100 square feet of canopy. At least 80 percent of survey and registration responders indicated having grows smaller than 5,000 square feet.

Commercial cultivation sites also include indoor or outdoor operations that can cover relatively large areas of land. Approximately 13 percent of survey and registration responders indicated having grows larger than 5,000 square feet (0.11 acres).

Existing Cannabis Industry

Because data on the existing cannabis industry is incomplete and difficult to confirm, this EIR discloses the best available information on existing cannabis cultivation and manufacturing conditions in the County to characterize a cultivation and manufacturing baseline for the purposes of impact analysis. The existing data cannot provide a precise picture of existing operations because the existing cannabis industry is illegal and the locations and operations of the industry are, to a large degree, unknown. However, the collated information characterizes the general range, type, location, and resource demands of existing cannabis cultivation and manufacturing in the County to support an understanding of the environmental baseline sufficiently for impact analysis.

Existing cannabis cultivation includes indoor, outdoor and greenhouse grows. These existing grows are known to occur in urban and rural communities, within residential, agricultural, and commercial-industrial and remote mountain areas and large-scale commercial greenhouses. Cannabis canopies range in size from under 100 square feet (sf) to over 5,000 sf and up to 2 acres at the estimated largest extent, and primarily occur in the Mountain and Agricultural Regions of the County. Grow sites are supported by drying and processing rooms within homes, outbuildings, or warehouses and supporting cultivation infrastructure, such as watering, lighting and fertilization systems.

Cannabis product manufacturing involves the transition of raw cannabis into other products, such as oil, rosin, hash, or tinctures, which is then often used in other products, such as edibles, salves, and cosmetics. As discussed in Chapter 2, manufacturing can use intensive processes, such as closed loop system, super-critical carbon dioxide processes for hash production and heated hydraulic pressing for creating rosin, or less intensive methods, such as screen filtering for straining hash or soaking cannabis in alcohol to create tinctures. The division between flammable (or pressure greater than 2,000 psi) extraction methods and non-flammable (or pressures less than 2,000 psi) processes is defined by "classes" of manufacturing activities. (see Section 2.3.4, *Types of Cultivation and Manufacturing*, for a more complete discussion).

Cultivation Information from Cannabis Industry Representatives

While entirely accurate data is not available and cannot be independently verified, representatives of the County's established cannabis industry, local representatives of the National Organization to Reform Marijuana Laws (NORML), and the Santa Cruz Veteran's Alliance (SCVA) and other cultivators, manufacturers, and suppliers provided information to inform the following observations and characteristics about the existing cannabis industry in the County:

- There are perhaps as many as 10,000 existing cannabis cultivation operations in Santa Cruz County ranging in size from small backyard, bedroom, and garage grows to large greenhouse and warehouse grows, with cannabis processing/manufacturing occurring both at cultivation sites and at other locations throughout the County. It is estimated there are approximately 300 to 350 established cultivators and that the other thousands that exist are very small "micro" operations growing for both personal and commercial purposes. It is estimated that there are approximately 49 – 100 larger/higher-yield manufacturing operations (average employment of six persons) and 200 – 300 smaller/lower-yield manufacturing operations (average employment of two persons) in the County. Therefore, this EIR conservatively assumes a total of 400 existing manufacturing operations with one-half of the estimated existing 1,200 employees involved with manufacturing also involved with cultivation work at cultivation sites (the employees do both types of work), resulting in an estimated existing 600 employees that are involved only with cannabis manufacturing/processing activities;

- Small-scale garage, backyard, and bedroom grows, and "micro" home-based manufacturing, constitute a significant portion of the cannabis production industry, for personal use as well as for commercial purposes. It is reasonable to assume that many, or most, of these existing baseline activities would end up continuing as unlicensed (illegal) small operations that try to stay unnoticed and out of sight. Based on that assumption, this level of baseline activity would not be expected to change from existing conditions as a result of Program implementation (i.e., the level of overall activity is not affected either before or after approval and implementation of the Program). Code enforcement by the Licensing Office and other agencies would occur, which on balance is expected to prevent increases in the overall level of these types of operations. This EIR is being prepared to evaluate the potential environmental impacts of implementing a Program of licensed, permitted and legal operators in the future.
- Commercial cannabis growers currently employ an estimated total of 1,500 full-time employed (FTE) staff working in cultivation activities at the estimated 300 to 350 established larger commercial cultivation businesses along with the smaller businesses on the existing 36 acres currently cultivated by registrants. Employment includes trimmers and other processing workers at cultivation sites. Based on the above assumptions regarding manufacturing employees, about 600 of the cultivation employees also do some level of cannabis manufacturing/processing at these existing cultivation sites;
- Total value of cannabis production and manufacturing in the County has been estimated at $250 to $300 million annually; however, estimates vary widely and the total may be higher. For comparison purposes, strawberries are the County's most valuable traditional crop, with an estimated total value of $219 million in 2015.
- As other jurisdictions have adopted local licensing programs, such as Monterey County, industry sources say that some growers and manufacturers have left Santa Cruz County, particularly those that were less confident of being able to obtain an eligible site and/or a license.

The following summarizes the available information on existing cannabis cultivation and manufacturing in Santa Cruz County:

Cannabis Cultivation Registration and Survey Data

The County's 2016 Cannabis Licensing Program Registration Process enrollment occurred in August through November of 2016. Of the 760 respondents engaged in cultivation, 567 reported currently cultivating cannabis and in some cases manufacturing cannabis products as well. The 2016 Cannabis Growers Survey supported by the SCVA, Association for Standardized Cannabis, Responsible Cultivation Santa Cruz, and Santa Cruz Mountains for Sustainable Cannabis Medicine (SMC2) received responses from 284 cultivators, of which 229 are currently cultivating (Appendix D)..[1] While available locational data is not entirely based on specific address locations, the data from license registrations and survey respondents indicates that existing cannabis cultivation tends to be concentrated in certain regions and communities. Of the 796 registrants and survey responders who provided general location information, at least 316 (40 percent) are in the Mountain Region proximate to the San Lorenzo Valley, and at least 176 (22 percent) in the South County Region primarily surrounding Watsonville. Approximately 12 percent of respondents did not disclose location information (Table 3.0-1). Combining data from both the 2016 Cannabis Growers Survey and the County's Cannabis

[1] There may be overlap in sites between the 2016 Cannabis Growers Survey and the 2016 County License Registration Data.

Licensing Program Registration Data yield the following information concerning existing grow types and total canopy coverage within the County (refer to Table 3.0-2, Table 3.0-3, and Appendix D).

Table 3.0-1 Cultivation Site Location Summary of Registrant and Growers Survey Data

County Region	Total Registrants & Survey Respondents	Percent of Total
Mountain	316	40%
Urban	151	19%
South County	176	22%
North Coast	58	7%
Undisclosed	95	12%
Total	**796**	**100%**

Source: 2016 Growers Survey and 2016 County Licensing Registration Data

Table 3.0-2 Existing Cannabis Site Cultivation Types based on Registrant and Survey Data

Cannabis Cultivation Type	Total Registrants & Survey Respondents	Percent of Total
Indoor	198	25%
Outdoor	326	41%
Greenhouses	138	17%
Multiple Types	128	16%
Undisclosed	6	1%
Total	**796**	**100%**

Source: 2016 Growers Survey and 2016 County Licensing Registration Data

Table 3.0-3 Existing Cultivation Canopy Sizes

Canopy Size (square feet)	Total Registrants & Survey Respondents	Percent of Total
Under 100	77	10%
100 to 500	194	24%
500 to 1,000	94	12%
1,000 to 5,000	274	34%
Over 5,000	107	13%
Undisclosed	50	6%
Total	**796**	**100%**

Source: 2016 Growers Survey and 2016 County Licensing Registration Data

Other County Data Sources

Additionally, the County maintains a limited range of data related to existing cannabis activities from its enforcement programs, including those from the County Sheriff's Office and the Planning Department's Code Compliance team. Input from these departments and data from 2015/2016 indicate the following:

- Although no "hard data" was available, the County Sheriff's Office has provided an informal estimate that there are at least 1,800 cultivation sites in the County, twice the total initial registration respondents of 951.
- In March of 2015, Code Compliance staff in the Planning Department identified a total of 145 potential Cannabis related code violations, an increase of 58 percent from 84 in September of 2014. This increase is considered to reflect a "green rush" that coincided with changes in County regulations in 2014, which banned cannabis cultivation, but which offered limited immunity if cultivation adhered to defined criteria. The staffing levels available for cannabis code enforcement by county staff did not provide a sufficient enforcement program. Many of these green rush cases resulted in environmental damage associated with vegetation clearing, illegal stream diversions, extensive grading, illegal development and habitation, and solid waste management. Some of the cases involved use of flammable and/or high pressure manufacturing processes, such as open blasting for butane honey oil (BHO).

Cannabis Product Manufacturing Data

Only 8 percent of license registrants report manufacturing cannabis products onsite.

Due to the nature of cannabis product manufacturing activities, many of which can be done at a very small scale, it is not possible to describe with certainty cannabis product manufacturing activities existing within the County. Cannabis industry representatives estimate the number of manufacturers in the County at up to 100 larger higher-yield manufacturers, and about 200 to 300 smaller lower-yield operations. About 8 percent of registered cultivators reported that they also engage in small scale manufacturing and that other small businesses use cannabis in their products. Due to high risks of self-reporting illegal cannabis manufacturing, and based on discussions with industry representatives, this percentage appears to be underreported. However, it is recognized that the rate of growth of demand for processed cannabis products will be strong.

- Based on interviews with local cannabis industry representatives in February and March 2017, there are approximately 100 higher-yield cannabis product manufacturers producing more than $3.5 million each in revenue annually; an estimated 200 to 300 additional lower-yield small- to medium-scale manufacturers. There are also an unknown number of home-based commercial manufacturers in the County yielding unknown profits, perhaps on the order of 1,000 operations, which are part of the environmental baseline and considered likely to continue regardless of whether and how the County implements the Program, and would be subject to SCCC enforcement.
- Review of sales data available from local dispensaries indicates that sales of natural cannabis flowers and buds account for 55 percent to 60 percent of sales, while concentrates (e.g., oils) or hash accounts for roughly 18 to 21 percent of sales, and edibles roughly 6 to 7 percent of sales. A range of other products such as lotion and vape cartridges make up remaining sales. It is unknown what portion of these products are manufactured within the County.

Environmental Effects of Existing Cannabis Industry

The environmental baseline includes County landscapes that have been altered by past and ongoing cannabis cultivation and manufacturing. Current cultivation and manufacturing sites vary widely in their location, characteristics, maintenance, cultivation practices, and related effects on the environment. As discussed above, no comprehensive survey of existing cannabis cultivation sites could feasibly be performed, so it is not possible to characterize the total amount of current cannabis cultivation by acreage, annual production quantities, or the precise mix of cultivation types or precise

Some existing grows within the County do not conduct environmentally friendly cultivation methods or use agricultural best management practices, such as in the above case: illegally diverting surface water from a stream.

Some existing grows within the County support environmentally friendly cultivation methods; one approach is to provide electricity needs for fans and other motors through solar panels and batteries.

effects on the environment. Additionally, it is not possible to determine exact percentages of manufacturing technique types used within the County due to limited data.

However, County Code Compliance staff and resource agencies such as the California Department of Fish and Wildlife have documented instances of water quality violations and adverse effects on natural resources. For example, acres of sensitive habitats, such as Santa Cruz Sand Hills Habitat and redwood forest, have been disturbed on multiple different sites, water has been illegally diverted from creeks, and grading has occurred on hillside and ridgelines without permits (see Appendix D). However, these records are limited and are contrasted with other well-run, low-impact operations visited during preparation of this EIR that employ many beneficial and sustainable practices, such as organic cultivation, water recycling, and use of previously cultivated areas to minimize adverse environmental consequences.

It is important to note, that despite areas where impacts of substantial concern have occurred to State Parks, sensitive habitats, creeks, or neighborhoods, cannabis cultivation occupies a relatively minor amount of the County's landscape, with direct and indirect cultivation disturbances likely confined to thousands rather than tens of thousands of acres. For example, based on the best available data, the clear majority of cannabis sites appear to have canopies that occupy less than 1,000 square feet (2016 Cannabis Cultivation Survey; 2016 License Registration data).

According to the County's License Registration data, there are approximately 36 total acres of known, existing cannabis canopy under cultivation in 2016.

Based on 2016 License Registration data, a total of 36 acres is currently under cultivation in the County as of November 2016. While future secondary effects of road improvements, and construction of ancillary structures and other features to achieve compliance of existing cultivation sites may lead to greater ground disturbance, the total amount of land that is currently directly impacted by cannabis plants appears to be relatively limited compared to other major land uses. For example, cultivation of row, orchard, and berry crops occupy over 17,000 acres of the County's landscape with associated potential for impacts to habitats and water quality, while urban uses occupy thousands of additional acres. Part of the potentially disproportionate effect of cannabis cultivation on the environment and

communities is its former illegality that has forced cultivation and manufacturing into settings such as dense forest, steep hillsides, or rural neighborhoods where impacts of even limited operations become magnified. Limited knowledge of regulations or attention to standards and best practices, as well as the absence of traditional agricultural inspection and oversight also exacerbate impacts for some operations. While cultivators and manufacturers operate in warehouses, greenhouses, and residential garages in less sensitive locations, cultivation in remote and sensitive areas is more likely to create impacts to streamside habitats and water quality, as well as to create land use compatibility impacts in affected residential communities, such as in Bonny Doon and Corralitos.

Unlicensed Commercial Cannabis Activities

Estimates of the number of growers and the amount of cultivation by known, registered cultivators represents the minimum size of the industry, as it does not include many other operations by unidentified growers in the County. As described above, the understanding of the actual size and character of cultivation outside of the County's License Registration process is based on anecdotal input from the County Sheriff's Department and CalFire, records from County Code Compliance, and local knowledge in the cannabis cultivation community. Members at the California Cannabis Industry Association, California Growers Association, California Department of Consumer Affairs at the Bureau of Medical Cannabis Regulation, the California Department of Food and Agriculture at the Medical Cannabis Cultivation Program, California NORML, California Cannabis Advocates, California Cannabis Association, and the Marijuana Policy Project were contacted to receive input about the quantity of total growers in the County.

Based on this feedback, the County's License Registration data captured only a portion of the total existing cultivators in the County. At a maximum, the County would license the 760 registrants, plus an additional unknown number of existing commercial farmers on CA zoned lands and with existing greenhouses who are not required to have registered in order to receive a license. Any cultivators not in one of those categories would not be licensed under the Program. Further, it is impossible to know how many of the existing manufacturers of cannabis products will seek a license from the County, but any existing or future manufacturers that decide not to apply would likely opt to operate without a license or required permits, which would be a continuation of baseline. Implementation of the Program will not create the existing illegal activity even if it continues and continues to be illegal. Furthermore, many registrants have stated an intention to increase cannabis activities in the future, which may occur illegally if registrants do not obtain licenses and no longer seek to be consistent with any limited immunity provisions (that are proposed to be eliminated from the SCCC as part of the Program).

As evidenced in other states where medical and recreation cannabis cultivation and manufacturing has been legalized, such as Colorado, illegal markets for cannabis product are thriving, changing, and growing. For example, as described by a range of news sources, including Newsweek, legal recreational cannabis is satisfying only 59 percent of the demand for marijuana in Colorado. The remaining 41 percent of users are turning to the illegal market and medical marijuana growers. Due to operating expenses including taxation on cannabis at government-licensed dispensaries, many users are looking to unlicensed sources, including home-based cultivators and delivery services, to obtain cannabis. Further, demand from residents living in nearby states where cannabis is still illegal supports illegal cannabis activities. For example, in Oregon, as much as 80 percent of the state's cannabis crop leaves Oregon. Much of this export is shipped to the East Coast, where residents in states with high demand but harsh penalties are able to take advantage of the quality facilitated by

legal cannabis systems in other states.[2] To address this issue, law enforcement efforts combined with legislative efforts to limit the total amount of cannabis produced and encourage participation in legal cannabis business can help to reduce the illegal market.

The potential for future unlicensed cultivators and manufacturers to remain or increase in the County is high. 760 of the initial 951 registrants moved forward with the registration process in 2017. While it is the County's goal to license all registrants in a location and site configuration that is appropriate under the Program, it is unlikely that all 760 registrants will receive a license under the Program or the State Licensing program administered by BMCR. Some properties are inherently not suitable for cultivation. Also, license requirements such as site improvements to construct SCCC compliant roads, homes, and utilities, preparation of site-specific technical studies, meeting County permit requirements, payment of fees, and taxation may create a burden, primarily for small to medium cannabis cultivators, that may be too onerous and could result in the potential license registrant to abandon the Program. It is also likely that not every manufacturer will be granted a license for similar reasons. Those that choose not to seek a license may cease cannabis activities, but unlicensed cannabis activities may continue to occur and change.

Additionally, based on the sources described above, the cannabis industry may be much larger than reflected in the County License Registration data. The cannabis industry changes over time; changes of products and technologies occur to changes in processing and manufacturing systems. Cultivation and production can therefore increase, and movement of operations to different sites occurs. Given the potential for an expanding illegal market in the state and the County, the effectiveness of enforcement programs in the County and alternative levels of permissiveness of Program requirements to encourage participation by the local cannabis industry are addressed in this EIR.

EIR Assumptions for the Program

Calculating the Projected New and Expanded Cannabis Activities Beyond the Baseline

As described in Chapter 2, *Project Description,* the impact analysis in this EIR assumes that the future amount of cultivation licensed under the Program would be up to 44.3 acres of cannabis cultivation proposed by current registrants, with plans to expand such cultivation up to 79.1 acres over the life of the Program. This would be an increase of between 8 acres and 43 acres of commercial cannabis canopy pursued by registrants in the future as the Program is implemented. The impact analysis also takes into account the potential for up to 147 additional acres of cannabis to be cultivated by commercial farmers within greenhouses on lands designated Commercial Agriculture (CA). In total, for the purposes of EIR analysis, the increase in commercially cultivated cannabis canopy attributable to the Program would be 190.1 acres.

As described in Chapter 2, *Project Description*, up to 20 new larger higher-yield manufacturers and up to 60 new smaller lower-yield manufacturers are expected to seek licenses in 2018 alone. For the EIR analysis, it is reasonable to assume that this number of new manufacturers seeking licenses would occur annually as an ongoing typical rate until the industry stabilizes in about five years. In addition, for the purposes of this EIR, it is assumed that up to 40 cannabis home occupation licenses may be issued annually over the five-year period (8 per year). In total, up to 88 manufacturing licenses could

[2] Source: Newsweek, February 2014 - http://www.newsweek.com/weed-black-market-424706 -

be issued annually within eligible areas Countywide (20 larger higher-yield + 60 smaller lower-yield + 8 home occupations = 88). While many of the manufacturing licenses would occupy existing buildings or developed quarries, limited manufacturing land and vacant building space could drive development of new buildings, which would be subject to existing SCCC regulations.

Required Site Improvements to Support Commercial Cannabis Activities

Residential Units and Site Improvements

Since the Program requires a residence for eligible parcels in the A, RA, TP, and SU zone districts, this EIR reviews potential indirect impacts associated with construction of a maximum of 228 new residences under the proposed project, with associated roads, driveways, septic systems, water storage tanks (as needed) and other infrastructure. This estimate is based on licensing registration data that indicate that a home may not be present at 75 percent of registrant-provided locations that are located within A, RA, TP, or SU zoning districts. (Appendix D). New residences would typically require new or improved roads, driveways, site preparation, clearing, and infrastructure consistent with the SCCC. New development would need to comply with development standards and requirements of the zoning ordinance and other applicable chapters of the SCCC, including but not limited to Title 16 (Environmental and Resource Protection), Title 12 (Building Code) and Chapter 7.92 (Fire Code).

County Fire Code Requirements for Cannabis-Related Structures

Fire Code Interpretation and Program Impacts

Adherence to and interpretations of the Fire Code are key factors that could influence direct, indirect, and secondary Program impacts:

- **Direct Impacts** – Impacts that may be created by cannabis activities such as increased fire hazards
- **Indirect Impacts** – Impacts that may be caused by fire protection requirements, such as road construction, managing vegetation for defensible space, and water storage tanks
- **Secondary Impacts** – Project-induced additional or expanded cannabis activities that are illegal and unregulated as growers and operators seek to avoid expenses or licensing, which can increase fire hazards.

A significant amount of commercial cannabis cultivation and manufacturing occurs on rural lands, particularly in the Mountain Region and the foothills of the Urban and South County Regions. As these areas are characterized by dense, flammable vegetation and frequently have limited access via narrow or unimproved rural roads, substantial portions of these Regions are mapped as High Fire Hazard Zones by CalFire. CalFire and the Santa Cruz County Fire Department (SCCFD) have noted a history of structure fires and wildfires associated with illegal and unregulated cannabis cultivation and manufacturing. While data on the number, exact cause, and severity of such fires is unavailable, anecdotal accounts based on interviews conducted with Richard Sampson, Division Chief and Chris Walters, Deputy Fire Marshal from CalFire between February and May 2017, cite increased human habitation in rural areas, open blasting cannabis product manufacturing, poor site access, unpermitted wiring, poorly designed and managed onsite electricity generation (e.g., use of generators that overheat or are improperly used and create fires), campfires, smoking, use of power tools, and insufficient water supply for firefighting purposes as factors in increased fire hazard. Fire risks from such illegal and unpermitted cannabis activities have resulted from cannabis sites that are not constructed, operated, and maintained consistent with the SCCC.

SCCC Chapter 7.92 (Fire Code) adopts the California Building Code (Title 24, Part 2) and the California Fire Code (Title 24, Part 9) by reference to help safeguard life, property and public welfare from the hazards of fire, hazardous materials release, and explosion. The Fire Code addresses the occupancy category and use of buildings and premises, the operation and maintenance of equipment, and the installation and maintenance of adequate egress. Based on the proposed use and occupancy of a structure, the Fire Code often results in required site improvements to ensure three main outcomes are achieved related to site fire safety:

1. Adequate vegetation management for defensible space around structures to reduce risk of wildfire;
2. Adequate road widths and turnaround areas to allow fire protection vehicles and equipment to access the site; and
3. Adequate water supply and flow to fight fires.

The Fire Code requires a 10,000-gallon fire water storage tank for a new 4,000 square foot home that relies on private water. Although dimensions vary, a typical 10,000-gallon tank would be 12 feet in diameter and 13 feet tall. The 10,000-gallon requirement for a home may also be met by two 5,000 gallon tanks.

For F-1 Factory Industrial classifications, the Fire Marshal has determined that up to a 120,000-gallon storage tank or more may be required for adequate water storage. Such a tank is roughly 30 feet in diameter by 25 feet tall. Multiple smaller tanks can also be co-located on the site to meet the storage requirement. Cannabis drying sheds and greenhouses would be considered F-1 occupancies. Sprinklers may be required, including for cannabis drying sheds and greenhouses, depending on whether located in a rural area not served by municipal water, and whether employees work within buildings.

Minimum site requirements for fire protection for any given property vary widely based on the characteristics of the site, including whether the location is in a high fire hazard zone, the type and size of proposed structure, and the proposed use or occupancy of the structure, among others factors. The occupancy (use) classification of a structure plays a key part in determining the appropriate fire protection measures. Chapter 3 of the California Building Code and Chapter 2 of the California Fire Code define the range of occupancy classifications that are recognized by the Codes.

When a structure is subject to review by the SCCFD, the Fire Marshal is responsible for determining the appropriate occupancy classification of a structure when it is constructed and first occupied and when there is a change of use. Over the useful life of a building, the activities in the building may evolve and change. Changing from one activity to another or from one level of activity to another is defined as a change of occupancy. The new occupancy must comply with applicable provisions of the Fire and Building Codes. As an example, this may occur when a toolshed or barn that has been historically used

for storage of farm equipment is converted to cannabis cultivation or a building in which employees gather to trim cannabis or to process it through various manufacturing methods.

For the purposes of this EIR, assumptions must be made about the site improvements that may be required of licensed cannabis cultivators and manufacturers to comply with the Fire Code. These improvements may have indirect impacts on the environment from roadway construction and improvement, vegetation clearing, site development and pad clearing, and provision of onsite fire water storage with effects on limited water supplies in areas dependent upon wells, springs, and stream diversions. As cannabis cultivation and manufacturing are not specifically assigned to a particular occupancy classification in the Fire Code, the Fire Marshal and the County Building Official were consulted in May and June 2017 to determine which occupancies may be applied to cannabis-related structures. Based on those consultations, the following occupancy types are relevant for the environmental analysis:

- **F-1 - Factory Industrial Group** occupancy includes the use of a structure, or a portion thereof, for moderate hazard uses, including assembling, disassembling, fabricating, finishing, manufacturing, packaging, repair or processing operations, including hemp products, tobacco, and food processing establishments/commercial kitchens under 2,500 sf that are outside of restaurants or dining facilities.

- **U- Utility and Miscellaneous Group** occupancy includes structures of an accessory character and miscellaneous structures not classified in any specific occupancy, including agricultural buildings, greenhouses, sheds, and barns, that are constructed, equipped and maintained commensurate with the fire and life hazard incidental to their occupancy.

- **H-3 - High-Hazard Group** occupancy includes the use of a structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities consistent with the California Fire Code, including materials that readily support combustion or that pose a physical hazard.

- **R-3 - Residential Group** includes the use of a structure, or a portion thereof, for sleeping purposes by permanent residents, including single family homes.

The Santa Cruz County Fire Marshal advised that commercial cannabis-related uses would be regulated similar to tobacco and hemp products, which are identified under the F-1 occupancy "moderately hazardous" classification in the Fire Code. This interpretation is consistent with interpretations of the States of California and Colorado regarding the fire risk associated with cannabis cultivation, drying/curing, and manufacturing.

Based on this direction this EIR assumes the following occupancy types will be applied to the following general types of cannabis-related structures:

Table 3.0-4 Occupancy Types for Cannabis-Related Structures

Occupancy Classification	Structure Types
F-1	• Any structure used for commercial activities that is larger than 120 sf with significant associated utilities, including 2 or more electrical outlets, including: o Indoor cannabis grow rooms o Greenhouses o Drying sheds also used by employees for trimming o Other structures where cannabis is grown, stored, processed, packaged, or manufactured • Any commercial structure larger than 120 sf with significant associated utilities, including 2 or more electrical outlets, used for non-flammable/lower pressure (less than 2,000 psi) manufacturing (Class 1, 2, and 3 Licenses), including: o Food processing facilities or commercial kitchens o Not including facilities permitted under home occupation regulations
U	• Any commercial structure of any size that has no significant associated electrical, plumbing, or mechanical equipment (no more than one electrical outlet other than to power irrigation equipment), used only for growing or storage, including: o Greenhouses o Sheds o Barns o Agricultural buildings
H-3	• Any commercial structure larger than 120 sf with significant associated utilities, including 2 or more electrical outlets, used for flammable and/or higher pressure (greater than 2,000 psi) manufacturing (Class 4 Licenses)
R-3	• Any residence used for cannabis home occupation as an ancillary use

Given these assumed occupancy types, it is apparent that the occupancy classification for most cannabis structures, particularly cultivation structures, would require substantial improvements to comply with the Fire Code. While requirements would vary by site, the following requirements are assumed for the purposes of impact analysis in the EIR.

1. **Vegetation Management to ensure Defensible Space around Structures**: All structures (building over 120 square feet with a permanent foundation) are required to have the 100' defensible space vegetation clearance found in the Fire Code and PRC 4290 and 4291. Defensible space requirements do not affect fire flow requirements or water storage requirements for the rural areas, as addressed below.

2. **Roadway Improvements**: If a structure is permitted as a building, a road to within 150' of the structure is required. There are specifications on how the road is required to be built, including a minimum 20-foot width for F-1 occupancy. Minimum road width is 18-feet for R-3 occupancy. Other requirements include minimum radius of curvature of 200 feet (which can be lessened to 50 feet with increased road width), maximum slope, surfacing specifications, required turnouts, and turnaround. There are exceptions to the width requirements for residential (R-3), but no exceptions for Factory Industrial (F-1). The road is required to meet these requirements from the end of the County maintained road to the new "structure".

3. **Fire Flow and Water Supply**: The Fire Code requires every new commercial structure to have a hydrant and a specified "Fire Flow." Fire Flow is the amount of water the Fire Code

suggests is required to put out a structure fire.[3] When calculating Fire Flow requirements, a reduction of 75 percent is allowed if the building is sprinklered by a National Fire Protection Agency (NFPA) 13 (nonresidential) sprinkler system. The Fire Flow requirements assume that the structure would be served by an established water system/municipal water. If there is no established water system or municipal water, then minimum Fire Flow standards must be satisfied by onsite water storage in tanks. Minimum required fire flow in areas without municipal hydrants, where much cannabis cultivation occurs, can be reduced from "municipal" requirements of 120,000 gallons or more by the Fire Marshal on a case-by-case basis given site conditions. To the extent that Fire Flow requirements are dependent on occupancy classification, if the use of a building changes to a different occupancy category, a different set of fire safety requirements may be imposed. In areas where no established water system/municipal water is available, the Fire Marshal may apply standards from NFPA 1142, which allows for a reduction in available water provided other aspects of fire safety, such as road access and defensible space clearance are in place. The determination regarding the requirements for Fire Flow must be made on a case by case basis and cannot be guaranteed. Therefore, for the purposes of this EIR, analysis will assume an average of 120,000 gallons of water must be available for firefighting purposes via a hydrant within 400 feet of each structure.

Taken together, these requirements would result in the following requirements for occupancy of a commercial structure with an F-1 occupancy classification:

1. 100 feet of defensible space vegetation clearance/management must be maintained around the building.
2. 20-foot wide road with 200-foot radius of curvature (may be reduced to 50 feet when additional road width is provided), and turnaround to within 150' of all portions of the building.
3. The structure would be required to have a fire hydrant or onsite water storage system capable of supplying 1,000 gallons per minute for two (2) hours (120,000 gallons).[4]
4. The structure may be required to have an NFPA 13 fire sprinkler system throughout.

It is notable that Section B103 Modifications of Appendix B addresses areas without municipal water supply systems and allows for a lesser standard for rural water supply at the discretion of the Fire Marshal. However, CalFire and SCCFD are not mandated to use the lesser standard in rural areas mainly because there can be conflict between required water storage for Fire Flow and what is

[3] Fire Flow requirements are found in the California Building Code Appendix B (Table B105.1 (1) is for R-3 and R-4 and Table B105.1 (2) is for all other structures

[4] California Fire Code Appendix B Table B105.1 (2) indicates Type V-B for a structure of 0-3,600 sf requires Fire Flow of 1,500 gallons per minute and the duration is 2 hours. However, Table B105.2 states if the structure is required to have an NFPA 13 sprinkler system, Fire Flow requirements may be reduced by 75%, but not be less than 1,000 gallons per minute. Therefore, the actual required Fire Flow is 1,000 gallons per minute for two hours, if a structure is sprinklered. This demand would be serviceable for a municipal hydrant system but in the rural area where there is no existing hydrant system with sufficient storage for the required Fire Flow of 1,000 gallons per minute for 2 hours, which is 120,000 gallons of storage. NFPA 1142, Water Supplies for Suburban and Rural Fire Fighting, can be used to reduce Fire Flow requirements, as an exception to the fire code water supply requirements, at the discretion of the Fire Code official, as long as the storage requirement does not conflict with the flow requirements found in NFPA 13, Installation of Sprinkler Systems.

required for flow duration for any required fire sprinkler system. For cannabis-related structures, the Fire Code would be applied specifically to address the fire hazards associated with grow lights, fans, dehumidifiers, heaters, air conditioning, etc. These requirements would not be applied to indoor agriculture where the crop is other than tobacco, hemp or cannabis.

It is typical for cannabis cultivation sites to require some type of structure, such as a drying/curing shed or greenhouse, even for outdoor cultivation, and manufacturing is required to occur indoors. Since trimming operations typically involve employees, the F occupancy is assigned to buildings where trimming occurs. Therefore, the EIR analysis conservatively assumes that all licensed cultivators and manufacturers would be subject to Fire Code standards.

Based on the County's license registration data, 23 percent of the 760 registrants have access to municipal water sources, which would meet the demand for fire water flow. These sites are also more likely to be in areas of the County served by adequate roads with vegetation maintenance. The remaining 568 registrants have access to well water, stream/surface sources, or other onsite sources. Therefore, this EIR assumes that up to 568 cannabis cultivation sites may be required to make the clearing, road improvements and fire storage related improvements described above. The required improvements would differ site by site, but for the purposes of analysis, this EIR assumes improvements would involve installing a 20-foot wide access road to the structure, clearing up to 100 feet of vegetation to provide a defensible space around the cannabis-related structure(s), and constructing, filling, and maintaining up to a 120,000-gallon water storage tank onsite. These improvements would be made in rural and semi-rural areas of the County, primarily in the Mountain and South County regions. In addition, this EIR assumes that approximately 80 new (non-home-based) cannabis product manufacturers may seek a license from the County over the first five years of the Program and that half of these would locate at cultivation sites located in areas that are not served by municipal water or roads, which may necessitate the same requirements described above for cultivation structures. Cannabis home occupations would be required to adhere to R-3 standards, which for new homes would generally require a 10,000-gallon fire water tank, an 18-foot wide road, and 100 feet of defensible space vegetation management around the residence to comply with the Fire Code, if located in the rural area where no water service is available. However, in most cases those requirements would have been met when the residence was constructed and will not occur as a result of a cannabis home occupation becoming established.

Table 3.0-5 Comparison of Fire Code Requirements for Commercial Structure vs. Residential Structure Located in Rural Area not Served by Municipal Water Supply

Typical Fire Code Requirement	250-sf Cannabis Trimming Shed	4,000-sf Residence
Water Storage Tank	120,000-gallon capacity	10,000-gallon capacity
Roadway Width	20 feet wide	18 feet wide
Defensible Space Vegetation Management around Structure	100 feet	100 feet

The Fire Code requirements, as interpreted to apply to cannabis-related structures by the Santa Cruz County Fire Marshal for this analysis, are consistent with commercial development requirements and would require more site and off-site development when compared to requirements for residences and agricultural development that does not include F-1 occupancy structures. The EIR addresses the

range of indirect impacts that may occur from the site clearing, grading, soil disturbance, water demand, vegetation loss and damage, and visual change that may occur.

Water Use by Commercial Cannabis Activities

Estimating the amount of water that will be used in cultivating the amount of new cannabis production that will be licensed under the Program is a complex task and, because of a lack of data, somewhat speculative. Research indicates that formal and informal studies and surveys on water use have been conducted, with results expressed in a variety of units including gallons per plant, gallons per day per plant, gallons per square foot of canopy per day, and gallons needed to produce one pound of cannabis buds. To be useful in this context, water use data must be specific to whether the cultivation is indoor, greenhouse, or outdoor, and whether the growing medium is natural soil or a hydroponic system.

In 2014, it was reported that cannabis plants require approximately six gallons per day for a 150-day grow cycle in outdoor cultivation, or 900 gallons per outdoor plant.[5] This rate was based on estimates made by the Humboldt Growers Association (now the California Growers Association), which assumed irrigation used a half-inch water line with drip emitters, watering a half hour every other day, at 12 gallons per watering. A six-gallon-per-day statistic has been cited widely in reports about the impacts of cannabis cultivation on resources. However, the study has been criticized as exaggerating water demand by applying the water use of a large outdoor plant, measured in the driest period, to all types of plants and across an entire growing season, whether grown outdoors or in greenhouses.[6] Further, since that time, the Humboldt Growers Association has revised the irrigation estimate to 1 gallon per pound per day, basing water consumption on the yield of the plant rather than canopy size.[7]

Various informal studies and anecdotal data gathered through discussions with cannabis growers indicate there are differences in water use between greenhouse/indoor and outdoor grows, in terms of water use per square foot of canopy and total water used. Greenhouse/indoor growing can have a year-round growing season and often requires climate control and air circulation, both of which increase evapotranspiration and therefore a plant's demand for water. Outdoor growing generally produces much larger plants with a higher water demand later in the growing season. In both indoor and outdoor growing, water demand of young plants for the first 5 weeks of growth is substantially lower than all but that last few weeks prior to harvest.

For the purposes of analysis in this EIR, water use is estimated based upon a study in Humboldt County by Milewide Nursery that compared outdoor cultivation with a 180-day growing period to a test plot that used a 90-day growing period in a greenhouse.[8] The study reported that water was used

---

[5] Scott Bauer, 2015, "Impacts of Surface Water Diversions for Marijuana Cultivation on Aquatic Habitat in Four Northwestern California Watersheds," PLOS ONE.
http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0120016.

[2] "Cal NORML Challenges Fish & Wildlife Figures on Marijuana Water Consumption." *California NORML* 3 Aug, 2015

[3]Roberts, Chris. "Dry High: Despite Law Enforcement Reports, Marijuana Is Relatively Water-Friendly." *SF Weekly News* 29 April, 2015
citation

[8] (https://humboldtgrower.wordpress.com/2015/05/07/may-2015-humboldt-county-cannabis-water-use-study/)

in the greenhouse at a rate of 0.0875 gallons per square foot of canopy per day. In order to account for the fact that some indoor operations will operate at a lower efficiency, the rate used in the analysis in this EIR is rounded up to 0.1 gallons per square foot of canopy per day. For outdoor cultivation, the study reported 0.03 gallons of water used per square foot of canopy per day. This study was selected because it looked at a multi-year average, measured water use for the season per plant, and with study of both indoor and outdoor cultivation. The climate in Humboldt is comparable with many of the microclimates in Santa Cruz County. The study used industry standards (cultivating full-term plants, 6 feet tall, with 99 plants in a garden, with the plants caged and tied vertically) in the outdoor control grow, and applied higher efficiency methods in the indoor test grow. While there is broad support in the industry for using the ratio of water use per day per pound of product produced, estimating industry yield is beyond the scope of this EIR and would be speculative. The EIR analysis can anticipate a maximum allowed canopy area based upon per parcel limits.

The Milewide Nursery study includes a breakdown of the per yield water usage, showing a higher efficiency per yield using efficient indoor cultivation methods, and a reasonable assessment of the water usage per day per square foot of canopy for both indoor and outdoor production. Growing methods in a greenhouse can vary widely depending upon the grower; and with climate control, assisted light and light deprivation measures, greenhouses can function similar to an indoor grow with regard to water demand. If these extra measures are not included, then greenhouse water demand may be more consistent with outdoor cultivation. While the local industry in the County seems to be moving towards greenhouses that function more like indoor grows, with climate control and assisted lighting, the higher electricity demands of assisted lighting and climate control make predicting the long-term industry trends speculative. For the purpose of analysis based upon local industry trends and the reported preferences of growers this EIR anticipates that approximately half of the greenhouse expansion will be with natural light and half will be with assisted light, resulting in year-round irrigation. The Milewide Nursery study was based upon a 90-day cycle, two of which could reasonably be completed in a greenhouse without assisted lighting. An estimated 270 irrigation days represents an average for greenhouses that may produce between two and four crops per year (an average of 3 crops a year is assumed by this EIR within greenhouses).

3.0.3 Organization of Environmental Impact Analysis

Each section 3.1–3.14 addresses an environmental resource area and contains the following information for the Project and the More Permissive Project:

- **Introduction.** Introduces the issue area and provides a general approach to the assessment.
- **Existing Setting.** Describes the physical existing environmental conditions for the Program as they relate to the resource area in question. Per the State CEQA Guidelines, the environmental setting normally constitutes the baseline physical conditions by which the lead agency determines whether an impact of the proposed project is significant.
- **Regulatory Setting.** Summarizes the regulations, plans, and standards that apply to the Program and relate to the specific resource area in question. A compilation of applicable federal, state, regional, and local regulations are contained within Appendix A.
- **Environmental Impact Analysis and Mitigation.** Discusses the significance criteria, the environmental impact analysis, and mitigation measures that may be necessary to avoid or reduce environmental impacts to a less than significant level, or as feasible, and the residual impacts following the implementation of recommended mitigation measures.

- **Significance Criteria.** Identifies the significance criteria or, where applicable, the thresholds of significance that will be used to evaluate impacts that are not included in the baseline. The criterion or threshold for a given environmental effect is the level at which the County finds the effect to be significant. The significance criteria can be a quantitative or qualitative standard, or set of criteria, pursuant to which the significance of a given environmental effect may be determined. (State CEQA Guidelines, Section 15064.7)
- **Impact Assessment Methodology and Assumptions.** Outlines the general approach taken in evaluating the individual environmental resource area to provide a context for the analysis of impacts, which builds from the general methodology and assumptions described in Section 3.0.2, *Assessment Methodology*.
- **Program Impacts.** Considers the potential impacts resulting from short-term implementation and long-term operation of the Project, with analysis of the Proposed Project and More Permissive Project at an equal level of detail. Where impacts are similar, findings are combined to simplify analysis, with separate findings where impacts materially differ by scenario. Impacts are addressed as follows:
  - **Direct Impacts**: Includes direct impacts of cannabis cultivation and manufacturing, which may include vegetation clearing, soil tilling, irrigation, fertilization, grow room or greenhouse construction, development of structures to accommodate trimming and drying, development of manufacturing buildings or improvements, natural or intensive manufacturing operations, energy use, water use, traffic associated with operations and associated activities.
  - **Indirect Impacts**: Includes indirect impacts of cannabis cultivation or manufacturing, which may include impacts from regulatory requirements, such as compliance with environmental, fire or building code standards, septic systems, roads, houses, or other site improvements and installations.
  - **Secondary Impacts**: Includes the effects of Program-induced additional or expanded unregulated or unlicensed cultivation or manufacturing that may be discouraged from becoming licensed by Program standards, required taxes, or other factors. Secondary impacts excludes unregulated activity that is already occurring and therefore is accounted for in the environmental baseline. Note that identifying such secondary impacts of future additional or expanded unlicensed activity as associated with implementation of the Program is a conservative programmatic approach.
- **Impact Levels.** While the criteria for determining potentially significant impacts are specific to each issue area, the analysis applies a uniform classification of the impacts based on the following definitions:
  - **Significant and Unavoidable**: Significant impacts that cannot be feasibly mitigated or avoided to a less than significant level. Insufficient measures could be taken to avoid or reduce these adverse effects to an insignificant or negligible level. Even after application of feasible mitigation measures, the residual impact would be significant. If the Project is approved with significant and unavoidable impacts, decision-makers are required to adopt a Statement of Overriding Considerations pursuant to CEQA Section 15093 explaining how they have balanced the various factors and why benefits of the Project, on balance, outweigh the potential damage caused by the significant unavoidable impact.

- **Less than Significant with Mitigation**: Such impacts can be reduced to a less than significant level with feasible mitigation, which can include incorporating changes to the Project, which in this case can include refinements to proposed regulations prior to adoption and implementation. If the proposed Project is approved with significant but mitigatable impacts, decision-makers are required to make findings pursuant to CEQA Section 15091, stating that impacts have been mitigated to the maximum extent feasible and the residual impact would not be significant.
- **Less than Significant**: These potentially adverse but less than significant impacts do not require mitigation, nor do they require findings be made. Measures may be recommended to further reduce environmental effects and/or improve consistency with policies in the Santa Cruz County General Plan and regulations of County Code, but are not required mitigation measures under CEQA needed to reduce impacts to less than significant.
- **Beneficial impacts**: Effects that are beneficial to the environment.
- A determination of **No Impact** is given when no adverse changes or benefits in the environment are expected.
- **Post-Mitigation Level of Impacts** identifies the level of impact that will exist after mitigation is applied; in those instances where mitigation measures cannot reduce adverse impacts to less-than-significant levels, impacts are categorized as Significant and Unavoidable.
- **Cumulative Impacts,** (Section 15130) describes impacts that could occur from the combined effect of other past, previously approved, present, and reasonably foreseeable future projects. For each significant adverse impact identified, mitigation measures are presented where feasible to reduce the cumulative impacts to acceptable levels.
- **Formulation of Mitigation Measures and the Mitigation Monitoring and Reporting Program.** When potential significant impacts are identified, feasible mitigation measures are formulated to eliminate or reduce the severity of impacts. The mitigation measures recommended in this document are identified in the impact sections and presented in a Mitigation Monitoring and Reporting Program (MMRP) in Section 5.0.

This section references relevant existing County regulatory compliance requirements, standard conditions of approval and mitigation measures, as well as proposed Program development standards and features intended to proactively reduce potential Program impacts, for both the Project and More Permissive Project scenarios. Additional mitigation measures are defined in appropriate resource sections for Program impacts that are considered significant or less than significant with mitigation, based on the significance criteria or thresholds of significance. The level of impact after mitigation measures are assessed to determine the resulting level of impacts upon a resource.

3.0.4 Cumulative Project Scenario

State CEQA Guidelines §15130(a) clarify that an EIR shall "*discuss the cumulative impacts of a project when the project's incremental effect is cumulatively considerable*". In this context, "cumulatively considerable" means that the incremental effects of an individual project are considerable when

viewed in connection with the effects of past projects, the effects of other current projects, and/or the effects of probable future projects (as defined by Section 15130). The State CEQA Guidelines define cumulative impacts as "two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts." Section 15355 of the CEQA Guidelines further state that the individual effects can be various changes related to a single project or the change involved in a number of other closely related past, present, and reasonably foreseeable future projects. The discussion of cumulative impacts must reflect the severity of the impacts as well as the likelihood of their occurrence. However, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. Furthermore, the discussion should remain practical and reasonable in considering other projects and related cumulatively considerable impacts. Furthermore, per State CEQA Guidelines, Section 15130 (a)(1), an EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.

The State CEQA Guidelines allow for the use of two different methods to determine the scope of projects for the cumulative impact analysis:

- **List Method** - A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency (Section 15130).
- **General Plan Projection Method** - A summary of projections contained in an adopted General Plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact (CEQA Guidelines §15130).

This EIR examines cumulative effects using the General Plan Projection method to programmatically evaluate the Program in the context of regional growth projections for jobs and housing, opportunities for agricultural uses, and regional trends in commercial cannabis activities resulting from different regulatory programs that have recently been adopted in adjacent cities and counties, along with the pending state licensing program for commercial cannabis businesses.

In terms of regional growth, the Association of Monterey Bay Area Governments (AMBAG) prepares the Regional Growth Forecast (RGF), which was most recently adopted in 2014. The RGF forecasts residential population in unincorporated Santa Cruz County to increase from 132,318 in 2020 to 144,227 by 2035, based on an annual growth rate of 0.42 percent and with an increase of 4,737 housing units. Employment increases are forecast from 43,559 in 2020 to 46,404 in 2035, based on an annual growth rate of 0.57 percent. These forecasts are based on existing land use and development regulations remaining in place in the County under the General Plan and the SCCC. The employment forecast does not account for employment in the cannabis industry, because of the formerly illegal status of the industry. See also, Section 3.2, *Agricultural and Timber Resources* and Section 3.12, *Population, Employment, and Housing*.

The state's CalCannabis Cultivation Licensing program is in draft form and a Draft Program EIR is currently available for public review. The Draft EIR provides information about the potential environmental effects associated with the adoption and implementation of statewide cannabis cultivation regulations. In addition, the County is one of many local agencies in California developing a set of regulations and licensing requirements for commercial cannabis cultivation and manufacturing. Regulatory programs range in level of permissiveness for commercial cannabis activities. In the region, the following counties are also preparing and implementing new local commercial cannabis regulations that range in the degree of permissiveness for cultivation and manufacturing:

- **San Mateo**: San Mateo County enacted a temporary moratorium on marijuana-related activities such as cultivation and distribution in December 2016 while options for local regulations are considered.
- **Santa Clara County**: Santa Clara County bans cannabis dispensaries and collectives and non-medical related cultivation in unincorporated areas of the County. As of May 2017, Santa Clara County is considering a moratorium on non-medical cannabis businesses in the unincorporated area as well.
- **San Benito County**: With a current interim urgency ordinance in place that limits cultivation to existing grows (as of 2016) and prohibits new grows, San Benito County is working on a commercial cultivation ordinance. Under the draft ordinance, the County accepts applications from prospective cultivators who would be permitted to commercially cultivate cannabis only in compliance with proposed regulations governing how and where cannabis may be grown in the County.
- **Monterey County**: A permit is required for all medical cannabis activities in Monterey County. Adult use/recreational cannabis businesses are not permitted until state licenses become available in 2018 for such operations. The County anticipates adopting regulations for adult use/recreational cannabis businesses in the near future.

In addition, cities within Santa Cruz County offer a range of regulatory environments for cannabis activities.

- **City of Watsonville**: The City Council adopted the Medical Cannabis Facilities (MCF) Ordinance on May 9, 2017. The Ordinance allows the establishment of up to nine medical cannabis manufacturing facilities in Watsonville. Further, in 2016, the Watsonville City Council adopted Ordinance No. 1326-16 (CM) to regulate the establishment of medical cannabis cultivation facilities. The maximum number of six permits have been approved, and no applications for new cultivation facilities are being accepted at this time. Medical cannabis facilities must be within the Industrial Park (IP) or General Industrial (IG) Zoning District
- **City of Capitola**: Indoor and outdoor commercial cultivation of marijuana and manufacturing is prohibited in all areas of the City, with limited exceptions for personal medical use consistent with state law (six plants).
- **City of Scotts Valley**: As of 2015, the City of Scotts Valley prohibits all commercial marijuana uses and marijuana cultivation, marijuana processing, marijuana delivery and marijuana dispensaries.
- **City of Santa Cruz**: Medical cannabis dispensary and cultivation businesses are permitted under existing ordinances, but no expansion for commercial non-medical cannabis businesses is currently proposed. Santa Cruz zoning laws limit medical cannabis cultivation to dispensary operations, and only two medical marijuana dispensaries are allowed within City limits.

Additionally, the cumulative impacts analysis programmatically considers land use and development patterns that would potentially occur under pending and approved plan updates for areas within the County, including the following:

- **SCCC Modernization and Sustainability Update of Land Use, Circulation, and Community Design Elements of the General Plan:** The County is planning to update the SCCC to simplify and clarify permit processing, to update use charts and regulations, to recognize agricultural practice changes and support the needs of the County's agricultural economy, consistent with Measure J, and to implement County sustainability goals and programs including the Climate Action Strategy and the Sustainable Santa Cruz County plan.
- **Update of the Public Safety Element of the General Plan/LCP:** The County plans to update the Safety and Noise Element to ensure consistency state and federal seismic safety, airport

land use, noise, coastal hazard area and flood hazard regulations; and to implement the Climate Action Strategy and the Local Hazard Mitigation Plan.

Additionally, the Program would be implemented concurrent with any pending or future timber production plans for the harvested timber regions of the County (i.e., zoned Timber Production – TP) along with ongoing changes to agricultural crops. The composition of the County's agricultural crop production changes annually, but consistently strawberry production has dominated the agricultural market in the County in recent years. The County's annual crop reports indicate change in agricultural characteristics. For example, from 2011 to 2015, organic farming increased by 3,121 acres (47 percent) Countywide. Additionally, from 2014 to 2015, cultivated acres for berries increased by 108 acres (1 percent) and nursery crops acreage increased by 54 acres (5 percent). In general, vegetable and fruit crops retained stable acreage Countywide during this timeframe, though acreage slightly reduced by 7 acres for fruit and 10 acres for vegetables.

Cumulative projects excluded from the Program cumulative impact analysis include:

- Policy initiatives and ordinance amendments that are unfunded and not included in a Board of Supervisors adopted work program, or with a foreseeable near-term completion date;
- Policy initiatives and ordinance amendments that are not "geographically" related to the Project (i.e., amendments which apply to areas outside the Project's regions of interest);
- Policy initiatives and ordinance amendments which do not cause related impacts to resources evaluated in this EIR; and
- Policy initiatives and ordinance amendments that are procedural, rather than substantive in nature.

Section 3.1
Aesthetics and Visual Resources

3.1.1 Introduction

Licensing and permitting of cannabis cultivation and manufacturing by the County of Santa Cruz (County) under the may result in environmental impacts to aesthetics and visual resources, including the degradation of scenic resources and introduction of new sources of light and glare. This section evaluates issues related to aesthetics and visual resources from the Project and More Permissive Project scenarios of the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program). Scenic resources are highly variable throughout the County and are characterized by the planning region in which they occur (i.e., North Coast, Mountain, Urban, and South County Regions). Existing visual resources in the Program area are described, as well as applicable regulations. Potential impacts to existing baseline environmental conditions related to aesthetics and visual resources that would result from implementation of the Program are evaluated, along with effectiveness of proposed Program development standards at addressing adverse effects on visual

Program Impact Analysis
At a Glance

Commercial cannabis cultivation and manufacturing under the Program could have adverse effects on visual resources in the County, including cultivation and site development in rural and visually sensitive areas. Compliance with the County's visual resource protection regulations and mitigation to minimize visual effects of the Program would ensure impacts are less than significant. Unregulated cannabis activities would not be subject to County regulations and may have significant and unavoidable adverse effects.

Scenic resources in Santa Cruz County include densely forested stands of coast redwoods, such as in Felton and Ben Lomond in the Mountain Region and Bonny Doon in the North Coast Region.

resources. Where potentially significant impacts are identified, mitigation measures are recommended. Key resources or data used in the preparation of this chapter include the California Scenic Highway Program, Santa Cruz County General Plan Conservation and Open Space Element and Community Design Element, Santa Cruz County Code (SCCC), including Zoning Regulations and Coastal Zone Regulations, and cannabis cultivation registration data and manufacturing data collected to inform the Program in 2016/2017 by the County.

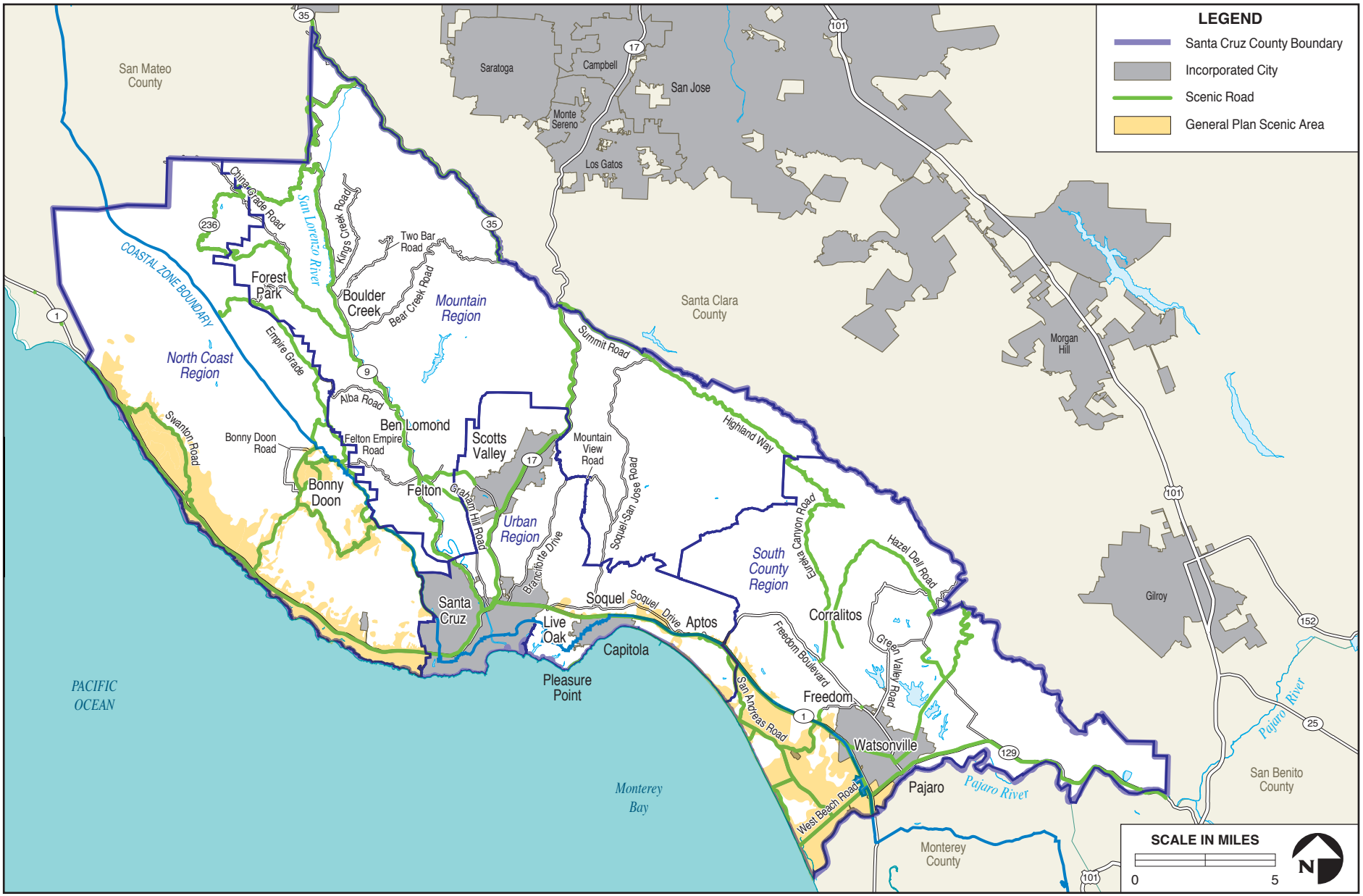
3.1.2 Environmental Setting

3.1.2.1 Visual Resources

Santa Cruz County is characterized by scenic ocean coastlines along its western and southern boundaries, and by rugged coastal mountains inland along its northern and eastern boundary (Association of Monterey Bay Area Governments 2014). One of the distinct visual features of Santa Cruz County is the extensive forest cover of the Santa Cruz Mountains in the north and northeast, including stands of coast redwoods. The Santa Cruz Mountains are the southern edge of this species' range in coastal California (County of Santa Cruz 1994). A large portion of the County's population is in small urban communities within the mid-County coastal terraces, while the alluvial south County is mainly in rural agricultural use, combining extensive fields of row crops and greenhouses with foothill grazing and orchard lands. In urban areas, the built environment consists of a mix of small-scale residential neighborhoods of varied scale, styles, and age; it is also characterized by public open spaces and recognized landmark, iconic, and historic structures. Elevations in the County range from sea level to more than 3,200 feet above sea level at Mt. Bielawski (Association of Monterey Bay Area Governments 2014).

The County is highly scenic and supports diverse important scenic resources, from ocean views along the rugged coastline, open agricultural land along the northern and southern coasts of the County, and the rolling hillsides and ridges of the Santa Cruz Mountains. These scenic resources include redwood forests, coastal cliffs and estuaries, and rural agricultural fields and orchard areas. Scenic resources also include public vistas of ocean, agricultural lands, rivers, streams, watersheds, reservoirs, and selected vegetative communities. Steep slopes and high elevations are identified for their potential to provide scenic vistas. Scenic roads and highways, such as Highways 1, 9, 17, 35, 152, and 236, afford public views of the Monterey Bay, agricultural fields, dense redwood forests, open meadows, and mountain hillsides (see Figure 3.1-1).

Open lands within the County's state parks contribute to the County's forested aesthetic, such as Big Basin Redwoods and Wilder Ranch State Parks and a series of state parks beaches along the shoreline in the North Coast Region; Henry Cowell Redwoods, Castle Rock, and the Forest of Nisene Marks State Parks in the Mountain Region; portions of Henry Cowell Redwoods and the Forest of Nisene Marks State Parks in the Urban Region; and Manresa and Sunset State Beaches in the South County Region. Additionally, the Cotoni-Coast Dairies National Monument provides rich aesthetic value associated with undeveloped coastal terraces connecting to the San Vicente Redwoods in the North Coast Region. Such rural lands are considered visual resources within the County.



amec foster wheeler

Santa Cruz County
Scenic Roads and Resources

FIGURE 3.1-1

3.1.2.2 Scenic Highways and Roads

State Scenic Highways

The California Scenic Highway Program, managed by the California Department of Transportation (Caltrans), preserves and protects scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to designated scenic highways. The State Scenic Highway System includes a list of Eligible or Designated scenic highways. Official scenic highway designation requires a local jurisdiction to enact a scenic corridor protection program that protects and enhances scenic resources. At present, there are no state highways in the County that have been officially designated as State Scenic Highways, however there are six Eligible State Scenic Highways that have the potential to be officially designated in the future (see Figure 3.1-1). State-designated Eligible Scenic Highways within areas of Santa Cruz County are included within Table 3.1-1 below.

Table 3.1-1 Eligible State Scenic Highways in Santa Cruz County

State Highway	Location/Description	Countywide Region(s)
Highway 1	Monterey to San Mateo County lines	North Coast, Urban, and South County
Highway 236	Highway 9 near Boulder Creek to Highway 9 northeast of Big Basin Redwoods State Park	Mountain and North Coast
Highway 9	Highway 1 near Santa Cruz to Santa Clara County line	Mountain and Urban
Highway 17	Highway 1 near Santa Cruz to Santa Clara County line	Mountain and Urban
Highway 35	Highway 17 to Santa Clara County line	Mountain
Highway 152	Highway 1 to Santa Clara County line at Hecker Pass	South County

Source: Caltrans (2011).

Santa Cruz County Scenic Roads

Scenic roads provide the broadest range and greatest visual access to the various aesthetic resources within the County, offering important viewing areas and scenic corridors. Panoramic views, ridgelines, redwood forests, and agricultural and ocean vistas are common features that influence the aesthetic quality of these roads. County General Plan Policy 5.10.10 designates state highways and County roads as scenic due to their aesthetic value and public vistas (see Figure 3.1-1). Any public vistas from County-designated scenic roads are afforded the highest level of protection by the County (County of Santa Cruz 1994).

In addition to Highway 1, the North Coast Region has seven County designated scenic roads: Bonny Doon Road, Pine Flat Road, Martin Road, Empire Grade, Ice Cream Grade, Smith Grade, and Swanton Road. Highway 1 provides the primary transportation corridor in this region along the coast overlooking the Pacific Ocean. Highway 236 (Big Basin Highway) and Skyline Boulevard (Highway 35) provide access to rural areas within the Mountain Region and are both Eligible State Scenic Highways. Public roads are limited in this region with access to rural mountain neighborhoods outside the town centers provided by small rural roads and private drives. The Urban Region contains three County designated scenic roads (Highway 1, Highway 9, and Highway 17) that provide regional access and are all Eligible State Scenic Highways. Highway 1 and Highway 152 are Eligible State Scenic

Highways within the South County Region, and most County-designated scenic roads occur within the low-lying peaks and foothills of the South County Region. These roads and highways contain high quality agricultural landscapes and scenic public vistas. Primary scenic roads within the South County Region vary between coastal areas where roads afford scenic ocean vistas, such as Beach Road, Sand Dollar Drive, and Shell Road; and inland areas where roads contain scenic vistas of canyons and foothills, such as Eureka Canyon Road, Corralitos Road, Browns Valley Road, and Hazel Dell Road.

Table 3.1-2 Designated Scenic Roads in Santa Cruz County

County Road Name	Location/Description	Countywide Region(s)
Amesti Road	Varni Road to Browns Valley Road	South County
Beach Road	Highway 1 to Palm Beach	South County
Bonita Drive & San Andreas Road	Highway 1 to Beach Road	South County
Bonny Doon Road	Highway 1 to Pine Flat Road	North Coast
Browns Valley Road	Eureka Canyon Road to Hazel Dell Road	South County
Buena Vista Drive	San Andreas Road to Larkin Valley Road	South County
Casserly Road	Mile marker 1.75 to Highway 152	South County
Corralitos Road	Freedom Boulevard to Browns Valley Road	South County
Empire Grade	Santa Cruz City limits to end of Empire Grade	Urban, Mountain, and North Coast
East Cliff Drive	33rd Avenue to 41st Avenue	Urban
Eureka Canyon Road	Highland Way to Corralitos	South County
Graham Hill Road	Lockwood Lane to Highway 9	Mountain and Urban
Hazel Dell Road	Browns Valley Road to Mt. Madonna Road	South County
Highland Way	Summit Road to Eureka Canyon Road	Mountain and South County
Ice Cream Grade	full length	North Coast
Martin Road	Pine Flat to Ice Cream Grade	North Coast
Mt. Hermon Road	Scotts Valley City limits to Graham Hill Road	Mountain and Urban
Mt. Madonna Road	Gaffey Road to Hazel Dell Road	South County
Pine Flat Road	Bonny Doon Road to Empire Grade	North Coast
Sand Dollar Drive	full length	South County
Smith Grade	full length	North Coast
Summit Road	Highway 17 to Highland Way	Mountain
Sunset Beach & Shell Road	full length	South County
Swanton Road	Highway 1 at Davenport Landing to Highway 1 at Greyhound Rock	North Coast

Source: County of Santa Cruz (1994).

3.1.2.3 Light and Glare

Primary sources of light include building interior and exterior lighting, street lighting, security lighting, landscape lighting, and vehicle lights. New sources of lighting can be a nuisance to sensitive viewers through light spill, or can create an ambient light glow that emanates upward and diminishes views of the clear night sky. If uncontrolled, light spill and ambient light glow can disturb wildlife in natural habitat areas. The Program would apply to a wide range of aesthetic settings in the County, including remote and semi-remote areas primarily located in the North Coast and Mountain Regions, such as Zayante and Bonny Doon. These remote areas generally contain few nighttime light sources, which are typically limited to outdoor lighting on structures. The Program would also apply to urban and developed areas in the Urban and South County Regions that contain common nighttime light sources such as street lighting, building lighting, and greenhouse lighting in agricultural areas.

Glare is caused by either direct light from the sun or moon, artificial light sources (direct glare) or by a reflective surface (reflective glare). In rural and semi-developed areas, natural sources are the primary source of glare. Land cover, including soil, row crops, orchards, pasture, and forests produce varying levels of glare based on surface area, reflectiveness, and coloring. Areas of dense natural vegetation tend to produce the least amount of glare. Where land has been denuded of natural vegetation for agriculture, light and glare are notably higher. Similarly, greenhouses that provide mixed use light sources may be another primary source of glare. Mixed light greenhouses supplement natural light with light suppression shielding and artificial lights that can create more glare than passive greenhouses, which only use natural light and allow for areas of shade and light absorption.

3.1.2.4 Existing Visual Character of the Program Area

North Coast Region

The North Coast Region is in the northwestern portion of the County and includes the unincorporated communities of Bonny Doon and Davenport. The North Coast provides a mix of rugged coastline, sandy beaches, coastal agricultural terraces, pastoral grasslands, and densely forested uplands and riparian corridors. This Region includes agricultural and timberlands and low density residential development. Public lands include Big Basin Redwoods and Wilder Ranch State Parks, Cotoni-Coast Dairies National Monument, and state parks and beaches along the coast. Coastal terraces in this region provide area for cultivated agriculture and some cattle grazing; pockets of agricultural use also occur in the hillside and mountainous areas, including larger acreage residential lots in the community of Bonny Doon.

Scenic ocean vistas, coastal agricultural terraces, and rugged mountains canyons of the North Coast Region are visual resources highly visible from public roads and are valued by residents and visitors of Santa Cruz County.

The North Coast affords many scenic vistas of the Pacific Ocean that also provide visually interesting views of natural features, such as wet meadows and unique trail corridors; these vistas are predominantly available along the coastal bluffs and areas of high topography. The coastal mountains partially confine this Region, resulting in a high level of biodiversity. Natural vegetation in this region include coastal sage scrub, grasslands, oak woodland, chaparral, redwood and mixed conifer hardwood forest habitats, and riparian woodland habitats that line the streams, often with estuaries at the shoreline. Areas of the rare Santa Cruz Sand Hills habitat area also lie within this region.

Mountain Region

The Mountain Region is in the northeastern portion of the County, extending from the ridgelines west of San Lorenzo Valley to the Santa Clara County line. The Mountain Region includes small communities in the San Lorenzo Valley with rural residential neighborhoods and timber operations in foothill and mountainous areas. The unincorporated towns in this Region include Felton, Ben Lomond, and Boulder Creek, which are small mountain communities along Highway 9. Each of these communities identify unique features that represent the character of these small rustic towns within their adopted Specific Plans. The aesthetic of these towns is characterized as rustic with individualistic architecture that represent the towns' historic roots as western settlements. Public lands in the Mountain Region include Henry Cowell Redwoods, Castle Rock, and the Forest of Nisene Marks State Parks, as well as the Loch Lomond Reservoir.

The Mountain Region encompasses much of the Santa Cruz Mountain range, which comprises deep valleys and forested slopes that provide public vistas and numerous recreational trails and bike paths used by hikers, equestrians, and cyclists with unobstructed views of the area's natural landscapes. Natural scenic resources in this region include dense redwood forest with clearings of oak woodland and chaparral, as well as the Santa Cruz Sand Hills habitat area. The headwaters of the San Lorenzo River watershed originate in this region above Boulder Creek; the river and its tributaries flow through Boulder Creek on the east and south through Brookdale, Ben Lomond, and Felton.

The Mountain Region contains high quality scenic vistas of watershed areas, deep valleys, and natural landscapes situated before backdrops of steep slopes with dense redwood forest cover.

Urban Region

The Urban Region is in the central portion of the County and supports urban and suburban areas including the unincorporated communities of Carbonera, Live Oak, Soquel, and Aptos, and rural residential, agricultural, and forest lands in the inland hills. The Urban Region also contains much of the County's commercial and manufacturing/industrial land uses. Public lands include portions of Henry Cowell Redwoods and the Forest of Nisene Marks State Parks. The aesthetic of the Urban Region is characterized by coastal terraces, coastal vistas, and stream valleys running southward from the Santa Cruz Mountains. Urban communities are strongly influenced by their coastal location and scenic ocean vistas and contain both natural features and historic neighborhoods. The developed portions of the region are a mix of historic buildings and newer buildings. Developed communities within the Urban Region have retained a distinctive look and feel, with a mix of suburban residential neighborhoods and a more intensely-developed commercial and industrial areas, primarily along Soquel Drive and Soquel Avenue in Live Oak and Soquel (City of Santa Cruz 2011).

Scenic resources in this region can be found along watershed drainages flowing from the mountains to the region's lagoons and beaches and include riparian vegetation, redwood forest, oak woodland, and chaparral, as well as the Santa Cruz Sand Hills habitat area in some areas. Other scenic resources in this region include Soquel Creek, which flows to the Pacific Ocean through the City of Capitola and bisects residential and tourist districts (County of Santa Cruz 2017). Key natural and open space features include the coastline and beaches, multiple rivers and other watercourses, and parks and open space, such as the City of Santa Cruz's greenbelt (City of Santa Cruz 2011). The Santa Cruz Mountains and its foothills provide a backdrop of open space views, and offer panoramic views of the ocean and Urban Region.

Scenic resources in the Urban Region are made up of beaches, watercourses, open space areas, and panoramic ocean views, with backdrops of the Santa Cruz Mountains (left). Watershed drainages flowing from the mountains, including Soquel Creek, also add to the aesthetic character of urban communities (right).

South County Region

The South County Region is in the southeastern portion of the County and includes the unincorporated communities of Corralitos, Freedom, La Selva Beach, Larkin Valley, and Amesti. Unincorporated pockets of residential development are commonly separated by agricultural lands under cultivation with in-ground crops, orchards, or greenhouses, particularly on low-lying coastal areas. Inland areas

support rural residential and agricultural uses, including greenhouses, orchards, and equestrian facilities. Land uses in the South County Region are predominantly commercial agriculture, but include residential uses in small communities and in low density neighborhoods in the foothills. Public lands include Manresa and Sunset State Beaches. Redwood and mixed conifer hardwood forests, oak woodlands, chaparral vegetation, and the topography of the inland foothills make up most natural landscapes in the Region, with riparian areas extending to the coast, and multiple large sloughs and wetlands amidst coastal agricultural fields.

The South County Region is characterized by high quality agricultural and natural landscapes on the Pajaro Valley floor situated before backdrops of the inland foothills and Santa Cruz Mountains. The rural, scenic qualities unique to the South County Region are highly valued by the County's residents and visitors. Visually scenic features include the varying topography of valleys and ridgelines, the Pajaro River and its tributaries traversing east-west across the valley floor, wetlands, grassland meadows, ranches, and rural agricultural landscapes. Agricultural landscapes typically consist of open row crops and greenhouses.

Pastoral and agricultural landscapes with views of open row crops, greenhouses, foothills, and the Pajaro Valley are visual resources in the South County Region.

3.1.3 Regulatory Setting

This analysis was conducted in conformance with the goals and policies of federal, state, and local regulations. The following section summarizes the most applicable policies and regulations which would relate directly to future cannabis cultivation and product manufacturing under the Project and More Permissive Project and their associated impacts. Additional federal, state, and local policies and regulations are provided in Appendix A.

3.1.3.1 State

California Scenic Highway Program

California's Scenic Highway Program was designed to preserve and protect scenic highway corridors. Jurisdictions nominating a Scenic Highway for official designation have in place or adopt ordinances to preserve the scenic quality of the corridor, including policies to preserve scenic resources through land use regulations, site planning, control of outdoor advertising (including a ban on billboards), grading, and measures to direct structural design and appearance (California Streets and Highways Code § 260 et seq.). Eligible State Scenic Highways within Santa Cruz County are described above in Section 3.1.2, *Environmental Setting – State Scenic Highways* (refer to Table 3.1-1).

3.1.3.2 Local

County of Santa Cruz General Plan and Local Coastal Program

Conservation and Open Space Element

The Conservation and Open Space Element, Chapter 5 of the County of Santa Cruz General Plan and Local Coastal Program contains objectives, policies, and programs that designate and protect scenic resources within the County. The intent of these programs and policies is to promote protection of important visual resources and ensure that new development is compatible with the community and the surrounding environment. Figure 3.1-1 indicates specific scenic areas designated by the General Plan. Significant visual resources as noted in the Conservation and Open Space Element include: scenic roads and highways; coastal special scenic areas; public, agricultural, and ocean vistas; views of coastal bluffs, streams, lakes, estuaries, rivers, watersheds, mountains, and cultural resource sites; open space areas; and resource conservation lands. The following objectives and policies of the Conservation and Open Space Element highlight the objectives and policies that are pertinent to the Program. For a comprehensive list of all objectives and policies, see Chapter 5 of the General Plan.

Objective 5.10a: Protection of Visual Resources. To identify, protect, and restore the aesthetic values of visual resources.

Objective 5.10b: New Development in Visual Resource Areas. To ensure that new development is appropriately designed and constructed to have minimal to no adverse impact upon identified visual resources.

Policy 5.10.2: Development within Visual Resource Areas. Recognize that visual resources of Santa Cruz County possess diverse characteristics and that the resources worthy of protection may include, but are not limited to, ocean views, agricultural fields, wooded forests, open meadows, and mountain hillside views. Require projects to be evaluated against the context of

their unique environment and regulate structure height, setbacks, and design to protect these resources consistent with the objectives and policies of this section. Require discretionary review for all development within the visual resource area of Highway 1, outside of the Urban/Rural boundary, as designated on the General Plan/Local Coastal Program Visual Resources Map, and apply the design criteria of Section 13.20.130 of the County's zoning ordinance to such development.

Policy 5.10.3: Protection of Public Vistas. Protect significant public vistas as described in policy 5.10.2 from all publicly used roads and vista points by minimizing disruption of landform and aesthetic character caused by grading operations, timber harvests, utility wires and poles, signs, inappropriate landscaping, and structural design. Provide necessary landscaping to screen development which is unavoidably sited within these vistas.

Policy 5.10.5: Preserving Agricultural Vistas. Continue to preserve the aesthetic value of agricultural vistas. Encourage development to be consistent with the agricultural character of the community. Structures appurtenant to agricultural uses on agriculturally designated parcels shall be considered to be compatible with the agricultural character of surrounding areas.

Policy 5.10.6: Preserving Ocean Vistas. Where public ocean vistas exist, require that these vistas be retained to the maximum extent possible as a condition of approval for any new development.

Policy 5.10.9: Restoration of Scenic Areas. Require on-site restoration of visually blighted conditions as a mitigating condition of permit approval for new development. The type and amount of restoration shall be commensurate with the size of the project for which the permit is issued. Provide technical assistance for restoration of blighted areas.

Policy 5.10.11: Development Visible from Rural Scenic Roads. In the viewsheds of rural scenic roads, require new discretionary development, including development envelopes in proposed land divisions, to be sited out of public view, obscured by natural landforms, and/or existing vegetation. Where proposed structures on existing lots are unavoidably visible from scenic roads, identify those visual qualities worthy of protection and require the siting, architectural design, and landscaping to mitigate the impacts on those visual qualities.

Policy 5.10.13: Landscaping Requirements. All grading and land disturbance projects visible from scenic roads shall conform to the following visual mitigation conditions: (a) Blend contours of the finished surface with the adjacent natural terrain and landscape to achieve a smooth transition and natural appearance; and (b) Incorporate only characteristic or indigenous plant species appropriate for the area.

Policy 5.10.16: Designation of Coastal Special Scenic Areas. Designate the following as Coastal Special Scenic Areas and require development to comply with design criteria set forth in the Coastal Zone Regulation ordinance: (a) Bonny Doon sandstone formations, generally found within the borders of Pine Flat Road, Laguna Creek, Ice Cream Grade, and Martin Road; (b) The area enclosed by the Swanton Road and Highway 1 scenic roads.

Policy 5.10.17: Swanton Road Coastal Special Scenic Areas. In the Swanton Road Coastal Special Scenic area (north of Last Chance Road towards Highway 1), require new development to be hidden from public view. Utilize parcel recombination and other techniques as appropriate to accomplish this; and at a minimum, require dense landscape screening when it would be impossible to locate otherwise permissible development so as to place it out of public view.

Vegetative screening shall be consistent with patterns and type of existing vegetation and comprised of indigenous species.

Community Design Element

The Community Design Element, Chapter 8 of the County of Santa Cruz General Plan and Local Coastal Program also contains objectives and policies that provide guidance for protection of visual resources through development standards and design criteria. This chapter guides development activity to: protect open space for its aesthetic, recreational, and environmental values; to foster high quality residential areas; and to enhance the quality of development to achieve an aesthetic and functional community. The following objectives and policies of the Community Design Element highlight the objectives and policies that are pertinent to the Program. For a comprehensive list of all objectives and policies, see Chapter 8 of the General Plan.

Objective 8.1: Quality Design. To achieve functional high quality development through design review policies which recognize the diverse characteristics of the area, maintains design creativity, and preserves and enhances the visual fabric of the community.

Objective 8.6: Building Design. To encourage building design that addresses the neighborhood and community context; utilizes scale appropriate to adjacent development; and incorporates design elements that are appropriate to surrounding uses and the type of land use planned for the area.

Policy 8.6.5: Designing with the Environment. Development shall maintain a complementary relationship with the natural environment and shall be low-profile and stepped-down on hillsides.

Policy 8.6.6: Protecting Ridgetops and Natural Landforms. Protect ridgetops and prominent natural landforms such as cliffs, bluffs, dunes, rock outcroppings, and other significant natural features from development.

Objective 8.8: Villages, Towns, and Special Communities. To recognize certain established urban and rural villages as well as Coastal Special Communities for their unique characteristics and/or popularity as visitor destination points; to preserve and enhance these communities through design review ensuring the compatibility of new development with existing character of these areas.

Policy 8.8.1: Design Guidelines for Unique Areas. Develop specific guidelines and/or standards for well-defined villages, towns, and communities including commercial and residential uses as appropriate. New development within these areas and any other subsequently adopted area plan, shall conform to the adopted plans for these areas, as plans become available.

Policy 8.8.2: Coastal Special Community Designation. Maintain a Coastal Special Community designation for the following areas shown on the General Plan and LCP Land Use Maps: Davenport, Seacliff Beach Area, Rio del Mar Flats/Esplanade, Harbor Area, and East Cliff Village Tourist Area.

County of Santa Cruz Zoning Regulations

Santa Cruz County Zoning Regulations, Chapter 13.10.636 of the SCCC includes design criteria for greenhouse development. New greenhouses of 500 square feet or smaller only require administrative approval. New greenhouses larger than 500 square feet require a public hearing by Zoning Administrator (Approval Level V). Section 13.10.636 provides development standards for

replacement, reconstruction, or structural alteration of existing conforming and nonconforming greenhouses.

Design criteria for new greenhouses over 500 square feet, where allowed pursuant to a development permit in the basic zone district, shall be developed and maintained to the following standards:

(1) Mitigations shall be required for any adverse visual impacts of greenhouses which will be visible from designated scenic roads, beaches or recreation facilities. Mitigations may include such measures as vegetative screening or other landscaping, materials which produce less glare, berming, and/or arrangement of structures on the site to minimize bulky appearance. Greenhouses shall not be located where they would block public ocean views. Mitigations shall be compatible with light and ventilation needs of the greenhouse operations.

(2) Storm water runoff drainage shall be retained on-site in areas of primary groundwater recharge capacity; in other areas, the drainage shall be detained on-site such that the rate of runoff leaving the site after the project is no greater than the rate before the project. Drainage plans may be prepared by the applicant unless engineered plans are required by the building official.

(3) Discarded greenhouse coverings shall be disposed of promptly according to plans submitted by the applicant.

(4) On-site parking shall be provided commensurate with the need created by the proposed use.

(5) The removal of indigenous prime farmland soil used as a growing medium for container plants which are sold intact shall not be allowed.

(6) Flooring or impervious surfacing within the greenhouse structure which impairs long-term soil capabilities shall be limited to the minimum area needed for access, loading and storage. The use of long-term sterilants under impervious surfacing shall not be allowed.

(7) Greenhouse structures shall be designed to maximize energy efficiency and to use alternative energy sources, where feasible.

(8) Open ventilation shall be provided, when feasible. When exhaust fans are shown to be necessary, the fans should be located away from nonagricultural land uses and should maximize energy efficiency.

(9) Irrigation systems shall be water conserving.

County of Santa Cruz Coastal Zone Regulations

Santa Cruz County Coastal Zone Regulations, Chapter 13.20 of the SCCC includes design criteria for development in coastal zones and in scenic resource areas. All applicable and/or required development standards and design criteria of Chapters 13.10 and 13.11 of the SCCC shall be met in addition to the criteria of this section. Sections 13.20.141 and 13.20.142 define design criteria for Bonny Doon and Swanton Road special scenic areas, respectively. Section 13.20.143 defines special community design criteria for Davenport. Section 13.20.130 defines design criteria for development projects proposed in the Coastal Zone and in scenic resource areas outside of the Urban/Rural Services Line. Criteria include:

- **Location of Development.** Development shall be located, if possible, on parts of the site not visible or least visible from public view. Development shall not block views of the shoreline and/or ocean from scenic roads, turnouts, rest stops, or vista points;

- **Site Planning.** Development shall be sited and designed to fit the physical setting so that its presence is subordinate to the natural character of the site, including through appropriately maintaining natural features (e.g., streams, riparian corridors, major drainages, mature trees, dominant vegetative communities, rock outcroppings, prominent natural landforms, tree groupings, etc.) and requiring appropriate setbacks therefrom. Screening and landscaping suitable to the site shall be used to soften the visual impact of development unavoidably sited in the public viewshed.
- **Building Design.** Structures shall be designed to fit the topography of the site with minimal cutting, grading, or filling for construction. Pitched rather than flat roofs, which are surfaced with nonreflective materials (except for solar energy systems that unavoidably reflect) shall be encouraged. Natural materials and colors which blend with the patterns and colors of the vegetative cover and landform of the site and surrounding area shall be used, and if the structure is located in an existing cluster of buildings, colors and materials shall also repeat or harmonize with those in the cluster.
- **Large Agricultural Structures.** The visual impact of large agricultural structures shall be minimized by: locating the structure within or near an existing group of buildings; using materials and colors which blend with the building cluster, or the natural vegetative cover, or landform where there is no vegetative cover, of the site; and using landscaping to screen or soften the appearance of the structure.
- **Restoration.** Feasible elimination or mitigation of unsightly, visually disruptive or degrading elements such as junk heaps, unnatural obstructions, grading scars, or structures incompatible with the area shall be included in site development. The requirement for restoration of visually blighted areas shall be proportional to the size of the proposed project and its visual impacts.

3.1.4 Methodology and Assumptions

This analysis of potential aesthetics and visual resources impacts reviews the existing visual character described in Section 3.1.2*, Environmental Setting*, and determines the Program's potential visual impact. As stated in Chapter 2, *Project Description*, the County is divided into four general regions for planning purposes: North Coast, Mountain, Urban, and South County regions. Visual resources occur throughout the County and are sometimes characterized in this analysis by the region in which they occur. Refer to Section 3.0, *Introduction and Approach to Analysis*, for a detailed discussion of projected cannabis activities in the County due to Program implementation.

The Program is reviewed for the potential to result in a significant physical change from the existing visual/aesthetic setting or loss/damage of a specific visual resource. Impacts to visual resources are assessed through the evaluation of existing visual resources, community values, review of existing policy framework for the protection of visual resources, and review of proposed development standards. The analysis takes into consideration the existing General Plan policies that identify and protect visual resources including ocean views, agricultural fields, wooded forests, open meadows, and mountain hillside views; and public vistas including ocean vistas and that of agricultural landscapes. This analysis also assesses potential impacts to General Plan designated scenic areas and scenic roads. The analysis also accounts for provisions of the Program, including the proposed requirement that: "All licenses issued under [the Program] must be consistent with the County's policies, objectives, laws, regulations, and programs related to land use, including those related to the County's General Plan and Local Coastal Program."

3.1.5 Significance Criteria

CEQA Guidelines Thresholds

Appendix G of the CEQA Guidelines identifies the following four circumstances that can lead to a determination of significant visual impact:

- The Project has a substantial adverse effect on a scenic vista.
- The Project substantially damages scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway.
- The Project substantially degrades the existing visual character or quality of the site and its surroundings. (This may include loss of major onsite landscape features, or degradation by change of character when placed in the context of existing surroundings.)
- The Project creates a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

3.1.6 Environmental Impact Analysis and Mitigation

This section discusses the potential aesthetics and visual resource impacts associated with the Program. A detailed discussion of each impact follows. The loss, alteration, or obstruction of visually significant features, or the introduction of disparate features that conflict with the existing visual character and quality of the Program area, may be considered significant aesthetic and visual effects. Where there are potentially significant or significant and unavoidable impacts, mitigation measures are proposed and the residual impact is determined. See Section 3.0, *Introduction and Approach to Analysis* for a discussion of the overall environmental impact analysis and mitigation planning methodology.

3.1.6.1 Program Impacts

Impact AV-1. Commercial cannabis cultivation under the Program would have adverse effects on scenic resources and vistas, existing visual character, and effects from nighttime lighting and glare. With mitigation, this impact would be less than significant.

Impact AV-1.1. **Direct Cultivation.** Commercial cannabis cultivation under the Program could result in visual impacts by altering scenic vistas or degrading scenic resources through the introduction of opaque fencing, greenhouses, buildings, accessory structures, security lighting, and other development directly related to cannabis cultivation. Potential for impacts between the Project and More Permissive Project scenarios would be similar in character. However, the More Permissive Project could allow impacts at more locations due to less restrictive criteria for parcels eligible to be cultivated. Under either scenario, licensed cannabis cultivation under the Program could result in a total of 44.3 up to 79.1 acres of licensed canopy Countywide by registrants, with an additional 147 acres of canopy cultivated by farmers on lands zoned CA who had been farming for 3 years prior. As reviewed in Chapter 2, it is projected that Program implementation would result in a total of 190.1 acres of cannabis cultivation, with 12 percent (22.8 acres) being grown outdoors, and 88 percent (167.3 acres being grown indoors in buildings or greenhouses. Additionally, some existing cultivation

would likely require changes under the Program, including moving the canopy to a different location within the current site or relocating to a new site. Further, future cultivation on CA zoned land is projected to occur within existing greenhouses located on parcels zoned CA. Licensed cultivation may result in cannabis-related development, such as fencing, removal of vegetation (land clearing), topographical changes from site grading, introduction of new sources of light or glare, placement of new development into open and more visible areas, and the conversion of undeveloped or undisturbed rural lands, thereby potentially affecting naturally scenic features and public views. The degree of visual impacts would depend on the siting and design of cannabis cultivation sites relative to viewsheds and visual resources.

Outdoor grows are expected to be prevalent in the Mountain and South County Regions, as these regions contain the greatest acreage and number of parcels eligible for cultivation, where 38 percent of the registrant-provided cultivation sites would be in the Mountain Region and 27 percent are in the South County Region under the Program. The Program requires that if cannabis cultivation occurs outdoors, the growing area must be fully secured and enclosed within an opaque fence at least 6 feet high. Construction of opaque fences as required for outdoor grows would potentially have adverse effects on scenic resources in rural or agricultural areas, particularly in the Mountain and South County Regions. Many cultivation sites in these regions would be remote and removed from urban areas, and opaque fencing in certain locations would not be visually consistent with the surrounding area. The South County Region is a heavily-used agricultural region containing open agricultural landscapes, orchards, and open space, and the introduction of fencing could be visible from a distance and may disrupt such landscapes. In addition to the presence of opaque fencing, cannabis cultivation in the Mountain Region may result in grading, vegetation clearing, and construction on publicly visible slopes that could have adverse impacts on scenic resources.

Greenhouses and indoor grows may require clearing and grading to create level pads which could result in changes to existing visual character and topography, as well as the incremental loss of open space and conversion of undeveloped land. Construction of new buildings for greenhouse and indoor grows would potentially be visible from public viewing areas and within General Plan Scenic Areas within the North Coast, Urban, and South Coast Regions. However, site design criteria in the County's Coastal Zone Regulations (SCCC Chapter 13.20) and proposed by the Program provide guidelines for siting development when in a potentially scenic area to reduce visual inconsistencies between new development and existing character of scenic resources. Similarly, design criteria in the Program and the County's Zoning Regulations (SCCC Chapter 13.10.636) would require new greenhouse development and replacement/reconstruction of existing greenhouses to reduce visual impacts, including vegetative screening and materials that produce less glare.

Greenhouses are already used for cultivation throughout the County, particularly the South County Region and the addition of greenhouses for cannabis cultivation would not significantly degrade the existing character of agricultural areas where greenhouses are already present. Further, indoor and greenhouse cannabis cultivation proposed within the Coastal Zone + 1-mile buffer may only occur within existing greenhouses; development of new greenhouses is prohibited in this delineated area under the proposed Project and would therefore not cause adverse effects on ocean vistas, community character, or scenic resources in coastal areas, particularly in the North Coast and South County Regions. The More Permissive Project also prohibits development of new greenhouses for cannabis cultivation within the coastal zone, although under this scenario such development would be allowed to occur within the Coastal Zone + 1-mile buffer area.

Cultivation may also introduce a more or additional nighttime lighting into rural regions that typically experience little light pollution and generally maintain dark night skies. Nighttime operations of indoor or greenhouse grows using light suppression may require lighting within buildings and of useable outdoor areas. However, the Program requires that, except for security, lighting sources shall not be visible at cultivation sites from sunset to sunrise. This requirement would eliminate the potential for light spillover from cultivation using artificial light on a 24-hour schedule. This would be particularly important to control light spillover from greenhouse operations; indoor cultivation would be better situated to control light and glare within the building.

The Program would require 6-foot tall opaque fencing surrounding outdoor grows, which may result in adverse visual effects and draw attention to cannabis cultivation in otherwise remote and undeveloped areas of the County. Photo: Medford Mail Tribune

Cannabis cultivation sites may have a visual impact if they are visible from designated County scenic roads, Eligible State Scenic Highways, or highly scenic areas identified by the County Conservation and Open Space Element. However, the Program prohibits siting cannabis cultivation in a location that is visible from a public right of way; therefore, there would be no impact to scenic roadways.

The Program includes development criteria and restrictions that can reduce potential impacts to scenic resources (Chapter 2, *Project Description*). These include:

- Restrictions on structural development and canopy size, including square footage limitations;
- Prohibition of lighting for cultivation purposes, except for security, that would be visible from cultivation sites from sunset to sunrise;
- Minimization of visibility of cannabis cultivation sites through siting, landscaping, and screening; and
- Cannabis cultivation shall not be visible from any adjacent public right-of-way.

These proposed development criteria and restrictions would assist in the protection of visual resources and scenic views. Review of license applications to ensure that operations meet criteria will improve design, siting and visual screening of licensed cannabis cultivation development, as compared to existing baseline conditions. If cannabis cultivation development were to occur within the boundaries of General Plan Scenic Areas (refer to Figure 3.1-1) or designated special scenic areas as defined by the SCCC, siting requirements and design standards would apply to ensure compatibility with existing resources; this would ensure that significant scenic resources are not adversely affected.

However, cannabis cultivation sites situated in rural and agricultural areas would be required to install a 6-foot tall opaque fence around any outdoor cultivation area. While this requirement aims to address public safety by limiting access to the cultivation site, it also may create visual impacts in

areas where the natural setting would be adversely affected by new highly visible fencing. This is particularly true is areas of the County where registrants' proposed locations are clustered, such as the Mountain Region and the South Coast Region. Taken together, the licensed site that would be required to install opaque fencing could alter scenic views and resources. Given the potential for this fencing to alter the visual character of scenic areas of the County, this impact is considered *potentially significant*, for both the Project and the More Permissive Project.

Mitigation Measures

MM AV-1.1. Fencing Requirements. To reduce direct visual impacts associated with the opaque fencing for outdoor grows in rural areas, proposed SCCC Section 7.128 shall be amended to remove the mandatory requirement for 6-foot tall opaque fencing for outdoor cultivation, and a new provision shall be included to give discretion to the Licensing Official to determine on a case-by-case basis whether a licensed outdoor grow site requires fencing. The Licensing Official shall also be permitted to determine the appropriate type of fencing (i.e., height, materials, design, location, etc.). If a fence is required, it shall be sited and designed to avoid tree removal. To the maximum extent feasible, fencing for cannabis cultivation sites in Mountain and South County Regions shall consist of natural barriers and deterrents (e.g., poison oak or native blackberry [*Rubus ursinus*]) to prevent trespass from humans, and shall be visually consistent to the maximum extent possible, with surrounding agricultural and open space lands. Fencing requirements shall be noted on final licensing conditions and any site plans. The Licensee shall submit fencing plans to the County Cannabis Licensing Office for review and approval to ensure appropriateness of proposed fencing (e.g., use of natural materials and compatibility of proposed fence color with surroundings and compliance with applicable fence requirements of the SCCC in Chapter 13.10) prior to issuance of a cultivation license. The Licensee shall demonstrate to the County Cannabis Licensing Office through a site visit or photographs compliance with any fencing requirements and that all perimeter fencing is in place as required prior to cultivation activities.

Plan Requirements and Timing. If required by the County Licensing Official, the Licensee shall submit a Fence Plan with submittal of all other license application materials. The County shall review the plan for completeness and for compliance with any other applicable regulations of the SCCC prior to issuance of a cannabis cultivation license.

Monitoring. The County shall review and approve the Fence Plan prior to issuance of a license. The County shall review site conditions periodically, as determined necessary.

Post-Mitigation Level of Impacts

With the implementation of MM AV-1, residual direct visual impacts would be *less than significant with mitigation* for both the Project and the More Permissive Project. The County would ensure that visual impacts related to fencing are minimized and fencing requirements are considered on a case-by-case basis.

Impact AV-1.2. Indirect Cultivation. Indirect impacts of the Program would result from the construction of up to 228 new onsite residential units that are required at cultivation sites, along with any associated roads, utility infrastructure, and site improvements, including up to 568 water tanks for fire protection to support onsite cannabis cultivation operations. These water tanks could potentially be sized to contain 120,000 gallons each, although multiple water tanks rather than a single tank could be used. Residences would be required for eligible parcels within A, RA, TP, and SU zone districts under both the Project and More Permissive Project scenarios. The More Permissive

Project would allow cannabis activities in more locations within the County than the proposed Project, potentially increasing such visual impacts, but would also be subject to the need to be consistent with applicable General Plan land use policies and development standards when a discretionary land use permit is required. While the County Housing Element documents a potential capacity for over 17,000 dwelling units to be created within the unincorporated area, including urban and rural new home development as well as Accessory Dwelling Units and agricultural employee housing, the Program may induce development of parcels that might not otherwise occur. However, residences may be built in the future even if the Program is not implemented.

The construction of homes and support structures would potentially alter the existing character near each cultivation site. Construction of these residences and associated infrastructure could involve grading for building pads, roads, and driveways, in addition to grading and site preparation activities required for cannabis cultivation. Such grading and site preparation would have the potential to change the topography of the site and may be visible from scenic roads or public vistas. However, the total amount of new construction that could occur under the Program depends on existing limits imposed by the SCCC and no additional development that is not already allowed would be directly allowed by the Program.

To further evaluate potential impacts of dwelling units, potential acreage and scale of development for the required onsite residential units is conservatively assumed to be the size of a typical rural residential development in Santa Cruz County at roughly 0.5 to 1.0 acre per residence, including roads, driveways, utilities, and outbuildings. However, the SCCC allows homes to be as small as about 300 square feet, which would reduce potential disturbed areas. In the South County and North Coast Regions, development of supporting uses to cannabis cultivation could result in the conversion of agricultural and grazing lands related to road widening, extensions, or construction of supporting facilities. Scenic areas designated by the County General Plan are generally confined to coastlines or areas with ocean vistas within the South County and North Coast Regions (Figure 3.1-1) and additional development could alter the character of these areas. Impacts to public vistas along scenic roads and scenic areas from development of new structures and support facilities would be more prevalent in the Mountain and South County Regions; the Mountain Region has four Eligible State Scenic Highways and the South County Region has 12 County designated scenic roads.

The development of new homes and ancillary uses to cannabis cultivation would occur incrementally, be distributed throughout the County, and would likely be less than the maximum potential new homes due to potentially remote/inaccessible parcel locations, and other constraints, including economics. Further, pursuant to the County's Coastal Zone Regulations (SCCC Chapter 13.20), along with the County's Zoning Regulations (SCCC Chapter 13.10.636), development related to cannabis cultivation would be required to blend with the site's scenic resources and existing visual character. All supporting development, including required water storage tanks up to 120,000 gallons, would be subject to the SCCC and General Plan policies, which would enforce protection of scenic resources and encourage proposed cultivation sites to be evaluated against the context of their unique environment in terms of structure height, setbacks, and design to protect scenic resources in the surrounding area, which would reduce visual resource impacts.

Any development of a cannabis activities site that involves grading greater than 100 cubic yards or large cuts or fills would be subject to separate permit and environmental review processes to ensure compliance with existing County regulations and policies. The application of existing design criteria and guidelines to minimize cuts and avoid siting cannabis-related development in publicly visible areas or in scenic areas would reduce impacts, particularly those related to road and driveway

widening, and residences and water tanks .Nevertheless, given the dimensions of a typical single 120,000-gallon water tank (30 feet in diameter by 24 feet in height), any site that would require a water tank of this size would have potentially significant impacts on aesthetics and visual resources. Therefore, indirect impacts associated with aesthetics and visual impacts under the Program would be considered *potentially significant*, for both the Project and the More Permissive Project.

Mitigation Measures

MM AV-1.2. Visual Blending Plan for Cannabis Infrastructure. To reduce the visual impacts associated with cannabis infrastructure, namely the requirement for water storage tanks on sites with cannabis-related buildings pursuant to the Santa Cruz County Fire Code, the Licensing Official shall determine on a case by case basis whether a cannabis infrastructure on a licensed grow site requires specific conditions to minimize visibility, such as a requirement to install multiple small tanks in place of one large tank so that tank does not project above a local ridge or tree line, and/or require specific color palettes for infrastructure that blend in with the surrounding environment.

The Licensee shall submit the visual blending plan to the County Cannabis Licensing Office for review and approval to ensure appropriateness of the proposed color palette and techniques to be used to minimize visibility of cannabis-related infrastructure. The Licensee shall demonstrate to the County Cannabis Licensing Office, Building Official, and/or Fire Marshal as appropriate, through plans, a site visit, or photographs the site's compliance with any screening, painting, or other approved visual blending technique applied to required water storage tanks are completed prior to cultivation activities, or within a timeframe established by the Licensing Official.

Plan Requirements and Timing. The Licensee shall submit the visual blending plan to the County Cannabis Licensing Official with submittal of all other license application materials. The County shall review the plan for completeness prior to the issuance of a cannabis cultivation or manufacturing license.

Monitoring. The County shall review and approve the visual blending plan prior to issuance of a license. The County shall review site conditions periodically, as determined necessary, and during license renewal.

Implement MM LU-1.1.4. Master Planned Cannabis Facilities. As appropriate, use of a Master Plan to coordinate multiple adjoining properties to meet site development requirements on a case-by-case basis would apply to Impact AV-1.2.

Implement MM LU-1.1.5. Reduction of Excessive Grading. Implementation of County Grading Ordinance amendments to prevent excessive grading would apply to Impact AV-1.2.

Post-Mitigation Level of Impacts

With implementation of MM AV-1.2, MM LU-1.1.4, and MM LU-1.1.5, site design would consider visual blending of required infrastructure with surrounding visual setting, and the area of disturbance for site development with homes and infrastructure would be minimized. Therefore, residual indirect visual resource and aesthetic impacts would be *less than significant with mitigation.*

Impact AV-2. Cannabis product manufacturing under the Program would have adverse effects on scenic vistas, existing visual character, and effects from nighttime lighting and glare. This impact would be less than significant with mitigation.

Impact AV-2.1. **Direct Manufacturing.** Direct visual impacts could occur where licensed cannabis product manufacturing facilities are constructed or expanded within an area of scenic resources or value, particularly if the facilities introduce new sources of light or glare which would change the existing character of the landscape. Cannabis manufacturing would be licensed under the Program in commercial or manufacturing spaces in industrial/commercial and agricultural zoning districts, predominantly within the Urban, Mountain, and South County Regions, as well as for limited cannabis home occupation uses in residential zoning districts. While cannabis manufacturing may most commonly occur within existing buildings, construction of new buildings may occur, with potential for direct impacts. The degree of these impacts would be depend on the siting and design relative to view sheds and visual resources.

However, under the Program, no source of exterior night lighting except for downward directional, hooded security lighting related to cannabis manufacturing would be allowed to avoid the degradation of scenic resources and would adhere to existing and proposed SCCC design criteria that would reduce visual impacts associated with cannabis product manufacturing development, including limitation on signage/advertising, lighting management, outside hours of operation, and activity levels. Proposed development criteria for manufacturing uses, including design review criteria and limitations on lighting for security purposes, are designed to ensure compatibility with the surrounding landscape to reduce the visual impacts associated with cannabis product manufacturing so that the Program would not substantially degrade the visual character in the County. Therefore, Program impacts would be *less than significant*.

Impact AV-2.2. **Indirect Manufacturing.** Indirect impacts of cannabis product manufacturing would occur when related infrastructure, including up to 120,000-gallon water storage tanks for firefighting, are constructed for manufacturing operations in areas outside municipal water service districts. As described in Impact AV-1.2, site preparation, including new road cuts and widening activities for manufacturing buildings and support facilities could potentially change the existing character of scenic resources in the vicinity of each cultivation site, such as with conversion of undeveloped land. The Program would potentially allow for site development to serve cannabis manufacturing uses in scenic areas and within areas visible from scenic roads or public vistas.

The specific location of manufacturing activity is too speculative to consider, and future environmental review may be required for proposed development projects. Cannabis manufacturing development, including potential greenhouses, warehouses, commercial buildings, and residential structures, would be subject to County policies and Program guidelines that address scenic resources and existing visual character as those previously described in Impact AV-2.1. New commercial/industrial buildings are subject to design review criteria as a development permit application is reviewed. Manufacturing licenses and associated permits would be reviewed by the County to ensure compliance with the County's Zoning Regulations and Coastal Zone Regulations (Sections 13.10 and 13.20 of the SCCC). These regulations require proposed sites in scenic areas to be evaluated against the context of their unique environment with criteria for structure height, setbacks, and design to protect scenic resources in the surrounding area. However, given the dimensions of a typical 120,000-gallon water tank (e.g., 30 feet in diameter by 24 feet in height), any site that would require a water tank of this size would have potentially significant impacts associated with aesthetics

and visual resources. Therefore, indirect impacts associated with aesthetics and visual impacts under the Program would be considered *potentially significant*, for both the Project and the More Permissive Project.

Mitigation Measures

Implement MM AV-1.2. Visual Blending Plan for Cannabis Infrastructure. To reduce the visual impacts associated with cannabis infrastructure, MM AV-1.2, addressing visual quality of cannabis-related site improvements such as the requirement to develop multiple smaller water tanks where feasible, shall apply to Impact AV-2.2.

Implement MM LU-1.1.4. Master Planned Cannabis Facilities. As appropriate, use of a Master Plan to coordinate multiple adjoining properties to meet site development requirements on a case-by-case basis would apply to Impact AV-2.2.

Implement MM LU-1.1.5. Reduction of Excessive Grading. Implementation of County Grading Ordinance amendments to prevent excessive grading would apply to Impact AV-2.2.

Post-Mitigation Level of Impacts

With the implementation of MM AV-1.2, MM LU-1.1.4, and MM LU1.1.5, residual indirect visual impacts would be lessened to *less than significant with mitigation* for both the Project and the More Permissive Project. The County would ensure that visual impacts related to cannabis infrastructure, namely water storage tanks for firefighting, are considered on a case-by-case basis.

3.1.6.2 Summary of Program Impacts and Proposed Mitigation Measures

Table 3.1-3 below provides a summary of the aesthetics and visual resources impacts resulting from the Program.

Table 3.1-3 Summary of Aesthetics and Visual Resources Impacts

Aesthetics and Visual Resources Impacts	Level of Significance	Mitigation Measures	Post-Mitigation Level of Significance	
			Project	More Permissive Project
Impacts from Commercial Cannabis Cultivation				
Impact AV-1. Commercial cannabis cultivation under the Program would have adverse effects on scenic resources and vistas, existing visual character, and effects from nighttime lighting and glare. With mitigation, this impact would be less than significant.				
Direct	Potentially Significant	MM AV-1.1. Fencing Requirements	Less than significant with Mitigation	Less than significant with Mitigation
Indirect	Potentially Significant	MM AV-1.2. Visual Blending Plan for Cannabis Infrastructure MM LU-1.1.4. Master Planned Cannabis Facilities MM LU-1.1.5. Reduction of Excessive Grading	Less than significant with Mitigation	Less than significant with Mitigation
Impacts from Commercial Cannabis Manufacturing				
Impact AV-2. Cannabis product manufacturing under the Program would have adverse effects on scenic vistas, existing visual character, and effects from nighttime lighting and glare. This impact would be less than significant with mitigation.				
Direct	Less than Significant	None required.	Less than Significant	Less than Significant
Indirect	Potentially Significant	MM AV-1.2. Visual Blending Plan for Cannabis Infrastructure MM LU-1.1.4. Master Planned Cannabis Facilities MM LU-1.1.5. Reduction of Excessive Grading	Less than significant with Mitigation	Less than significant with Mitigation

3.1.6.3 Secondary Impacts

Impact AV-3. Unlicensed cannabis activities could have adverse effects on scenic resources and vistas, existing visual character, and effects from nighttime lighting and glare, but the effects would be less than significant.

Program implementation could create secondary impacts to visual resources through additional or expanded unlicensed cannabis cultivation and manufacturing Countywide as many potential cannabis cultivators and manufacturers would be excluded from licensing by the proposed Program standards under either scenario. Such illegal cultivation would likely not comply with aesthetic design criteria and guidelines to protect scenic resources. However, unlicensed cultivation sites are usually screened from public view to avoid exposing illegal operations. These sites are not expected to have a significant effect on scenic resources or visual character because they would tend to be hidden from public view and not be easily detectable to avoid enforcement by the County and other agencies.

The Project and the More Permissive Project would have differing effects on secondary impacts. The proposed Project's restrictions on cannabis (e.g., more restrictive minimum parcel size and lower maximum canopy allowances) may cause cultivators to pursue additional or expanded future levels of cannabis activity without licenses or permits. Potential barriers to legal cultivation coupled with economic requirements (e.g., taxation rates; development of a residence on site, infrastructure improvements, road improvements, required mitigation measures, and related grading; restrictive minimum parcel sizes) may reduce participation in the Program and increase the rate of unlicensed cultivation in the future. The More Permissive Project would reduce eligible parcel size requirements and allow larger canopies, incrementally reducing unregulated cultivation which would incrementally reduce the potential for future impacts to visual resources from future additional or expanded unlicensed cannabis activities.

The location of future expanded or additional unlicensed cannabis activity sites cannot be predicted with any certainty; such cultivation could occur in any of the areas of the County and could expand into any hidden areas suitable for cultivation. Given its unregulated nature and the need to conceal operations, such activities are anticipated to occur in heavily forested areas and more remote rural areas. Vegetation clearing, grading, and building support facilities (e.g., water supply facilities, trails) may not substantially change the existing character of the surrounding landscape because of the need for concealment. These unregulated cannabis cultivation operations would be difficult to detect and therefore would not significantly degrade scenic resources in publicly visible areas. Therefore, secondary impacts related to unlicensed cannabis cultivation under the Program would be *less than significant,* for both the Project and the More Permissive Project.

3.1.6.4 Cumulative Impacts

As described in Section 3.0, *Introduction and Approach to Analysis*, the cumulative setting for the Program involves a variety of policies and initiatives in the County and vicinity. Impacts of the Program along with pending and current legislative planning projects form the cumulative impacts analysis. In addition to this Program, two ongoing comprehensive planning studies as identified in Chapter 3.0, have the potential to cumulatively contribute to aesthetic impacts in the County, including adverse effects on scenic vistas, existing visual character, or effects from nighttime lighting and glare.

Cumulative direct impacts associated with the Program would include potential changes to scenic resources and existing visual character associated with the combined canopy area of 44.3 acres up to 79.1 acres for the Program, with additional acreage for support development, combined with changes to other County plans and projects that would also potentially change local scenic resources or the existing character of the area. For example, the visual effects of the Program combined with the potential for new types of agri-tourism under the County proposed updated agricultural policies and regulations may generate a cumulative impact in agricultural areas of the County. Further, any proposed development could be sited in areas that are publicly visible or within proximity of a scenic road or highway. The Program requires that cannabis cultivation and manufacturing activities, as well as other development that occurs consistent with the General Plan/LCP and SCCC, comply with existing County policies and regulations where applicable. This includes General Plan/LCP policies regarding the protection of public vistas and visual resources, development siting criteria, and design standards that ensure visual compatibility. Therefore, the Program's contribution to cumulative change of scenic resources and existing character would be minor and cumulative direct impacts associated with the Program would be *less than significant*.

Cumulative indirect impacts associated with the Program would relate to construction of roads, site improvements, and supporting structures for cumulative projects that could potentially change scenic resources or existing character. Grading for building pads, roads and driveways, and development of infrastructure could change the existing character of the surrounding landscape or occur in scenic areas with important public vistas. Potential acreage of Program-related future development in combination with other County projects and plans is unknown. Future development enabled by these projects must be found consistent with adopted General Plan/LCP policies and SCCC standards relating to aesthetics and visual resources and design standards in order to be approved. The requirements for up to 120,000-gallon water storage tanks would necessitate development that would potentially conflict with these policies. However, with mitigation of Program impacts, as described above, the Program's indirect contribution at full build out to cumulative impacts resulting from changes to scenic resources and existing character would be *less than significant*.

Section 3.2
Agricultural and Timber Resources

3.2.1 Introduction

Program Impact Analysis
At a Glance
The Program could adversely affect agricultural and timber resources from the conversion of farmland to non-agricultural use, conflicts with agricultural and timber zoning, and the removal of trees and timberland. County regulations for agricultural and timber resources and mitigation would ensure direct and indirect impacts are less than significant. However, unlicensed cannabis activities could have significant and unavoidable impacts.

Agricultural and timber resources include active agricultural and timber production operations, prime and productive non-prime soils, and forest land with existing or potentially productive stands of timber. This section evaluates potential future impacts (beyond existing baseline environmental conditions) related to agricultural and timber resources from implementation of the proposed Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program), including the Project and More Permissive Project scenarios. It includes a discussion of the existing agricultural and timber resources in the County of Santa Cruz (County), as well as the applicable regulations pertaining to the Program. Proposed Program standards and restrictions that address environmental resources are also described. Potential Program impacts are evaluated, and where applicable, mitigation measures are proposed. Key resources and data used in the preparation of this chapter include the Santa Cruz County General Plan Conservation and Open Space Element, Santa Cruz County Code (SCCC), U.S. Natural Resources Conservation Service (NRCS) Soil Survey Maps, Farmland Monitoring and Mapping Program (FMMP) maps, County geographic information system (GIS) data, and cannabis cultivation registration data and manufacturing data collected to inform the Program in 2016/2017 by the County.

3.2.2 Environmental Setting

The County has a mild climate with an average rainfall of 28 inches per year (depending on the region) and approximately 260 days of sunshine per year, as well as a variety of soils that create ideal conditions and long growing seasons for a diversity of agricultural crops, especially in the South County region (Fast Forward, Inc. 2017). The County supports extensive areas of both productive agriculture and timber. The Santa Cruz Mountains and inter-mountain valleys support extensive forests with active timber production operations, particularly in the North Coast and Mountain regions. In 2013, the agricultural industry (including timber) employed 11,085 people, including 6,151 direct employees and 4,934 additional employees in related fields. Direct employment in agriculture amounts to 4.5 percent of all jobs in the County (Agricultural Impact Associates 2013).

The County's agricultural zoning districts include CA – Commercial Agriculture, A – Agriculture, and AP – Agricultural Preserve and comprise 82,422 acres of the County. The intent of the CA zoning district is to preserve commercial agricultural lands and their economic integrity. The A zoning district provides for non-commercial agricultural uses, such as family farming and animal raising, and

allows limited commercial agricultural activities. Such non-commercial agricultural lands are identified by the County in order to recognize that they are still productive lands and have other values associated with large lot open space characteristics. The AP zoning district permits commercial agricultural uses for agricultural and open lands under an agricultural preserve contract; the AP designation is used as an overlay to indicate parcels with Williamson Act agricultural preservation or open space contracts, or similar preservation easements. In addition, the RA – Residential Agriculture zoning district is defined by the SCCC as a residential use zone that permits both single-family residential and small-scale, secondary-use commercial agricultural uses.

Harvesting occurs within at least 15,149 acres of agricultural crop land (not including grazing land areas) and approximately 86,948 acres of timberland. Per the County's 2015 Crop Report, the total gross production value of Santa Cruz County agricultural commodities for 2015 was $625 million, including a timber value of $4.9 million (see Table 3.2-1). Timber production is primarily focused on redwood, but also includes some Douglas fir and hardwood operations. Organic farming and pastures comprised 6,621 acres in 2015, and was valued at $114 million. Cultivated agriculture is concentrated in the South County region, where the highest production value crop is strawberries ($219 million), followed by raspberries ($142 million), artichokes, broccoli, Brussel sprouts, apples, and cut flowers. Unseasonable weather in 2015 significantly impacted apple and wine grape production, and production yields saw a decrease of 50 percent from the previous year. Overall production values remained high due to generally fertile soils and consumer demand for high value crops. Processing, transportation, marketing, farm employment, and other farm-related services further contributed to the local agricultural economy (County of Santa Cruz 2015).

Agricultural resources in the County include 14,481.92 acres of prime farmland, 2,493.18 acres of farmland of statewide importance, 3,932.90 acres of unique farmland, and 356.18 acres of farmland of local importance as identified under the State FMMP[1] (Department of Conservation 2010). The FMMP utilizes data from the NRCS concerning prime soil types to determine the type of farmland in a certain area, such as "prime farmland". Additionally, approximately 55,164 acres within Santa Cruz County are eligible for Land Conservation Act contracts (Williamson Act[2]; Department of Conservation 2010). A substantial amount of agricultural lands (19,957 acres) are also non-irrigated grazing and pasture lands where the prevalence of steep slopes, and less fertile, drier lands may limit their agricultural use (Department

Cultivated agriculture is concentrated in the South County region, where the highest production value crop is strawberries ($219 million), followed by raspberries ($142 million), artichokes, broccoli, Brussels sprouts, and apples.

[1] The FMMP assesses the location, quality and quantity of agricultural lands and monitors the conversion of these lands to nonagricultural uses. The FMMP classifies important farmland based on agricultural soil quality and current land use into four categories of important farmlands: prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance. Important farmlands contain soils best suited for producing food and forage, particularly for producing high-yield crops.

[2] A Williamson Act contract is an agreement between private landowners and the government to restrict specific parcels of land to agricultural or related open space uses in return for reduced property tax assessments (refer to Section 3.2.3, *Regulatory Setting*, for additional discussion).

of Conservation 2016). While grazing land makes up approximately half of the agricultural acreage in the County, irrigated crops produce the greatest value.

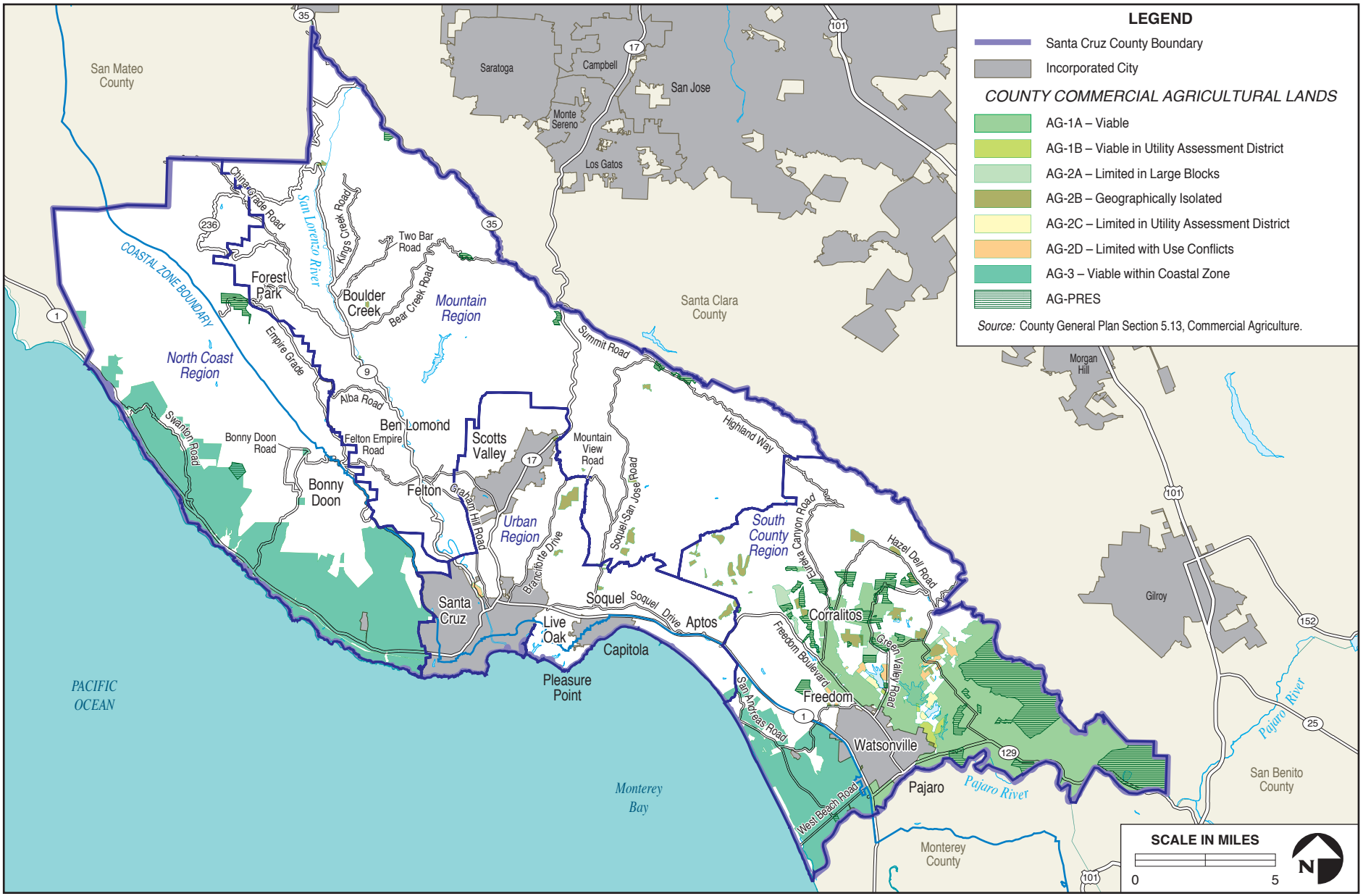
Approximately 67 percent of the County's land area is forested, with timberland making up almost 44 percent of total County land area; active cropland occupies roughly 8 percent of the County's

Forested lands and timberland occupy a substantial portion of the County with large areas of timber production in the Santa Cruz Mountains. The Timber Production (TP) zoning district extends across 71,306 acres of the County, primarily in the North Coast and Mountain Regions. The intent of the TP zoning district is to protect and maintain the County's larger tracks of timberland, and to preserve agriculture and other open space uses where they are compatible with timberland uses. Separate from the TP zoning district are areas identified by the County as "Timber Resources". These timber resources have been mapped as defined by the General Plan, and in addition to TP lands, if they are on lands zoned CA or M3 – Mineral Extraction. On these lands, timber may be grown and harvested if there are sufficient timber resources to meet minimum stocking standards.

The County provides approximately 90,647 acres of timberland, which produced $4,907,000 in 2015. Photo: Big Creek Lumber.

Timberlands can produce an average annual volume of wood fiber of at least 15 cubic feet per acre. Timberlands may occur within all zoning districts of the County, and are not solely limited to TP areas. Nevertheless, the majority of timberlands are within the TP zoning district, with 71,004 acres of timberland within TP zoning, out of a total of 90,647 acres of timber resource designated lands. This indicates that there are 19,643 acres of timberland contained within other zoning districts; the TP zoning district has approximately 302 acres of land that are not mapped as timberland. Of the 19,643 acres of timberland not contained within the TP zoning district, 10,014 acres are contained within the Special Use (SU) zoning district and 4,024 acres are contained within the RA zoning district (Appendix D).

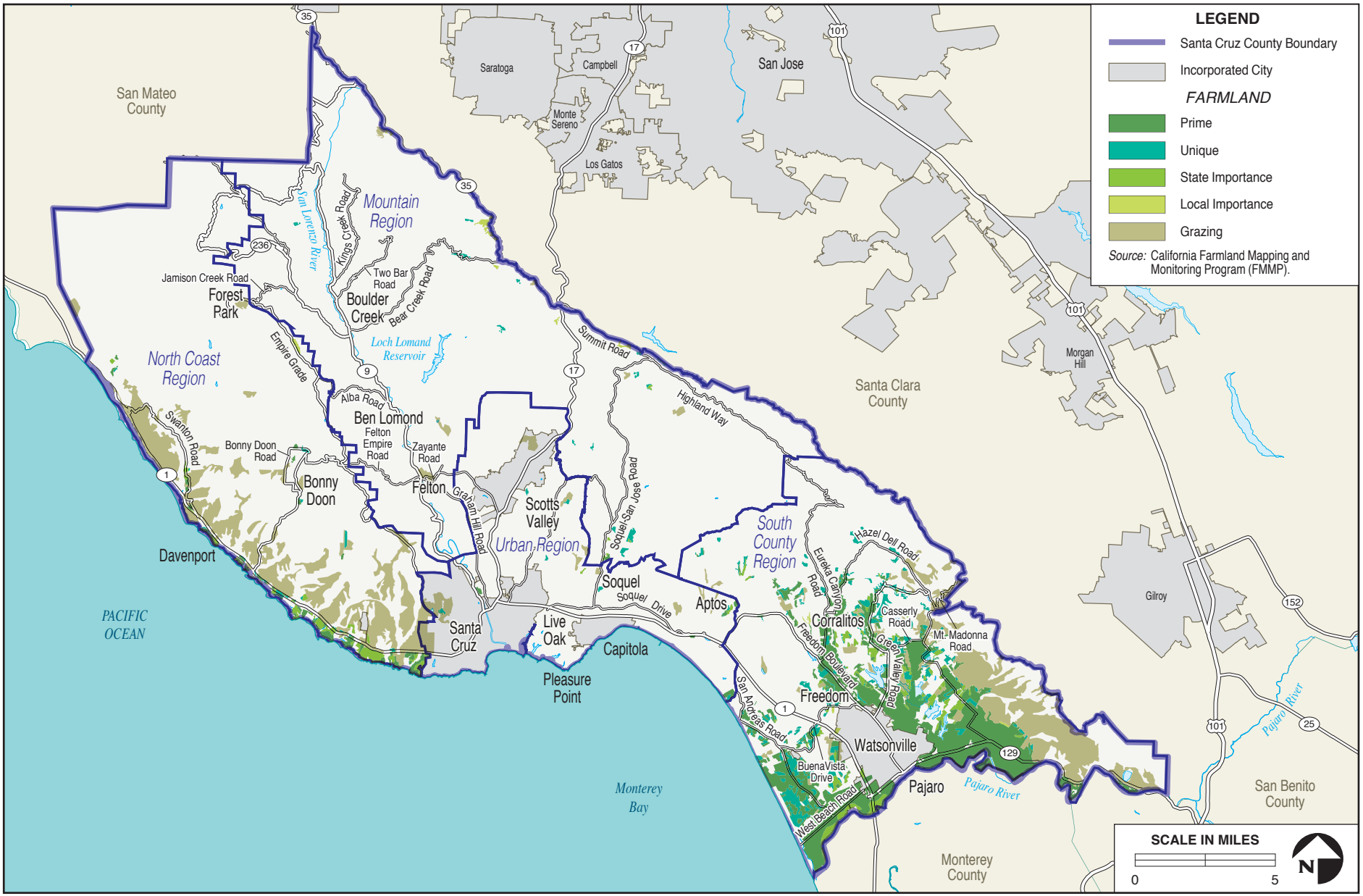
Timberland areas are generally governed by four types of state-issued permits for timber harvesting, which are further detailed in Section 3.2.3, *Regulatory Setting*: the Timber Harvest Plan (THP), the Non-Industrial Timber Management Plan (NTMP), Exemptions to a THP, and the Conversion Exemption. If the logs are going to be "commercialized," (meaning sold for cash or bartered for services), then one of these state permits is required. Under a court ruling, the County may regulate through zoning where harvesting is allowed, and may participate in the State permitting process in the review of all proposed harvests. The County's agricultural industry continues to grow and change over time with trends of converting grazing lands to more intensive farming uses with higher value irrigated crops (County of Santa Cruz 2015).



amec foster wheeler

Santa Cruz County Agricultural Resources

FIGURE 3.2-1



3.2-5

amec foster wheeler

Santa Cruz County Farmland

FIGURE 3.2-2

Table 3.2-1 Summary of Agricultural Production in Santa Cruz County (2015)

Agricultural Production/Crop	Harvested Acreage[1]	Production Value[2]	Percentage of Total Production Value
Strawberries	3,124	$219,233,000	35%
Raspberries	2,656	$142,808,000	23%
Nursery Stock [3]	736	$69,027,000	11%
Cut Flowers & Cut Greens[4]	323	$50,093,000	8%
Blackberries	844	$41,949,000	7%
Misc. Vegetables	2,526	$40,661,000	7%
Lettuce, Head & Leaf	3,735	$23,409,000	4%
Brussels Sprouts	1,129	$16,350,000	3%
Livestock and Animal Products	N/A	$7,289,000	1%
Apples	2,050	$6,313,000	1%
Timber	9,614 million board feet	$4,907,000	1%
Wine Grapes	656	$2,352,000	0.4%
Misc. Berries	104	$675,000	<0.01%
Misc. Tree and Vine Fruit	281	$372,000	<0.01%
TOTAL	>15,159	$625,438,000	100%

[1]Harvested acreage is not reflective of land area, but of acres harvested where in some cases, crops may be harvested more than once per year. Vineyards and orchards not yet producing are not included in the harvested acreage.

[2]Represented as gross values.

[3]Nursery stock includes the categories: Indoor Potted Plants, Landscape Plants and Other Plants, such as farm stock and Christmas trees.

[4]Cut flowers and cut greens includes field and greenhouse production.

Source: County of Santa Cruz, Agricultural Commissioner's Office (County of Santa Cruz 2015).

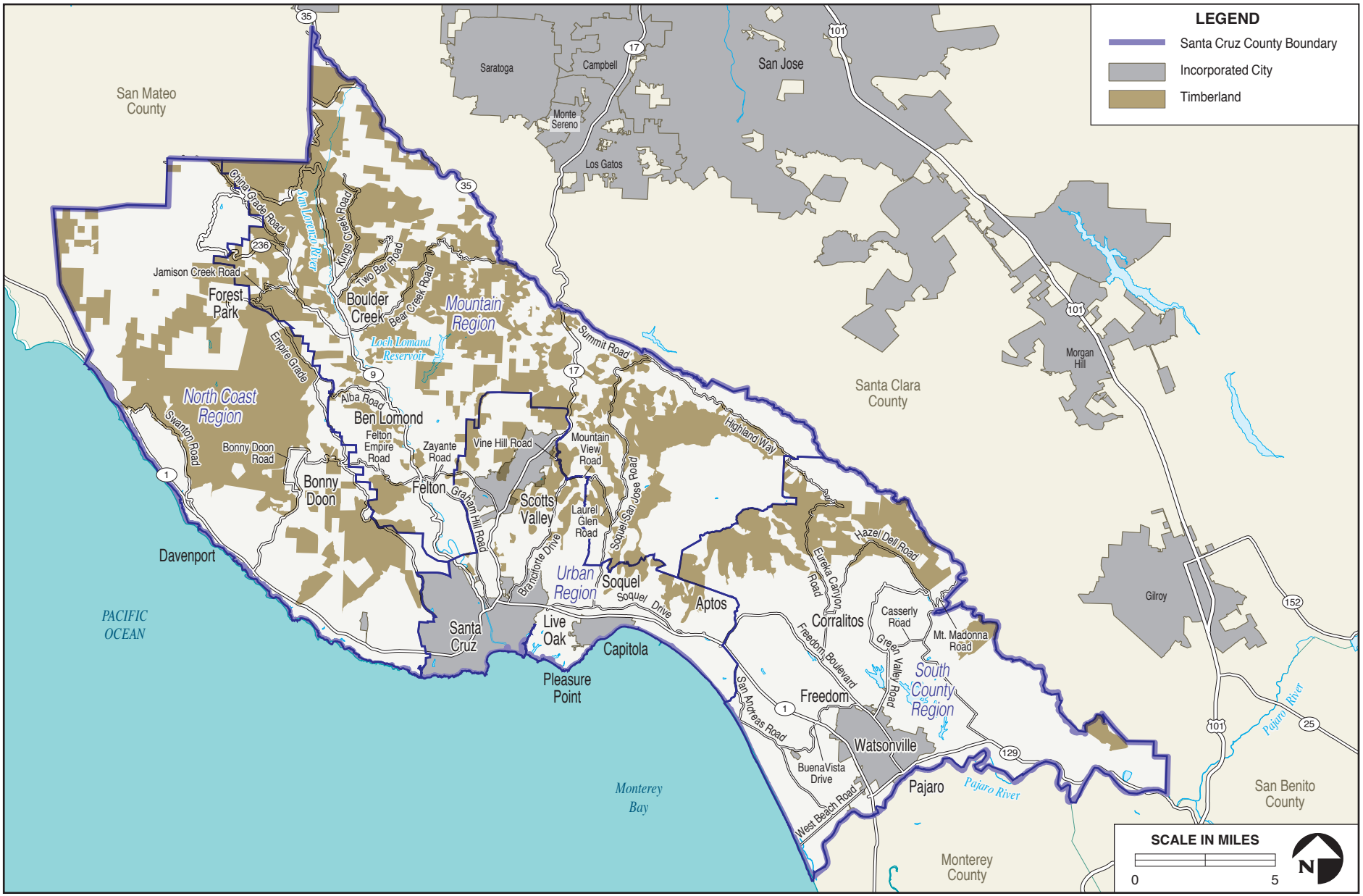
Table 3.2-2 Summary of Agricultural Areas in Santa Cruz County

Area	Total land zoned for Agriculture A, CA, and TP (acres)	Total Agricultural land under FMMP[1] (acres)	Williamson Act Contracts (acres)	Timberland (acres)
North Coast	38,548	11,186	19,370	28,103
Mountain	34,018	903	616	45,589
Urban	6,914	564	531	5,148
South County	46,276	29,017	34,109	11,552
TOTAL	**125,756**	**42,843**[2]	**55,164**	**90,647**

[1]Acreage of total agricultural lands represents lands surveyed by the FMMP and includes prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, and grazing farmland.

[2]Also includes 1,172 acres of FMMP land within municipal boundaries.

Sources: Department of Conservation 2010. Santa Cruz County 2016.



amec foster wheeler

Santa Cruz County Timberland

FIGURE 3.2-3

Based on the 2016 License Registration and 2016 Growers Survey data, existing cannabis cultivation operations are concentrated in the Mountain Region and South County, primarily within the San Lorenzo Valley and Pajaro Valley. Data on the location of existing cannabis manufacturing operations is less robust, but based on Sheriff's Office records and communications with CalFire personnel, violations have been concentrated in the more remote, mountainous or forested regions of the County. Sheriff records, other enforcement data and interviews with forest production professionals and CalFire staff show that existing illegal cannabis operations can potentially interfere with timber production operations through overuse of roads and increased risk of fires; and exploitation of water resources and use of pesticides or rodenticides, which can also interfere with habitat and wildlife value priorities within TP zoned areas (see also, Section 3.4, *Biological Resources*). Between January 2015 and December 2016, the County Sheriff's Office reported a total of 200 cannabis site related enforcement cases within the County, with many located within TP zone areas (Appendix D).

Agricultural and Timber Uses within Regions of Santa Cruz County

North Coast Region

The North Coast Region includes 27,322 acres of land zoned TP, which comprises approximately 38 percent of the 72,673-acre region. The region also supports 11,216 acres of land zoned for A, CA and AP. Much of the region is within the coastal zone and land use is dominated by a mix of public lands, including multiple state parks and U.S. Bureau of Land Management holdings, and private agricultural and timber operations. Agriculture and some cattle grazing occur along the coastal terraces, with pockets of agricultural use occurring in the hillside and mountainous areas. Larger residential lots are located within the community of Bonny Doon. Approximately 19,892 acres of land in the region are enrolled under Williamson Act contracts, equating to approximately 27 percent of the North Coast Region's land. FMMP-identified farmland in the region comprises 11,186 acres, with 9,486 of those acres for use as grazing land. Prime farmland is concentrated in the Bonny Doon planning area, totaling 633 acres, while the North Coast planning area contains approximately 99 acres of prime farmland. The North Coast Region supports approximately 28,103 acres of timberland or 31 percent of the total amount of County timberland, primarily located in the mountainsides inland of Highway 1. Big Creek Lumber's redwood sawmill located on Highway 1 north of Davenport cuts, planes, and processes over 85,000 board feet of lumber each day. The company has approximately 190 employees at its six locations. Based on cannabis cultivation registration data, 44 cultivation sites are currently in operation in this region, totaling 2.84 acres of canopy. Existing operations are located primarily near Bonny Doon, within its proximate semi-rural agricultural community.

Mountain Region

The 101,907-acre Mountain Region contains the largest amount of land zoned for TP in the County, with approximately 31,828 acres of TP zoned land, with the majority located in the San Lorenzo Valley area (17,196 acres). Land uses in the Mountain Region are predominantly SU, which comprises approximately 42 percent of the region's zoned land areas, but is followed by TP zoning at approximately 31 percent of the region's zoned land areas. The Mountain Region contains the greatest extent of timberland in the County, with approximately 45,589 acres (50.3 percent of County total) located in the Mountain Region, with over half of this timberland (23,601 acres) located in the San Lorenzo Valley. The 22,169-acre Skyline planning area is comprised of over half timberland (11,546 acres), and the Summit planning area is comprised of nearly one-third timberland (10,442 acres). As such, this region is a primary producer of timber within Santa Cruz County. Approximately 616 acres

of land in the region are enrolled under Williamson Act contracts, located primarily near the Skyline and Summit areas and equating to less than one percent of the Mountain Region's total land area. Agriculture under FMMP farmland in the region comprises 564 acres, with very little grazing land and is primarily located near the Skyline and Summit areas. Currently, 240 cultivation sites are in operation in this region, totaling 18.05 acres of canopy.

Urban Region

The Urban Region encompasses unincorporated urban communities of Aptos, Live Oak, and Soquel that border the cities of Santa Cruz, Scotts Valley, and Capitola, with the lowest amount of land designated for agricultural or timber production of any of the four identified regions. Zoning for A, CA, AP, and TP comprise approximately 6,914 acres of the 26,023-acre Urban Region. This region also includes a large concentration of lands designated for manufacturing by the County. Timber production along with limited agricultural uses, including modest commercial agriculture is prominent in the northern Carbonera planning area. Approximately 531 acres of land in the region are enrolled under Williamson Act contracts, equating to approximately 2 percent of the Urban Region's land, with most located in the Aptos and Carbonera planning areas and none near Live Oak. Agriculture identified under FMMP in the region comprises 564 acres, with 340 of those acres for use as grazing land. The Aptos area contains the greatest amount of FMMP farmland (276 acres). Prime farmland is only identified in the Aptos and Carbonera areas, totaling 111 acres. The Urban Region supports approximately 11,552 acres (5.7 percent) of timberland, primarily located in the mountains north of Scotts Valley in the Carbonera planning area (3,858 acres). Based on cannabis cultivation registration data, currently 130 cultivation sites are in operation in this region, totaling 6.24 acres of canopy.

South County Region

The 68,721-acre South County Region contains the largest amount of land zoned for agriculture in the County, with approximately 36,931 acres zoned for A and CA. This region is the predominant producer of strawberries, raspberries, and miscellaneous vegetables, notably lettuce, within Santa Cruz County. Approximately 34,109 acres of land in the region are enrolled under Williamson Act contracts, equating to approximately half of the South County Region's land and a majority located in the Salsipuedes and Pajaro Valley areas. Agriculture under FMMP farmland in the region comprises 29,017 acres, with over 10,000 of those acres for use as grazing land. Land uses in the South County Region are predominantly commercial agriculture, which comprises approximately 46 percent of the region's land area, but also includes residential and industrial land uses around the City of Watsonville, in addition to other small communities such as Corralitos and Freedom. The area around Salsipuedes contains the greatest amount of both FMMP farmland (13,845 acres), comprising clear majorities of its 17,486-acre planning area. The Pajaro Valley, San Andreas, and Salsipuedes areas contain the greatest amount of prime farmland in the County, with 2,720 acres, 3,457 acres, and 4,842 acres respectively. The South County Region contains the least amount of timberland of the four regions, with approximately 5,148 acres (16.8 percent of County total), primarily located in the Eureka Canyon hills (7,257 acres). Currently, 148 cultivation sites are in operation in this region, totaling 17.08 acres of canopy.

3.2.3 Regulatory Setting

The agricultural and timber resources analysis was conducted in conformance with the goals and policies of federal, state, and local regulations, as discussed below. Federal regulations are contained within Appendix A.

3.2.3.1 State

California Land Conservation Act of 1965 (Williamson Act; Section 51200-51297.4)

The Williamson Act enables local governments to enter contracts with private landowners for restricting specific parcels of land to agricultural or related open space uses in return for reduced property tax assessments. Specifically, this legislation enables landowners who voluntarily agree to participate in the Williamson Act program, to receive assessed property taxes per the income-producing value of their property in agricultural use, rather than on the property's assessed market value.

Per California Government Code Section 51201, an agricultural commodity under the Williamson Act means "any and all plant and animal products produced in this state for commercial purposes", and an agricultural use consisting of "use of land, including but not limited to greenhouses, for the purpose of producing an agricultural commodity for commercial purposes", however cannabis cultivation activities are not specifically mentioned or limited. Additionally, guidance from the Department of Conservation has stated that medical marijuana is an agricultural product, under both the 2015 MCRSA statutes and the Williamson Act. Nothing in the Williamson Act prohibits the growth of medical marijuana on land enrolled in the Williamson Act.

California Right to Farm Act (California Civil Code Section 3482.5)

The California Right to Farm Act (California Civil Code Section 3482.5)—enacted in 1981—provides that a farming activity cannot be a public nuisance if all the following factors are met:

1) The activity is in support of the production of an agricultural commodity;

2) The agricultural activity is commercial in nature;

3) The activity is conducted "in a manner consistent with proper and accepted customs and standards as established and followed by similar agricultural operations in the same locality;"

4) The farming activity must have been in operation for at least three years; and

5) The farming activity was not a nuisance at the time it began.

It is noteworthy that the California Right to Farm Act does not require "best management practices" but instead simply allows adherence to "accepted" customs and practices. In addition, the statute specifically states that it prevails over any contrary provision of a city or county ordinance or regulation, but does allow cities and counties to require disclosures to be given to prospective home buyers that a dwelling is near an agricultural operation.

California Forest Practice Rules (2017) – Forest Practice Act

Prepared for California Licensed Timber Operators and California Registered Professional Foresters, the California Forest Practice Rules compile relevant excerpts from Title 14 of the California Code of Regulations Chapters 4, 4.5, and 10, the provisions of the Z'berg-Nejedly Forest Practice Act of 1973 in a manner consistent with other laws, including but not limited to, the Timberland Productivity Act of 1982, the California Environmental Quality Act (CEQA) of 1970, the Porter-Cologne Water Quality Act, and the California Endangered Species Act.

The THP is comprised of the environmental review documents submitted by landowners to CalFire outlining what timber he or she wants to harvest, how it will be harvested, and the steps that will be taken to prevent damage to the environment. THPs are prepared by Registered Professional Foresters (RPFs) who are licensed to prepare these comprehensive, detailed plans.

Under the FPA, local jurisdictions can propose for consideration by the State special local regulations for timber harvesting. Several local regulations have been approved by the State over the years through this process, which are enforced by CalFire.

California Government Code Section 51104(g) – California Timberland Productivity Act of 1982

The California Timberland Productivity Act of 1982 (California Government Code Section 51100-51104) is intended to maintain the limited supply of timberland to ensure its current and continued availability for the growing and harvesting of timber and compatible uses, and to discourage premature or unnecessary conversion of timberlands to urban and other uses. Section 51104(g) of the Act states that a Timberland Protection Zone (TPZ) is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, defined as "any use which does not significantly detract from the use of property for, or inhibit, growing and harvesting timber". The County's Timber Harvesting regulations (SCCC 16.52) implement these objectives throughout the TP zoning district.

California PRC Section 12220(g)

This section defines "forest land" as 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.

California PRC Section 4526

This section defines "timberland" 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 a 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.

3.2.3.2 Local

Agricultural Operations within the County

Within the County, the Agricultural Commissioner conducts outreach and provides some oversight to agricultural and timber production in the County. The Agricultural Commission is divided into two departments consisting of the Agricultural Department and the Weights and Measures Department. The Agricultural Department conducts a majority of the outreach and assembles the annual Crop Report, in addition to certifying producers for farmers' markets, overseeing nursery inspections, and oversight of the County's Organic Program. The Weights and Measures Department primarily oversees agricultural manufacturing in the County and end-product measuring at locations such as grocery stores. For instance, agricultural product labels will be examined to ensure correctness, and measuring scales will be similarly tested for accuracy. At least eight cannabis dispensaries have been assessed for product weight within the County. Requirements for pesticides and organic producers entail participation and oversight from CalEPA, the County Agricultural Commissioner, and the California Department of Food and Agriculture, which has oversight of all agricultural products.

Timber Production and Harvesting in the County

For timber production, the Santa Cruz County General Plan states the objective, "To encourage the orderly economic production of forest products on a sustained yield basis under high environmental standards, to protect the scenic and ecological values of forested areas, and to allow orderly timber production consistent with the least possible environmental impacts."

The California Forest Practice Rules (FPR) require CalFire to establish interdisciplinary review teams (including a representative of county government when the county government so requests) to review plans and assist CalFire in the evaluation of proposed timber operations and their impacts on the environment. County staff review of proposed timber harvests is focused on conformance with the Santa Cruz County rules as included in the FPR, with an emphasis on the protection of water quality and biotic resources. In addition, neighborhood issues such as noise, dust, scenic road protection, and health and safety issues are also included in the County's review.

There are four types of state issued permits for timber harvesting: the THP, the Non-NTMP, the Exemption to the THP, and the Conversion Exemption. If the logs are going to be "commercialized," (meaning loaded on a truck and sold to a mill), then one of these state permits is required. While the County does not have a formal role in regulating timber harvest practices, other than proposing special local rules for State consideration, it does limit through its zoning powers, where timber harvesting can take place. At this time, commercial timber harvesting is only allowed on lands zoned TP, CA, and M3.

Santa Cruz County General Plan – Conservation and Open Space Element

The Santa Cruz County General Plan provides a framework for development and growth in the County. The General Plan's Conservation and Open Space Element contains various goals and policies that address agricultural resources and timber resources, including the preservation and expansion of agricultural and timber land use within the County. Such lands are designated A, CA, and TP by the Land Use Element of the Comprehensive Plan and provide opportunities for a range of commercial agricultural operations.

The policies outline the County's priority to preserve and, where feasible, expand and intensify agricultural land uses. Agricultural operations are encouraged in areas containing both prime and non-prime soils. Consistency with Comprehensive Plan goals and policies is further discussed in Section 3.10, *Land Use and Planning*. Relevant goals and policies are summarized below.

Objective 5.13 Commercial Agricultural Land. The purpose of this objective is to maintain for exclusive agricultural use those lands identified on the County Agricultural Resources Map as best suited to the commercial production of food, fiber, ornamental crops, and livestock, and to prevent conversion of commercial agricultural land to non-agricultural uses.

Policies 5.13.1 through 5.13.22: Include the designation of commercial agricultural land, maintain the types of agriculture levels, provide land use designations for agricultural resource lands, determine the zoning of commercial agricultural resource land (CA), and determine principal permitted uses on CA zoned land. Land divisions and conversions of CA lands are also addressed.

Policy 5.13.5 Principal Permitted Uses on Commercial Agricultural (CA) Zoned Land. Allow principal permitted uses in the CA Zone District to include only agricultural pursuits for the commercial cultivation of plant crops, including food, flower, and fiber crops, and raising of animals including grazing and livestock production and, outside the coastal zone, timber harvesting operations.

Policy 5.13.6 Conditional Uses on Commercial Agricultural (CA) Zoned Lands. Conditional uses on CA zoned lands must constitute the principal agricultural use of the parcel, be ancillary in nature, cannot impair long term agricultural viability, and avoid the removal of land from agricultural production. Only agriculturally oriented structures or dwellings are allowed, including residential land use when in direct support of preserving agriculture.

Policy 5.13.8 Location of Agricultural Support Facilities. Require agricultural support facilities to locate either off good agricultural soils, or on the perimeter of good agricultural soils.

Policy 5.13.9 Utility District Expansion. Utility district expansion is prohibited onto CA land Types 1 (viable agricultural land) and 3 (within the Coastal Zone).

Policies 5.13.23 through 5.13.34 Resolving Operational and Land Use Conflicts. Operational and land use conflicts are determined and addressed, among other items, via agricultural buffers, Agricultural Policy Advisory Commission approval (consistent with the Agricultural Land Preservation and Protection Ordinance within the Santa Cruz County Code [SCCC]), implementing windbreaks to reduce the hazards of pesticide drift, and issuing residential and ancillary use building permits in accordance with the SCCC.

Objective 5.14 Non-Commercial Agricultural Land. The purpose of this objective is to encourage and provide for limited agricultural uses, such as small-scale agriculture and community gardens, on the limited amount of agricultural land remaining in the County, which is not designated as commercially viable, in order to maintain a diversity of farm operations and to maintain productive open space and rural character.

Policy 15.14.1 Uses Allowed on Non-Commercial Agricultural (A) Zoned Lands. For parcels 2.5 acres or smaller, uses may include one residence and accessory uses, agricultural uses, and community facilities that do not conflict with any adjacent agricultural activity. For parcels over 2.5 acres, a range of agricultural uses are allowed, including both commercial and non-commercial

agricultural activities, one residence, and uses consistent with the Coastal Act and not conflicting with adjacent agricultural activity. Agricultural service establishments are also allowed where the business is compatible with the agricultural area, supports farming operations in the area, would not conflict with agricultural practices or residential uses, and would protect agricultural production and resource values.

Policy 15.14.5 Encourage Farming. Encourage the use of rural lands for farming use to the extent that topography, soil, climate, and water supply will allow.

Policies 15.14.10 through 5.14.12. These policies detail general agricultural policies, programs, and land divisions for non-commercial agricultural land.

Objective 5.15 Specialized Agricultural Uses – Greenhouse Agriculture. The purpose of this objective is to recognize and provide for a variety of agricultural uses such as greenhouses, aquaculture, and wineries on lands which are appropriately suited for these specialized uses in order to maintain the optimum agricultural diversity.

Policy 5.15.1 Agriculture Inside Structures. Recognize that certain forms of agriculture requiring production of crops or related products inside structures may be a necessary part of an agricultural operation, and require any such uses to mitigate any impacts created by such facilities to minimize land use conflicts and/or environmental problems.

Policy 5.15.2. Runoff Retention. In primary recharge areas, require stormwater runoff to be retained on site for percolation; in other areas require detention.

Policy 5.15.3 Preserving Prime Soil. Prohibit removal of indigenous prime soil used as a growing medium for container plants which are sold intact.

Policy 5.15.4 Limiting Impervious Surfaces. Limit flooring or impervious surfacing within the structure which impairs long-term soil capabilities to the minimum area needed for access, loading, and storage, and prohibit the use of long-term sterilants under impervious surfacing.

Objective 5.12 Timber Production. The purpose of this objective is to encourage the orderly economic production of forest products on a sustained yield basis under high environmental standards, to protect the scenic and ecological values of forested areas, and to allow orderly timber production consistent with the least possible environmental impacts.

Policies 5.12.1 and 5.12.2 Designation of Timberlands and uses within Timber Production Zones. The General Plan has designated those timberlands which are devoted to and used for growing and harvesting timber and which are capable of producing an average annual volume of wood fiber of at least 15 cubic feet per acre. Primary uses in these areas can include, besides the growing of harvesting of timber and other forest products in conformance with the provisions of the Timber Production Zoning SCCC ordinance and the Forest Practice Act, grazing and other agricultural uses on the portion of the land not under timber production, one single-family dwelling with accessory structures and utilities, and timber removal as necessary for the safe operation of public utility facilities.

Policy 5.12.3 Conditional uses within Timber Production Zones. Uses allowed within TP zoning must be consistent with the growing of a sustained yield tree crop, supported by a timber management plan, though may include conversion to agricultural uses not exceeding ten percent of the total of the timber area on the parcel and the inclusion of one habitable accessory structure

(guest house) on a parcel with a minimum size of 10 gross acres in the County in close proximity to the principle residence.

Policy 5.12.7 Location of Development on Timber Production Lands. Restrict development on TP lands to be located on a non-timbered portion of the property.

Policy 5.12.8 Timber Resource Land Not Zoned Timber Production. Evaluate proposed land divisions and residential development permit applications on parcels larger than 20 gross acres designated Timber Resource on County mapping, but not zoned TP, for timber resource potential. Apply the TP land division and residential density requirement policies for any parcel found to have timber resources equivalent to TP parcels. Require, as a condition of any land division, rezoning to TP for parcels which have equivalent timber resources.

Policies 5.12.9 and 5.12.10 Rezoning Lands to and from Timber Production. Encourage timberland owners to apply for TP zoning where appropriate. Such rezoning must be in accordance with the procedures set forth in the TP ordinance. Deny rezoning of timberland from TP to alternate zone districts unless it can be shown that the rezoning is consistent with appropriate legislation.

Policy 5.12.11 Timber Harvests Not Subject to State Regulations. Ensure that all small timber harvests over which the County has regulatory authority, are adequately regulated, either through adoption of State Forest Practice Rules or through the enactment of local ordinance.

Policy 5.12.14 Zone Districts Where Timber Harvesting is Allowed. Allow timber harvesting and associated operations, requiring approval of a Timber Harvesting Plan by the California Department of Forestry, only in the TP, Parks, Recreation and Open Space (PR), Mineral Extraction Industrial (M-3), and the Commercial Agriculture (CA) zone districts, except any coastal zoning.

County of Santa Cruz Zoning Regulations (SCCC Chapter 13.10)

The County Zoning Ordinance constitutes a portion of Title 13 of the SCCC. SCCC Chapter 13.10 determines what uses, design criteria, densities, setbacks, heights and similar development standards may occur within different zoned areas of the County, regulating the uses of land and structures within the County consistent with legislative acts. The zoning ordinance is adopted to implement the General Plan and Local Coastal Program Land Use Plan by providing specific regulations addressing the allowable uses of land and structures; promotion and protection of the public health, safety, and general welfare; protection of the character, stability, and satisfactory interrelationships of residential, commercial, industrial, agricultural, recreational, and open space areas of the County; and protection of the natural environment in compliance with CEQA.

Sections 13.10.311 – 13.10.315 list purposes and standards for the County's Agricultural Districts, while Sections 13.10.371 – 13.10.378 list similar information for the County's Timber Production District. Development within agricultural and timber zones should be established in compliance with the requirements in Chapter 13.10 of the zoning ordinance and all applicable standards in Title 13 of the SCCC. A, CA, AP, RA zoning districts all guided by the SCCC, which designates development or use exemptions or actions including an Agricultural Viability Determination, administrative permit approval, design review, discretionary review, or a public hearing.

Santa Cruz County Code, Chapter 16.50 Agricultural Land Preservation and Protection

Chapter 16.50 designates and protects commercially viable agricultural land which exists within the County, and which is in the public interest to preserve and protect for exclusive agricultural use. This regulation seeks to enhance and encourage agricultural operations within the County, and acknowledges certain agricultural land in the County, not presently of commercial value, that merit protection.

Santa Cruz County Code, Chapter 16.52 Timber Harvesting Regulations

Chapter 16.52 determines, protects, and maintains County timberlands through regulation of timber harvesting. The Chapter encourages the continued production of forest products in compliance with performance standards, which emphasize protection of environmental and open space values while fostering increased productivity of forest land. This regulation also serves to protect, maintain and improve the forest land of Santa Cruz County.

Santa Cruz County Code, Chapter 16.34 Significant Trees Protection

Chapter 16.34 encourages and enforces the preservation of significant trees and forest communities on private and public property as necessary to promote the public health, safety, and general welfare of the County. (These regulations only apply in the Coastal Zone area.) Exemptions for timber operations, timber harvesting, permitted removals, and removal due to agricultural operations are provided.

Agricultural Update and Measure J

Measure J was approved by Santa Cruz County voters and became law in 1978, codified as Chapter 17.01 of the SCCC. To recognize that the needs of the industry change over time, the County is in the process of updating the regulations to implement Measure J by preserving agricultural land for agricultural use and maintaining essential regulations protecting agricultural land, while responding to input from the local farming community that updates to agricultural regulations are needed to support the evolving and diverse needs of local agriculture.

The Agricultural Update would maintain existing policies preventing the conversion of agricultural land to nonagricultural uses and includes: 1) a minimum density requirement of 40 acres per residential dwelling unit for new land divisions on commercial agricultural land, to de-emphasize residential development and use, and 2) continued prohibition of Commercial Agricultural Land subdivision, unless for agricultural purposes.

The update would also support the needs of diverse local farming operations, allowing uses on CA land that support agriculture while providing standards and appropriate reviews to protect agricultural land, including: 1) allowance of agri-tourism, which can be important to many smaller local farms, and which includes classes and field trips, farm stays, and farm-to-table dinners, with discretionary review required for larger or more frequent events, 2) allowance of agricultural service establishments, such as farm equipment repair or sales, on commercial agricultural land with discretionary approval, and by allowing such uses when they are compatible with and secondary to the main agricultural use, 3) allowance of agricultural support uses, such agricultural equipment storage, to serve larger farming operations extending over multiple parcels, while requiring that the storage is compatible with and secondary to the main agricultural use, through a Master Plan

approach, and 4) allowance of housing for agricultural employees (up to 12 units) on agricultural land as a principally permitted agricultural use, as required by state law. A site development permit would be required to ensure appropriate siting.

3.2.4 Methodology and Assumptions

This analysis of potential impacts on the agricultural and timber resources of the County provides a qualitative assessment of the effects of Program implementation on the existing environment described in Section 3.2.2, *Environmental Setting*, including the Project and the More Permissive Project scenarios. Refer to Section 3.0, *Introduction and Approach Analysis*, for a detailed discussion of projected cannabis activities in the County due to Program implementation. This analysis also assumes that cannabis structures would be required to meet County Fire Code requirements, as described in Section 3.0, *Introduction and Approach to Analysis*.

Land use compatibility between the proposed Program and agricultural operations are analyzed further in Section 3.10, *Land Use and Planning*. Existing development standards and standard permit processes and conditions as well as development standards and requirements proposed as part of the Project that would serve to mitigate environmental impacts are referenced in the analysis below.

Potential secondary impacts of the Program are associated with continued or expanded unlicensed cultivation and sometimes substandard manufacturing facilities, particularly unregulated agricultural cultivation practices in prime farmland and timber resource areas with potentially volatile manufacturing processes. Adoption of the Program could result in the potential for changing or increased unlicensed cannabis activities. Due to the lack of information regarding unknown cannabis cultivation and manufacturing operations within the County and specific details regarding unknown sites, the discussion of secondary impacts is general in nature.

Assessment of potential Program impacts considers existing General Plan and Local Coastal Program policies and the SCCC sections that could mitigate the loss of prime soils and associated farmland, in addition to mitigating the loss of timber resources, along with the Program's draft ordinances that require licenses to be consistent with the County's policies, objectives, laws, regulations, and programs. This analysis accounts for Program restrictions for cultivation such as those from schools and parks (600 feet); analysis also accounts for the manufacturing ordinance which relies on existing zone district and fire code restrictions and setbacks.

3.2.5 Significance Criteria

CEQA Guidelines Thresholds

The following thresholds of significance are based on Appendix G of the 2017 CEQA Guidelines. For purposes of this EIR, implementation of the Program may have a significant adverse impact on agricultural and timber resources if it would:

- Convert prime farmland, unique farmland, or farmland of statewide importance 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 PRC 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.
- Involve other changes in the existing environment which, due to their location or nature, could result in the conversion of farmland to non-agricultural use or forest land to non-forest use.

3.2.6 Environmental Impact Analysis and Mitigation

This section discusses potential agricultural or timber impacts from the proposed Program. A detailed discussion of each impact follows. Where there are potentially significant or significant and unavoidable impacts, mitigation measures are proposed and the residual impact after mitigation is determined.

3.2.6.1 Program Impacts

Impact AT-1. The Program could convert prime farmland, unique farmland, or farmland of statewide importance to non-agricultural use. Impacts would be less than significant.

Impact AT-1.1 – Direct Cultivation/Manufacturing. Per the California Health and Safety Code and California Business and Professions Code, medical cannabis is identified as an "agricultural product". Therefore, outdoor cannabis cultivation would be considered an "agricultural product", and as such would not convert associated FMMP farmland or prime agricultural soils to non-agricultural uses. Further, given that cultivation proposed by Program registrants would increase from the current 36 acres by between 8 acres and 43 acres, direct impacts from commercial cultivation of cannabis pursuant to the ordinance would not result in conversion of substantial amounts of FMMP-identified farmland, particularly Prime Farmland, Farmland of Statewide Importance, and Unique Farmland to non-agricultural use. Similarly, cannabis cultivation is unlikely to lead to conversions of prime soils as identified by the NRCS.

Indoor cultivation could include the use of permanent cement foundations, which could cover agricultural soils, or new buildings that would trigger significant infrastructure upgrades based upon the County's Fire Code standards (refer to Impact AT-1.2 discussion below). Greenhouses constructed for cannabis cultivation and manufacturing could overlie agricultural soils, though SCCC 13.10.636 limits use of flooring or impervious surfacing in greenhouses that impairs long-term soils capabilities. Both Program scenarios would prohibit construction of new greenhouses or structures for indoor cultivation in the Coastal Zone.

Cultivation within greenhouses may overlie agricultural soils, but permanent floors would not be allowed for licensed cannabis activities.

Further, Measure J includes requirements to restrict new construction on prime agricultural soils directly affected by construction of new structures. FMMP farmland is partially dependent on the quality of prime soils. General Plan Policy 5.15.3 prohibits the removal of indigenous prime soil used as a growing medium for container plants, which may include cannabis. This would further protect prime soils and associated FMMP land in the County; however, non-prime soils and timberlands that are not protected by these policies that are directed toward prime soils, may be directly impacted. Under both scenarios of the proposed Program, up to 190.1 acres of cannabis canopy (not including associated structures or utilities required under the Program under both scenarios) could be located in FMMP areas. Table 3.2-3 details the total areas of land that have the potential to be affected by up to 190.1 acres of new cannabis canopy under each Program scenario. However, cannabis cultivation under both Program scenarios would be a permitted agricultural use and would not convert or degrade FMMP lands, and impacts would be *less than significant*.

Table 3.2-3 Total FMMP Agricultural Land[1] within Program Scenario Areas (acres)

Region	County Total	Proposed Project	More Permissive Project
North Coast	11,186	5,577	5,693
Mountain	903	736	755
Urban	564	403	511
South County	29,017	25,675	26,441
TOTAL	**42,843[2]**	**32,393**	**33,400**

[1]"FMMP Agricultural Land" includes prime farmland, unique farmland, farmland of statewide importance, and farmland of local importance

[2]Also includes 1,172 acres of FMMP agricultural land within municipal boundaries

Source: Farmland Monitoring and Mapping Program.

Under both the Project and More Permissive Project, cannabis manufacturing must be subordinate and incidental to agriculture on CA and A zoned lands, and manufacturing within these zones would only be permitted if cannabis is cultivated onsite. It is estimated that approximately 20 new larger, higher-yield cannabis manufacturers may seek licenses on an annual basis from the County for the first five years of the Program (until the industry is assumed to stabilize), but that most of these manufacturers would not commonly seek licenses on agricultural lands given the utility demands and structural requirements, such as energy, water, and wastewater (see also, Section 3.14, *Utilities and Energy Conservation*). However, it is expected that smaller and medium-sized manufacturing uses would locate on agricultural lands with about one-half of the projected 300 businesses of these sizes being located on cultivation sites. Manufacturing would only occur on agricultural areas as an allowable ancillary use to agricultural cultivation with discretionary approval. Per Program requirements, manufacturing processes would require siting so as not to remove any production or areas of production, which would include soils (e.g., prime soils) that may be used for cannabis or other agricultural cultivation. Siting would be determined on a case-by-case basis to avoid areas of production, and if avoidance is not possible, then effects would be minimized. Any building sited on an agricultural parcel would require approval from the County Licensing Official and would be subject to the SCCC. The Licensing Official could deny applications that would impact agricultural and timber production or result in land conversion of such principal uses. However, as manufacturing is an accessory use on agricultural sites, subject to discretion, and would further be constrained to less than 5 percent of the parcel, comprising a small portion of total available land zoned for agricultural uses, impacts would be minor. As agricultural manufacturing activities are permitted as a secondary,

ancillary use to agriculture, impacts to both agricultural and timber resources would be *less than significant*.

Impact AT-1.2 – Indirect cultivation/manufacturing. Indirect impacts of the Program, including the required construction of up to 228 residential homes, utilities and infrastructure, and associated ancillary uses to receive a cannabis cultivation license under the Program, could potentially lead to conversion of FMMP or NRCS prime soils to nonagricultural uses. The County Fire Code for cannabis related activities within structures could require significant site improvements to provide onsite fire water tanks (up to 568 tanks of up to 120,000 gallons each) with related site pad clearing and grading, installation of a 20-foot wide road with turnaround, and defensible space vegetation management around a cannabis-related structure of up to 100 feet.

Based on review of the County's license registration data, a portion of the up to 228 new homes and supporting roads, utilities and other structures required under the Program could be located on parcels that support prime soils or FMMP mapped agricultural land. The acreage of such potential conversion is unknown, but each home and support facilities could result in permanent land conversion due to the introduction of structures and improvements, as well as displacement of agricultural soils (e.g., non-prime) and forested lands. Such potential conversion of prime and non-prime soils and timberlands would be incremental with limited disturbance on each parcel, but potentially could cumulatively convert up to about 200 acres of prime or other farmland soils of statewide importance Countywide. However, under existing regulations for any agricultural site, single family homes and associated infrastructure is allowed (if on CA zoned parcels a discretionary development permit under a Level IV public notice process is required).

Also, given that implementation of the requirement for a home on each cultivation site on sites zoned A, CA, SU, and TP could involve substantial amounts of new grading, high cost of necessary site improvements, increased onsite constraints, and potential lack of availability of non-municipal water supplies, many cultivators may choose to relocate out of rural areas in favor of buying or leasing land or greenhouses in the South County Region or other areas that would not be subject to high cost or difficult requirements. Others may withdraw from the licensing Program and continue to operate as unlicensed facilities if another suitable location that meets the new standards cannot be found. The County Planning Department or Licensing Official may decide to deny applications for grading permits and licenses if excessive grading or site disturbance is involved, or if the proposed cannabis use contributes substantially to a loss in food production from agricultural areas in the County. Shifting cannabis cultivation and manufacturing activities out of mountainous rural areas would be a beneficial impact of the Program, as fire hazards to timber resources would be reduced. For these reasons, the Program's impact on agricultural and timber resources is expected to be *less than significant.*

Impact AT-2. Proposed land uses under the Program could be incompatible with existing zoning for agricultural uses and Williamson Act contracts. Impacts would be less than significant.

Impact AT-2.1 – Direct Cultivation/Manufacturing. Direct impacts of cannabis cultivation would not convert farmland to non-agricultural uses. Per California Government Code Section 51201, an agricultural commodity under the Williamson Act means "any and all plant and animal products produced in this state for commercial purposes", and an agricultural use consisting of "use of land, including but not limited to greenhouses, for the purpose of producing an agricultural commodity for commercial purposes". Additionally, guidance from the Department of Conservation has stated that

cannabis is an agricultural product, under both the 2015 MCRSA statutes and the Williamson Act. Nothing in the Williamson Act prohibits the growth of cannabis on land enrolled in the Williamson Act. A city or county's participation in the Williamson Act does not alter a local government's authority to place conditions on crop types and agricultural practices allowed in areas under their jurisdiction. Both the Project and More Permissive Project would allow cannabis cultivation on lands primarily used for agriculture (A, CA, and AP) and those under Williamson Act contracts. Impacts of cultivation of up to 147 acres of cannabis canopy on CA zoned land under the Program's ongoing licensing provisions would be accommodated within these areas. The difference in total Williamson Act land between the two Program scenarios is less than 1,500 acres of eligible area, with the greatest difference in the South County region (see Table 3.2-4). Since cannabis is identified as an agricultural product, thus fulfilling the primary use of existing zoning and Williamson Act contract lands, implementation of both the Project and More Permissive Project scenarios are anticipated to be *less than significant* for commercial cannabis cultivation.

Table 3.2-4 Williamson Act Contract Land within Program Scenario Areas (acres)

Region	County Total	Proposed Project	More Permissive Project
North Coast	19,369	8,974	9,211
Mountain	616	555	555
Urban	531	415	467
South County	34,108	29,019	29,910
TOTAL	**55,164**	**38,962** (28,447 for outdoor cultivation) (10,516 for indoor only)	**40,123**

Sources: California Department of Conservation; County of Santa Cruz Assessor's Office, 2017.

Impact AT-2.2 – Indirect Cultivation/Manufacturing. Indirect impacts would occur from the potential installation of housing and utilities on sites designated for agricultural uses and within Williamson Act contract areas under both the Project and the More Permissive Project. When considering development on CA or A zoned property, one single-family dwelling and associated structures are permitted with appropriate levels of County approval and adherence to existing California Building Code requirements.

To protect agricultural land from potential conflicts with non-agricultural uses, a 200-foot agricultural buffer setback is required between habitable uses (includes outdoor areas) and commercial agricultural land. The buffer is measured from the proposed habitable area or structure to the property line of CA zoned land. Proposals to construct within the 200-foot buffer would be considered by the Agricultural Policy Advisory Commission (APAC) at a public hearing. Within Williamson Act contract lands, housing may be largely compatible, as parcels under contract are further restricted from development activities than parcels with solely CA, AP, or TP zoning. The contract typically allows for the construction of a single-family dwelling (a maximum of 2,500 square feet without additional permit review is typical) and other structures directly associated with the commercial agricultural use of the property, such as barns or other agricultural buildings. Home sites are allowed on contracted land but are limited in purpose and number and must be related to the agricultural use of the land. In addition, any home site on land subject to a Williamson Act contract must follow local uniform rules or ordinances. Proposed uses or structures on parcels under contract are subject to a Compatibility Review (State Government Code 51238.1).

Overall, indirect impacts to existing zoning for agricultural land and Williamson Act contract lands under both Program scenarios would be *less than significant*.

Impact AT-3. The Program could substantially conflict with existing zoning for or cause rezoning of forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) to a non-allowable use. Impacts would be less than significant.

Impact AT-3.1 – Direct Cultivation/Manufacturing. Forest land under PRC 12220(g) includes all forested land that can support 10 percent native tree cover of any species and as further described within Section 3.1, *Aesthetics and Visual Resources*, Section 3.4, *Biological Resources*, Section 3.9, *Hydrology and Water Quality*, and Section 3.11, *Public Services*, in the context of forest land. Associated analysis and mitigations from these sections would be required to protect forest land within the County. These sections also provide for the protection of forest habitat, water resources, geologic stability, and aesthetic integrity within the County. Protection of forest land for use as a timber resource (for commercial purposes), is assisted by General Plan Policy 5.12.8, which encourages rezoning for timber resource land eligible[3] for TP to TP zoning, as discussed below, and neither the Project or More Permissive Project would conflict with this existing process. Additionally, in the coastal zone, compliance with SCCC Chapter 16.34 would provide protection to significant trees and forest communities (forest land) on private and public property not yet used for agricultural or timber production. In the coastal zone, compliance with SCCC Chapter 16.34 would provide protection to significant trees and forest communities (forest land); the Chapter also provides exemptions for the removal of tree crops pursuant to agricultural operations (16.34.090(d)), in which the removal is necessary for new or existing agricultural purposes consistent with other County policies and that mitigation of visual impacts would be provided (16.34.060(h)). Therefore, while allowed, some actual forest land may be lost to non-forest uses after approval per a public hearing by a Zoning Administrator.

Timberland under PRC 4526 is generally protected by the Forest Practice Act and associated THPs or NTMPs. The mechanisms for continued timberland conversion to cannabis cultivation with the implementation of the Program may largely come from requests for Less-Than-Three-acre Conversions on TP zoned timberlands. Conversion requests to CalFire require the applicant to state the proposed alternate use (bona fide intent) for the site once the timber is removed. Although conversions would be required for any application that involves land in the timbered area of the property, for lands that have not been timbered, conversion permits may be exempted. Given cannabis cultivation would involve an agricultural use, permitted on TP zoned lands, conversion of forested lands upon a holding outside of historically or currently timbered lands could nonetheless occur.

If a conversion request states that the bona fide intent for conversion is cannabis cultivation, it is necessary for CalFire to have accurate information to determine if the property would qualify for a Cultivation Permit based on zoning, setbacks, and other provisions outlined in the Program. Without this information CalFire could inadvertently authorize conversion of timberlands in area that ultimately may not fall within the permitting criteria. To avoid this circumstance, existing County

[3] Includes the evaluation of proposed land divisions and residential development permit applications on parcels larger than 20 gross acres designated Timber Resource on County mapping, but not zoned TP, for timber resource potential. This would apply the TP land division and residential density requirement policies for any parcel found to have timber resources equivalent to TP parcels.

process states the conversion must comply with applicable County ordinances, such as riparian, significant tree (coastal zone only), grading, sensitive habitat, erosion control, etc. Additionally, the County has both review and approval authority over the conversion. The conversion must be signed off by a representative of the County, making the determination that the proposed conversion is for a permissible activity and that the necessary permits have been obtained. Ultimately, actions within timbered areas would need approval from the Zoning Administrator or approval by County staff and a site visit (permitted uses in CA district do not require approval as it is the primary use of the land, while discretionary uses within a CA district may require public notice and/or require a public hearing by the Zoning Administrator). The total eligible timberland areas accounted for under each Program scenario are summarized in Table 3.2-5, which indicates that the More Permissive Project would have a greater area of timberland coverage, notably in the North Coast and Mountain regions.

Table 3.2-5 Timber Resources within Program Scenario Areas (acres)

Region	County Total	Proposed Project	More Permissive Project
North Coast	28,103	1,934	5,051
Mountain	45,589	36,754	38,156
Urban	5,148	3,588	4,153
South County	11,552	10,346	10,484
TOTAL	**90,647**	**52,621**	**57,833**

Source: Santa Cruz County GIS Data, 2017.

Both the Project and More Permissive Project scenarios would require a license for any commercial cannabis cultivation on TP zoned lands, permitting new operations on TP-zoned land that are not a primary existing use (see Table 3.2-6). The SCCC currently allows agricultural uses on portions of the land not under timber production, and conversion of timberland to agricultural uses not exceeding 10 percent of the total of the timber area on the parcel after approval by the Zoning Administrator, which would accommodate both the Project and More Permissive Project scenarios. As discussed above, the amount of conversion is also subject to acreage limitations under the Forest Practices Act. Overall, due to the existing requirements of the County General Plan, SCCC, California Forest Practice Rules, and California Department of Conservation, impacts to forest land, timberland, and lands zoned for Timberland Production would be *less than significant* for both Program scenarios.

Table 3.2-6 Total Land Zoned for TP within Program Scenario Areas (acres)

Region	County Total	Proposed Project	More Permissive Project
North Coast	27,332	1,789	4,693
Mountain	31,828	28,799	29,184
Urban	2,790	2,406	2,533
South County	9,345	3,111	8,746
TOTAL	**71,295**	**36,105**	**45,156**

Source: Santa Cruz County GIS Data, 2017.

For cannabis product manufacturing, discretionary permit review would be required for manufacturing and associated structures on timberland, usually including a Zoning Administrator hearing. Additionally, with the exception of limited ancillary uses of detached single family homes for cannabis home occupations, manufacturing and production activities under the proposed manufacturing ordinance may only occur as long as cannabis cultivation and associated licensing

occurs onsite. No timber conversion permits would be allowed for the specific accommodation of manufacturing practices.

Because agricultural manufacturing processes are considered an ancillary use to agricultural land uses such as the cultivation of crops, and agricultural uses are permitted on lands that may be designated for timber, manufacturing in these areas would not substantially conflict with existing zoning or require rezoning of forest land or timberlands. Therefore, the proposed manufacturing component under both the Project and the More Permissive Project would not substantially conflict with forest land or timberland designated areas, and impacts would be *less than significant*.

Impact AT-3.2 Indirect Cultivation/Manufacturing. Indirect impacts to forest land, timberland, and TP zoned land would be limited in scope, as all land designations allow for some conversion of land for ancillary uses to support the primary use of the land, such as for commercial cannabis cultivation. For forest land, as discussed above, associated analysis and mitigations from the sections throughout the EIR would be required to ensure protection of forest land within the County.

Timberland under THPs and NTMPs are subject to State limitations under the Forest Practices Act and would necessitate compliance with the California Forest Practice Rules. The Project would necessitate housing, utilities, and roads for properties in forest land areas.

TP zoning regulations currently authorize accessory uses such as grazing and other agricultural uses provided they do not significantly detract from the use of the property or inhibit the growing and harvesting of timber. TP zoning also provides for limited conversion of forest land for residential, recreational, agricultural, and timber related uses. "Conversion" is subject to acreage limitations under the Forest Practices Act and County zoning regulations. County Planning and Building Services would additionally participate in reviewing timber conversions, and in doing so provide information to CalFire as to whether a Cultivation License has been issued corresponding with the intent for conversion as stated in the conversion request. Therefore, Program impacts under both the Project and More Permissive Project would be *less than significant*.

Impact AT-4. The Program could result in the removal of trees and conversion of timberland that may be used for timberland resources. Impacts would be less than significant with mitigation.

Impact AT-4.1 – Direct cultivation/manufacturing. Direct impacts of the Program on timber resources would involve the removal of trees, as provisions of the Program allow for limited removal of timberlands to use for agricultural (cannabis cultivation) operations and ancillary facilities. This type of tree removal (as contrasted with timber harvest) is considered "land clearing" under SCCC Chapter 16.22, *Erosion Control*, and subject to the requirements for a Land Clearing Permit if tree removal and clearing involve more than one acre. As described in Impact AT-3, land use and zoning allowances permit limited commercial agricultural operations on lands that support timberland and timber production; however, forested areas outside of historically or currently timbered lands allow agricultural activities as a principally permitted use.

Outdoor grows are expected to be prevalent in the Mountain and South County Regions, as these regions have a better climate for growing and contain the greatest acreage and number of parcels eligible for cultivation, where 38 percent of the registrant-provided cultivation sites would be in the Mountain Region and 27 percent would be in the South County Region under the Program. The Program requires that if cannabis cultivation occurs outdoors, the growing area must be fully secured and enclosed within an opaque fence at least 6 feet high. Installation of the fence in timberland areas

may require additional tree removal that may reduce the ecological and resource value of timberland areas. MM AV-1, ensuring the appropriateness of proposed fencing, would ensure fences are sited to avoid tree removal during cultivation site licensing and permitting.

If all potential cannabis cultivation occurred within timber areas, of the approximate 90,647 acres of timberland in the County, this would represent less than 0.01 percent of the County's timber resource area. The conversion of timberland area to agricultural cannabis operations is not anticipated to be extensive, as a maximum of 79.1 acres of cannabis canopy could occur within the County by registrant licensees under the Program, including 34.8 acres of new cannabis canopy. Most projected cultivation, 147 acres of the 190.1 projected total, would occur on CA land which is mostly located in South County, mostly within greenhouses, and outside of forested lands. As stated in the preceding Impact AT-3 discussion, impacts to timbered areas of forested lands would be *less than significant*, due to the state and County policies and regulations.

Direct impacts from the proposed manufacturing could result in the removal of trees. About one-half of the manufacturing activities is projected to occur on cannabis cultivation sites, with the other half dispersed throughout the County on eligible sites. The proposed Program provides that new structural development associated with cannabis manufacturing must be clustered within 200 feet of other buildings on the property to facilitate timber harvesting and to preserve the rural character of the land. A discretionary permit with a Zoning Administrator hearing would be required for any manufacturing structures on timberland, and the application review and permit approval process would can ensure protection of the timber resource. However, if existing property buildings are located immediately adjacent to forest resources that may support timber production; installation of new structures may result in the removal of these timber resources. As such, the potential for substantial loss of trees that contribute to overall County timber resources would be high under the Program. Therefore, direct impacts from cannabis cultivation and manufacturing on timber resources would be *potentially significant*.

Mitigation Measures

MM AT-4.1a. Siting Allowance for New Manufacturing Structural Development. To protect timber resources that may be located adjacent to existing property buildings, the proposed SCCC Chapter 7.132 shall be revised prior to adoption by the Board of Supervisors, to allow for the siting of new manufacturing structures further away than 200 feet of other property buildings if the closer location is not feasible, through approval of a discretionary development permit. The alternate location may only be permitted if it would not adversely affect existing natural resources or timber resources (i.e., an open cleared area).

Requirements and Timing. SCCC Chapter 7.132 shall be revised prior to adoption of the Program.

Monitoring. The Licensing Official shall determine that a site adheres to MM AT-4.1.1 before issuance of a license.

MM AT-4.1b. Land Clearing Restrictions. To protect timber resources that may be located adjacent to existing property buildings, the County shall amend SCCC Chapter 16.22, Erosion Control, to require a land clearing permit for licensed cannabis operations for any clearing of more than 0.25 acre of land.

Requirements and Timing. SCCC Chapter 16.22 shall be amended prior to adoption of the Program.

Monitoring. The Licensing Official shall determine that a site adheres to MM AT-4.1.2 before issuance of a license.

Post-Mitigation Level of Impacts

With implementation of MM AT-4.1.1, and MM AT-4.1.2, residual direct impacts to timberland that may be used for timberland resources would be *less than significant with mitigation*.

Impact AT-4.2 – Indirect Cultivation/Manufacturing. Indirect impacts of the Program on timber resources would involve the removal of some trees, as both Program scenarios require the installation of ancillary facilities such as residences, utilities, and roadway access. The construction of up to 228 new onsite residential units required to carry out cannabis cultivation on a site, along with any associated roads, utility infrastructure, and site improvements to support onsite cannabis cultivation operations, may require the removal of trees onsite. The construction of homes and support structures, including site improvements to meet County Fire Code, would potentially alter the existing character near each cultivation site. Construction of these residences and associated infrastructure could involve grading for building pads, roads, and driveways, in addition to grading and site preparation activities required for cannabis cultivation. Such grading and site preparation would have the potential to change the topography of the site and may be visible from scenic roads or public vistas. With the installation of utilities on cultivation sites without existing utility infrastructure, trees may need to be removed to accommodate the installation.

Potential acreage and scale of development for the required onsite residential units is conservatively assumed to be the size of a typical rural residential development in the County at approximately 0.5 to 1.0 acre per residence, including roads, driveways, utilities, and outbuildings, representing up to 228 acres of potential indirect development associated with the Program Countywide. However, under the County Building Code, a single-family home can meet all applicable requirements and be only about 300 square feet in size. If all new residential and ancillary development occurred in the approximate 90,647 acres of timberland in the County, this would comprise a limited area representing less than 0.01 percent of the County's timber resource areas. Therefore, Program impacts under both the Proposed Project and More Permissive Project would be *less than significant*.

3.2.6.2 Summary of Project Impacts and Proposed Mitigation Measures

Table 3.2-7 provides a summary of the Program impacts related to agriculture and timber production resources and proposed mitigation measures.

Table 3.2-7 Summary of Agricultural and Timber Resources Impacts

Agriculture and Timber Impacts	Level of Significance	Mitigation Measures	Post-Mitigation Level of Significance	
			Project	More Permissive Project
Impacts from Commercial Cannabis Cultivation and Cannabis Product Manufacturing				
Impact AT-1. The Program could convert prime farmland, unique farmland, or farmland of statewide importance to non-agricultural use. Impacts would be less than significant.				
Direct	Less than Significant	None required	Less than Significant	Less than Significant
Indirect	Less than Significant	None required	Less than significant	Less than significant
Impact AT-2. Proposed land uses under the Program could be incompatible with existing zoning for agricultural uses and Williamson Act contracts. Impacts would be less than significant.				
Direct	Less than Significant	None required	Less than Significant	Less than Significant
Indirect	Less than Significant	None required	Less than significant	Less than significant
Impact AT-3. The Program could substantially conflict with existing zoning for or cause rezoning of forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) to a non-allowable use. Impacts would be less than significant.				
Direct	Less than Significant	None required	Less than Significant	Less than Significant
Indirect	Less than Significant	None required	Less than significant	Less than significant
Impact AT-4. The Program could result in the removal of trees and conversion of timberland that may be used for timberland resources. Impacts would be less than significant with mitigation.				
Direct	Potentially Significant	MM AT-4.1a. Siting Allowance for New Manufacturing Structural Development. MM AT-4.1b. Land Clearing Restrictions	Less than significant with Mitigation	Less than significant with Mitigation
Indirect	Less than Significant	None required	Less than significant	Less than significant

3.2.7 Secondary Impacts

Impact AT-5. The Program could convert prime farmland, unique farmland, or farmland of statewide importance to non-agricultural use; propose land uses that are incompatible with existing zoning for agricultural uses and Williamson Act contracts; substantially conflict with existing zoning for or cause rezoning of forest land, timberland, or timberland zoned TP to a non-allowable use; and result in the removal of trees and conversion of timberland that may be used for timberland resources. Impacts would be significant and unavoidable.

Impact AT-5 – Secondary Cultivation/Manufacturing. Currently, there is a significant but unquantified amount of illegal cannabis cultivation and manufacturing occurring in the County (see Section 3.0, *Introduction and Approach to Analysis*). There is potential for expansion of the existing, baseline illegal activity as a result of the Program in that any licensing program may create the perception that, regardless of any restrictions and limitations of the program, there is opportunity for new cultivation and manufacturing businesses to become established and ultimately licensed within the County. This perception could lead to new cultivation and/or manufacturing activity that may not be licensed. Such unregulated cultivation and manufacturing would occur without adherence to existing restrictions for agricultural and forestry practices, setbacks, County Building Code compliance, or protection of FMMP farmland. Potential barriers to legal cultivation coupled with economic requirements such as taxation rates; development of a residence on site, infrastructure improvements, road improvements, minimum parcel sizes and required mitigation measures and other requirements, may reduce participation in the Program and increase the rate of unlicensed cultivation over the life of the Program.

The location of unlicensed cultivation sites cannot be predicted with any certainty; such cultivation could occur in any of the countywide regions and could continue or expand in areas unsuitable for cultivation. Given its illegal or unpermitted nature and need for concealment from enforcement, such activities may occur in heavily forested areas with steep slopes, involving clear-cutting of trees and stepped mountainside grading. Vegetation clearing, grading, and building support facilities such as water supply facilities and trails would increase the amount of tree removal without regulatory oversight or protections. Operational impacts associated with soil tilling, watering, weed control, and other activities may affect soil quality and damage to surrounding agricultural operations from potential drainage runoff. These impacts could occur Countywide; although, impacts associated with soil or land degradation from clear-cutting or mountainside grading that may eliminate prime soils would have higher potential to occur on the steep slopes in the Mountain and North Coast Regions where the most timberland exists, and are areas known for existing cannabis cultivation and difficult detection and enforcement. Unregulated cannabis cultivation may also result in the degradation of soils identified as important farmland for the state or local level, especially within the South County and North Coast Regions, with the largest potential for continued adverse impacts occurring in the North Coast and Mountain Regions due to the greater amount of known unregulated operations in these areas. Therefore, secondary impacts related to conversion of important farmland would be *potentially significant* for both the Project and More Permissive Project.

Secondary impacts would also consist of illegal operations out of compliance with existing zoning or with Williamson Act contracts. Unregulated cannabis cultivation may result in the degradation of soils designated for commercial agricultural usage and Williamson Act contract lands, primarily within the South County Region, due to the greater amount of designated commercial agricultural land in the

County. However, given that unlicensed cannabis cultivation would still primarily comply with existing commercial agricultural regulations and state Williamson Act requirements due to being an agricultural use, and with existing restrictions on pesticides and fertilizer controls as discussed in Section 3.8, *Hazards and Hazardous Materials*, secondary impacts related to unlicensed cannabis cultivation and commercial agricultural production on Williamson Act lands under the Program would not likely manifest. Additionally, should a landowner not comply with their Williamson Act contract, enforcement actions could include agency initiated non-renewal of the contract and related tax penalties. Therefore, secondary impacts on Williamson Act contracted lands would be *less than significant*.

Additional secondary impacts would occur due to continued illegal or unpermitted cannabis cultivation activities in forest land and timberland areas of the County without regulatory oversight for environmental protection. In the existing baseline condition, substantial cannabis cultivation occurs in remote, isolated settings, typically, in areas which are naturally forested. These practices have resulted in substantial changes to forest lands including tree removal, land clearing, water diversion, grading and other activities which together constitute conversions of forest lands to non-forest use. Without the ability to regulate unlicensed cannabis activities, these secondary impacts would be *potentially significant* for both the proposed Project and More Permissive Project.

Without an effective method to track and enforce unlicensed cannabis cultivation and manufacturing within the County, the Program may result in an unknown quantity of removed trees and conversion of timberland to other uses such as agriculture. Therefore, due to the potential for an unknown quantity of trees and associated forest land removed, secondary impacts would be *potentially significant*.

Mitigation Measures

MM AT-1.3a. Sustained Enforcement Program. To address continued unlicensed cannabis cultivation within the County that may adversely affect agricultural and timberland resources, the Cannabis Licensing Office, in consultation with the Planning Department and County Sheriff's Office, shall recommend to the Board of Supervisors an Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program. The enforcement program shall have sustainable funding and feasible implementation within the first year of adoption of the proposed Program to address enforcement of unlicensed cannabis cultivators and manufacturers. The funding and implementation program shall be subject to approval by the Board of Supervisors. Within two years of adoption of the proposed Program, funding shall be determined with assistance from the Annual Survey and Monitoring Report described in MM AT-1.3b and appropriately balanced with other County and/or local community priorities to provide a feasible level of funding for an effective ongoing enforcement program.

Requirements and Timing. The Cannabis Licensing Office and Planning and Development Department shall develop and recommend the provisions of the Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program prior to adoption of the Program. The County shall allocate funding and implementation resources for one year following Program adoption.

Monitoring. The Cannabis Licensing Office shall monitor enforcement programming, in coordination with the Planning and Development Department and the County Sheriff's Office.

MM AT-1.3b. Annual Survey and Monitoring Report. To ensure that licensed cultivators are abiding by license and permit conditions, and to identify and take actions to address illegal cannabis activities, comprehensive annual survey and monitoring activities shall be conducted, and conveyed in an Annual Survey and Monitoring Report to the Board of Supervisors, with recommendations regarding enforcement staffing and resources. At least 50 percent of licensed cultivation and manufacturing sites shall be evaluated and reported upon each year in an Annual Survey and Monitoring Report. The survey shall be implemented by the Cannabis Licensing Office once per year, and the list of monitored and surveyed items shall be approved by the County Cannabis Licensing Official, Planning Director and Agricultural Commissioner within one year of adoption of the proposed Program. At minimum, the Annual Survey and Monitoring Report shall include quantitative recordings of the following items, with analysis of both licensed and unlicensed illegal activities:

- Location of the cultivation or manufacturing site;
- Type of cultivation (indoor/ outdoor/ greenhouse/ etc.) and/or manufacturing (volatile/ non-volatile/ etc.) practices;
- Total square footage of disturbed ground associated with cannabis cultivation and manufacturing; and
- Total loss of any adjacent timber resources or recent habitat removals (including, but not limited to, damage to waterways, indigenous wildlife, understory forest vegetation, or felled trees).

At completion of the annual survey and monitoring efforts, the data shall be assembled into an Annual Report available for review by the County Board of Supervisors. The Annual Report shall contain recommendations regarding enforcement and staffing resources, to provide a feasible level of funding for an effective enforcement program.

Requirements and Timing. The Cannabis Licensing Office and Planning and Development Department shall conduct an annual survey and prepare a report to the Board of Supervisors annually. The County shall allocate funding and implementation resources for the survey on an ongoing basis during Program implementation.

Monitoring. The Cannabis Licensing Office shall perform the survey and prepare the annual report, in coordination with the Planning and Development Department and the County Sheriff's Office.

Post-Mitigation Level of Impacts

With implementation of MMs AT-1.3a and AT-1.3b, unregulated cannabis cultivation and/or manufacturing would be reduced over time either through enforcement/closure of grow sites, and residual secondary agricultural and timber resource impacts would be reduced, but it cannot be ensured that unlicensed activities would be reduced to a less than significant level. Though both licensed and unlicensed cannabis cultivation and manufacturing would be tracked and appropriately enforced by the County to the extent the sites are identifiable, including ensuring that licensed operations are compliant with requirements, there is a high likelihood that secondary impacts would continue to occur due to the nature of County enforcement and remote and unknown locations of some existing unlicensed cultivation sites. Therefore, while an adaptive plan can be made to track and enforce licensed and unlicensed cannabis cultivators and manufacturers, the comprehensive

protection of existing agricultural and timber resources cannot be ensured. Therefore, secondary impacts to agricultural and timber resources would be *significant and unavoidable*.

3.2.8 Cumulative Impacts

As described in Section 3.0, *Introduction and Approach to Analysis*, the cumulative setting for the Program involves a variety of planning programs in the region of Santa Cruz County along with regional growth and ongoing development under the County's General Plan, including the pending General Plan Update efforts and the Agricultural Code Update. Program approval would contribute to cumulative agricultural and timberland impacts associated with pending and future growth and development projects Countywide, including pending and approved timber production plans and changes in agricultural crops and activities over time.

Cumulative direct and indirect impacts associated with the Program's cultivation and manufacturing activities would include potential exposure to agricultural and timber resource conflicts associated with the combined new cannabis canopy by registrants seeking licenses, of 8 acres up to 34 acres, with additional acreage for support development, as well as development of structures to support cannabis cultivation and manufacturing activities. Up to 147 acres of cannabis cultivation is also projected to occur on CA zoned lands, mostly in South County. Additionally, under the Program, additional development in the form of housing and utilities would be required on a range of lands designated for agricultural and timber production. Impacts on agricultural and timbered areas of forested lands would be *less than significant*, due to existing requirements of the County General Plan, SCCC, California Forest Practice Rules, and California Department of Conservation. As impacts from the Program are fully mitigated, these cumulative effects would not be considerable and, therefore, would be *less than significant*.

Section 3.3
Air Quality

3.3.1 Introduction

Program Impact Analysis
At a Glance
The Program could adversely affect air quality in the County based on odors, mobile trips, and energy use generated by the Program. Mitigation and Program setbacks would ensure odor impacts are less than significant. However, even with mitigation, NO_x levels due to mobile emissions from employee trips could have significant and unavoidable impacts. Unlicensed cannabis activities could also have significant and unavoidable secondary impacts.

This section identifies and evaluates issues related to air quality that could result from cannabis cultivation and manufacturing permitted under the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program), including analysis of both the Project scenario and the More Permissive Project scenario. Existing air quality conditions in Santa Cruz County (County) are described, as well as applicable regulations. Potential impacts to air quality in the County that would result from the Program are evaluated, along with effectiveness of relevant Program components in addressing air quality. Where potentially significant impacts are identified, mitigation measures are recommended. This section is based on information from recent environmental documents prepared for the County, Monterey Bay Unified Air Pollution Control District (MBUAPCD), County Planning Department, County General Plan, the California Air Resources Board (CARB), and use of the California Emissions Estimator Model Version 2016.3.1 (CalEEMod).

3.3.2 Environmental Setting

This section discusses the existing air quality conditions within the County, including criteria pollutant levels and emissions. CARB has divided California into 15 regional air basins based on topographic features. Each basin is further divided into air pollution control districts (APCDs), which are responsible for managing and enforcing air quality regulations within their districts.

The County is in the North Central Coast Air Basin (NCCAB), which is comprised of Monterey, Santa Cruz, and San Benito Counties, covering an area of 5,159 square miles along the central coast of California. The northwest portion of the NCCAB is dominated by the Santa Cruz Mountains. MBUAPCD consists of all three counties within the NCCAB; therefore, the County is within the jurisdiction of the MBUAPCD.

The NCCAB and MBUAPCD are comprised of Santa Cruz, San Benito, and Monterey Counties. Source: CARB.

3.3.2.1 Topography and Meteorology

The County's air quality is influenced by both local topography and meteorological conditions. The semi-permanent high pressure cell in the eastern Pacific (Pacific High pressure cell) is the basic controlling factor in the climate of the NCCAB.

In the summer, the high-pressure cell is dominant and causes persistent west and northwest winds over the California coast. Air descends in the Pacific High pressure cell, forming a stable temperature inversion of hot air over a cool coastal layer of air. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The warmer air above acts as a lid to trap air from moving upward. The generally northwest-southeast orientation of mountainous ridges tends to restrict and channel the summer onshore air currents.

In the fall, the surface winds become weak, and the marine layer grows shallow, dissolving completely on some days. The air flow is occasionally reversed in a weak offshore movement, and the relatively motionless air mass is held in place by the Pacific High pressure cell, which allows pollutants to build up over a period of a few days. It is most often during this season that the north or east winds develop to transport pollutants from either the San Francisco Bay area or the Central Valley into the NCCAB.

During the winter, the Pacific High pressure cell travels southward and has less influence on the NCCAB. Northwest winds are still dominant in winter, but easterly flow is more frequent than usual. The general absence of deep, persistent inversions and the occasional storm systems usually result in good air quality for the NCCAB in winter and early spring.

In the County, the Santa Cruz Mountains have a strong influence on atmospheric circulation, which results in generally good air quality. Small inland valleys, such as Scotts Valley, which have low mountains on two sides, have poorer circulation than the communities on the coastal plain. In addition, Scotts Valley is downwind of major pollutant generating centers in Silicon Valley, and these pollutants have time to form oxidants during their transit to Scotts Valley. Consequently, air pollutants tend to build up more at Scotts Valley than in the coastal regions, including the Santa Cruz and Watsonville areas of the County (County of Santa Cruz 2017a).

3.3.2.2 Sensitive Receptors

Individuals with pre-existing health problems, those who are close to an emissions source, or those who are exposed to air pollutants for long periods of time are considered more sensitive to air pollutants than others. Land uses such as primary and secondary schools, hospitals, and convalescent homes are relatively sensitive to poor air quality because the very young, the elderly, and the infirmed are more susceptible to respiratory infections and other air quality-related health problems than the public. Residential land uses are considered sensitive to poor air quality because people in residential areas are often at home for extended periods, and are subject to extended exposure to the type of air quality present at the residence. Recreational land uses offer individuals a location to exercise and are therefore considered moderately sensitive to air pollution. Vigorous exercise places a high demand on the human respiratory function and poor air quality could add potentially detrimental stresses to the respiratory function.

3.3.2.3 Common Air Pollutants

The following is a general description of the physical and health effects from the governmentally regulated air pollutants.

Ozone. Ozone (O_3) occurs in two layers of the atmosphere. The layer surrounding the Earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" ozone) layer extends upward from about 10 to 30 miles and protects life on Earth from the sun's harmful ultraviolet rays (UV-B). "Bad" ozone is a photochemical pollutant, and is formed from complex chemical reactions involving volatile organic compounds (VOCs), Nitrogen Oxides (NO_x), and sunlight; therefore, VOCs and NO_x are ozone precursors. Significant ozone formation generally requires an adequate number of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

Many respiratory ailments, as well as cardiovascular disease, are aggravated by exposure to high ozone levels. Ozone also damages natural ecosystems (such as forests and foothill plant communities) and damages agricultural crops and some human-made materials (such as rubber, paint, and plastics). Societal costs from ozone damage include increased healthcare costs, the loss of human and animal life, accelerated replacement of industrial equipment and reduced crop yields.

Carbon Monoxide. Carbon monoxide (CO) is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. At high concentrations, CO can reduce the oxygen-carrying capacity of the blood and cause headaches, dizziness, and unconsciousness.

Nitrogen Dioxide. Nitrogen oxides are a family of highly reactive gases that are a primary precursor to the formation of ground-level O_3, and react in the atmosphere to form acid rain. Nitrogen Dioxide (NO_2) (often reported as total nitrogen oxides, NO_x) is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations).

NO_2 can irritate and damage the lungs, and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO_2 concentrations that are typically much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

Coarse Particulate Matter (PM_{10}). PM_{10} refers to suspended particulate matter, which is smaller than 10 microns or 10 one-millionths of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate the lungs and can potentially damage the respiratory tract. On June 19, 2003, CARB adopted amendments to the statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill [SB] 25).

Fine Particulate Matter ($PM_{2.5}$). Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both state and federal $PM_{2.5}$ standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease.

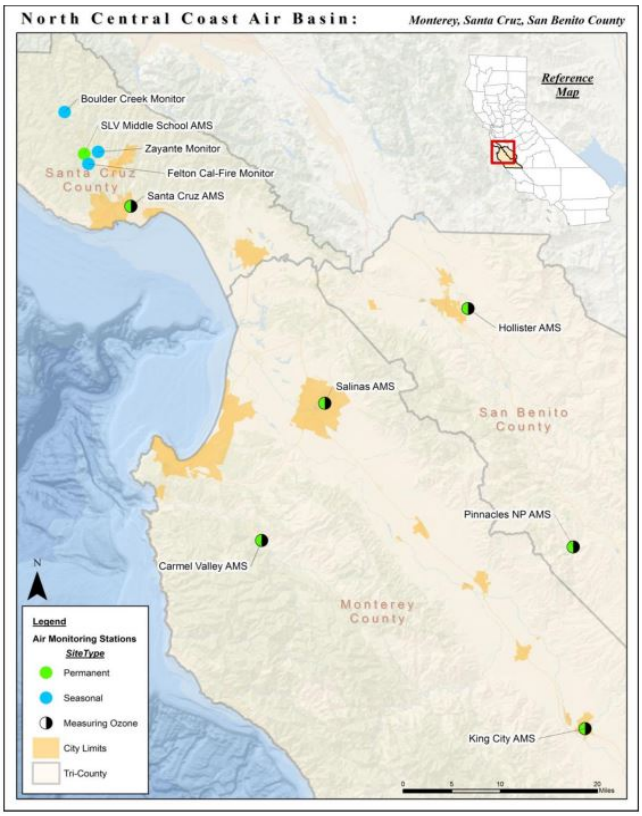
On June 20, 2002, CARB adopted amendments for statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current state standards during some parts of the year, and the statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging.

Reactive Organic Gases and Volatile Organic Compounds. Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including reactive organic gases (ROGs) and VOCs. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants; other common sources are petroleum fuels, solvents, dry cleaning solutions, and paint (via evaporation).

3.3.2.4 Ambient Air Quality and Monitoring

Ozone, the primary constituent of smog and the main pollutant of concern for the NCCAB, is formed in the atmosphere through complex chemical interactions involving ROG[1] and NO_x in the presence of sunlight. The primary sources of ROG within the NCCAB are on- and off-road motor vehicles, petroleum production and marketing, solvent evaporation, and prescribed burning. The primary sources of NO_x are on- and off-road motor vehicles, stationary source fuel combustion, and industrial processes.

The MBUAPCD is responsible for measuring pollutant concentrations in the NCCAB. There are seven monitoring stations within the NCCAB. The air basin is situated downwind of the San Francisco Bay Area Air Basin (SFBAAB) and transport of ozone precursor emissions from the SFBAAB plays a dominant role in ozone concentrations measured in the County.



There are seven ambient air quality monitoring stations throughout the NCCAB, five of which are located within Santa Cruz County. Source: MBUAPCD.

[1] ROG and VOC are considered equivalent in this analysis.

Ambient air quality standards (AAQS) establish levels of air quality that must be maintained to protect the public from the adverse effects of air pollution. California state standards are established to protect public health, including the most sensitive members of the population. National Ambient Air Quality Standards (NAAQS) include a primary standard to protect public health and a secondary standard to protect the public welfare including property, vegetation and visibility. AAQS are established for what are called "criteria air pollutants", which include O_3, CO, NO_x, sulfur dioxide (SO_2), PM_{10}, and $PM_{2.5}$. The current AAQS for ozone are found below in Table 3.3-1 (MBUAPCD 2017).

Table 3.3-1 Ambient Air Quality Standards for Ozone

		California Standards	National Standards*	
Pollutant	**Averaging Time**	**Concentration**	**Primary Concentration**	**Secondary Concentration**
Ozone	1 hour	0.09 ppm	--	--
	8 hour	0.070 ppm	0.070 ppm	0.070 ppm

ppm=parts per million
*In 2015 National Standards were strengthened to 0.070 ppm from 0.075 ppm
Source: MBUAPCD 2017.

In 2012, the United States Environmental Protection Agency (U.S. EPA) issued final designations for the 2008 8-hour NAAQS (0.075 ppm) for ozone, which show the NCCAB as in attainment, based on monitoring data for 2009-2011. In 2015, the U.S. EPA lowered the National Standard to 0.070 ppm while also issuing a preliminary designation of attainment in the NCCAB based on 2013-2015 data. The U.S. EPA will make final designations for the new 2015 standard in October 2017, based on 2014-2016 data. Based on a review of preliminary data for the 2016 ozone season, it appears that the NCCAB will meet the 2015 standard of 0.070 ppm.

For the state ozone AAQS, CARB revised the standard in 2006 to include an 8-hour ozone average of 0.070 ppm, while retaining the existing 1-hour ozone standard at 0.09 ppm. Both these state standards must be met for the NCCAB to achieve the state standard overall. Currently, the NCCAB is designated by CARB as a nonattainment-transitional area for the state ozone standard. The reason this designation is different than the National Standard, is that the U.S. EPA and CARB use different attainment tests, with CARB's method being more stringent. The current NCCAB attainment status is found below in Table 3.3-2 (MBUAPCD 2017).

Table 3.3-2 Attainment Status for the North Central Coast Air Basin

Pollutant	State Designation	Federal Designation
Ozone (O_3)	Nonattainment-Transitional	Attainment
Inhalable Particulates (PM_{10})	Nonattainment	Attainment
Fine Particulates ($PM_{2.5}$)	Attainment	Attainment
Carbon Monoxide (CO)	Santa Cruz County – Unclassified	Attainment
Nitrogen Dioxide (NO_2)	Attainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Lead	Attainment	Attainment

Source: MBUAPCD 2017.

Ambient air quality is monitored at seven stations within the NCCAB. This network includes six stations operated by the MBUAPCD, and one station operated by the National Park Service (NPS) at

Pinnacles National Park. The data from the Pinnacles National Park station are also used by both CARB and the U.S. EPA to designate the NCCAB as attainment or nonattainment of the ozone standards (MBUAPCD 2017).

Cannabis Odors

Cannabis odors can be controlled in indoor settings through containments, ventilation, and filters to ensure sensitive receptors do not smell the odors offsite.

Cannabis cultivation, and to a lesser degree manufacturing, is often accompanied by strong odors. Odors vary by variety, including pepper, balsamic vinegar, pine, citrus, and skunk-like odors. Most of the pungent aromas of cannabis come from a class of chemicals called terpenes. Terpenes are among the most common compounds produced by flowering plants, vary widely between plants, and are responsible for the fragrance of nearly all flowers. Cannabis produces over 140 different terpenes. These terpenes are found in varying concentrations in different cannabis varieties. THC, the cannabinoid primarily responsible for cannabis' psychoactivity, has no odor. Type and potency of cannabis odors range widely from variety to variety, as do the opinions by receptors regarding whether the odor is pleasant or objectionable.

Cannabis odors can spread through the air and be sensed by surrounding receptors. For example, based on scoping comments received for this EIR, residents of Bonny Doon can often smell outdoor cannabis as an ambient air characteristic. Similarly, in the Deer Creek area of the Mountainous Region, cannabis odors were experienced on public roads during site visits conducted in January and February 2017 by the EIR consulting team (Amec Foster Wheeler 2017). However, the predictability and degree to which cannabis odors can travel is highly variable depending on climatic and topographic conditions near a cultivation site. Outdoor cultivation has the greatest potential to expose sensitive receptors to odors, though greenhouse and indoor cultivation may occasionally contribute odors to surrounding areas if ventilation systems are not effective or if indoor spaces are periodically aired out. Cannabis odors can be successfully contained within structures or filtered to prevent diffusion into surrounding areas.

3.3.3 Regulatory Setting

Air quality problems in the County are addressed through the effort of federal, state, local, and regional government agencies. These agencies work together and individually to improve air quality through legislation, regulations, policy making, education, and numerous related programs. The individual roles these agencies play in regulating air quality is described below and in Appendix A.

3.3.3.1 Federal

Clean Air Act Amendments

In 1990, the U.S. Congress adopted the federal Clean Air Act Amendments (CAAA), which updated the nation's air pollution control program. The CAAA established several requirements, including new deadlines for achieving federal clean air standards.

The U.S. EPA is the federal agency charged with administering the CAAA and other air quality-related legislation. As a regulatory agency, U.S. EPA's principal functions include setting NAAQS; establishing minimum national emission limits for major sources of pollution; and promulgating regulations.

The CAAA require the U.S. EPA to approve state implementation plans (SIPs) to meet and/or maintain the national AAQS. California's SIP is comprised of plans developed at the regional or local level. The approved SIP for the NCCAB consists of the 1994 Maintenance Plan and Contingency Control Measures for the Monterey Bay Region and adopted rules and regulations (MBUAPCD 2008).

3.3.3.2 Federal and State: Ambient Air Quality Standards

Both the state and the federal governments have established AAQS for several different pollutants, a summary of which is provided in Table 3.3-3. For some pollutants, separate standards have been set for different time periods. Most standards have been set to protect public health. However, for other pollutants, standards have been based on some other value (such as protection of crops, protection of materials, or avoidance of nuisance conditions).

3.3.3.3 State

California Clean Air Act

In 1988, the State legislature adopted the California Clean Air Act (CCAA), which established a statewide air pollution control program. CCAA requirements include annual emission reductions, increased development and use of low emission vehicles, and submittal of air quality attainment plans by air districts.

California Air Resources Board

CARB, a division of the California EPA (CalEPA) is the state agency responsible for coordinating both state and federal air pollution control programs in California, ensuring implementation of the CCAA and responding to the federal CAAA. CARB approves local air quality management plans (AQMPs) which address attainment and maintenance of state AAQS as mandated by the CCAA. CARB also coordinates and approves local plans which eventually become part of the SIP for submittal to CalEPA. CARB is responsible for the control of vehicle emission sources, while the local air district is responsible for enforcing standards and regulating stationary sources (MBUAPCD 2008).

Table 3.3-3 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1] Concentration[3]	National Standards[2] Primary[3,4]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	--
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)
Respirable Particulate Matter (PM_{10})[5]	24 Hour	50 µg/m^3	150 µg/m^3
	Annual Arithmetic Mean	20 µg/m^3	--
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	--	35 µg/m^3
	Annual Arithmetic Mean	12 µg/m^3	12.0 µg/m^3
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)
Nitrogen Dioxide (NO_2)[6]	1 Hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)
Lead (Pb)[7,8]	30-day average	1.5 µg/m^3	--
	Calendar Quarter	--	1.5 µg/m^3 (for certain areas)
Sulfur Dioxide (SO_2)[9]	1 Hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)
	3 Hour	--	--
	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (for certain areas)
Visibility-Reducing Particles[10]	8 Hour	Extinction coefficient = 0.23 km@<70% RH	No National Standards
Sulfates	24 Hour	25 µg/m^3	
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	
Vinyl Chloride[11]	24 Hour	0.01 ppm (26 µg/m^3)	

Source: CARB 2016.

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°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.

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

Table 3.3-3 National and California Ambient Air Quality Standards (Continued)

[5] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24- hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[6] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[7] CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level 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.

[8] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[9] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[10] In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

[11] The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level 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.

Abbreviations:

µg/m^3 = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion; km = kilometer(s); RH = relative humidity.

3.3.3.4 Regional

Monterey Bay Unified Air Pollution Control District

MBUAPCD shares responsibility with CARB for ensuring that state and national AAQS are achieved and maintained within the NCCAB. State law assigns local air districts the primary responsibility for control of air pollution from stationary sources while reserving to CARB an oversight function. MBUAPCD is responsible for developing regulations governing emissions of air pollution, permitting and inspecting stationary sources of air pollution, monitoring of ambient air quality, and air quality planning activities, including implementation of transportation control measures (MBUAPCD 2008).

MBUAPCD monitors air quality and regulates stationary emission sources in the County. As a responsible agency under the California Environmental Quality Act (CEQA), MBUAPCD reviews and approves environmental documents prepared by other lead agencies or jurisdictions to reduce or avoid impacts on air quality and to ensure that the lead agency's environmental document is adequate

to fulfill CEQA requirements. As a concerned agency, the MBUAPCD comments on environmental documents and suggests mitigation measures to reduce air quality impacts.

MBUAPCD Air Quality Management Plan (2012-2015)

The CCAA requires attainment of state AAQS by the earliest practicable date. For air districts in violation of the state ozone, carbon monoxide, sulfur dioxide, or nitrogen dioxide standards, attainment plans were required by July 1991. The MBUAPCD was required to develop an attainment plan to address ozone violations. The CCAA requires the MBUAPCD to periodically prepare and submit a report to CARB that assesses its progress toward attainment of the state AAQS. This report is the seventh update to the 1991 AQMP, and updates elements included in the 2012 AQMP based on a review of the period from 2012-2015. It shows that the region continues to make progress toward meeting the state ozone standard.

This AQMP only addresses attainment of the state ozone standard. It is an assessment and update to the 2012 Triennial Plan. In 2012, the U.S. EPA designated the NCCAB as in attainment with the national 8-hour ozone standard of 0.075 ppm. In 2015, the national standard was revised to 0.070 ppm. The NCCAB continues to be in attainment with the stricter national standard (MBUAPCD 2017).

Association of Monterey Bay Area Governments

The Association of Monterey Bay Area Governments (AMBAG) is the Metropolitan Planning Organization (MPO)/Regional Transportation Planning Agency (RTPA) for the Monterey Bay Area, which is responsible for coordinating with all the RTPAs, such as San Benito County Council of Governments, the Santa Cruz County Regional Transportation Commission, and the Transportation Agency of Monterey County. The MBUAPCD will work closely with AMBAG and its constituents to include appropriate air quality components in the Sustainable Communities Strategy Implementation Project (SCSIP), the 2040 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS), and other local and regional projects to ensure the most comprehensive regional best management practices possible.

Population forecasts adopted by AMBAG are used to forecast population-related emissions. Through the planning process, emission growth is offset by basin-wide controls on stationary, area, and transportation sources of air pollution.

3.3.3.5 Local

County of Santa Cruz General Plan and Local Coastal Program (LCP)

Conservation and Open Space Element

Objective 5.18 – Air Resources. To improve the air quality of Santa Cruz County by meeting or exceeding state and federal ambient air quality standards, protect County residents from the health hazards of air pollution, protect agriculture from air pollution induced crop losses and prevent degradation of the scenic character of the area.

Air Resources Policy 5.18.1 – New Development. Ensure new development projects are consistent at a minimum with the Monterey Bay Unified Air Pollution Control District Air Quality Management Plan and review such projects for potential impact on air quality.

Air Resources Policy 5.18.2 – Non-Attainment Pollutants. Prohibit any net increase in emissions of non-attainment pollutants or their precursors from new or modified stationary sources which emit 25 tons per year or more of such pollutants.

Air Resources Policy 5.18.3 – Air Quality Mitigations. Require land use projects generating high levels of air pollutants (i.e., manufacturing facilities, hazardous waste handling operations) to incorporate air quality mitigations in their design.

Air Resources Policy 5.18.5 – Sensitive Land Uses. Locate air pollution sensitive land uses, including hospitals, schools, and care facilities, away from major sources of air pollution such as manufacturing, extracting facilities.

Air Resources Policy 5.18.6 – Plan for Transit Use. Encourage commercial development and higher density residential development to be located in designated centers or other areas that can be easily served by transit.

Air Resources Policy 5.18.7 – Alternatives to the Automobile. Emphasize transit, bicycles, and pedestrian modes of transportation rather than automobiles.

Air Resources Policy 5.18.8 – Encouraging Landscaping. Maintain vegetated and forested areas, and encourage cultivation of street trees and yard trees for their contributions to improved air quality.

Santa Cruz County Code (SCCC)

Chapter 7.110 – Ozone-Depleting Compounds

The purpose of this chapter is to protect the environment, and the health, safety and welfare of the County's citizens by prohibiting the manufacture, sale and distribution of certain products made of or with CFCs involved in the manufacturing process, and by significantly reducing the release of halons into the earth's atmosphere.

3.3.4 Methodology and Assumptions

This analysis of potential air quality impacts reviews the existing air quality described in Section 3.3.2*, Environmental Setting*, and determines the Program's potential impact on air quality, including the Project and the More Permissive Project scenarios. For analysis of GHGs, please see Section 3.7, *Greenhouse Gas Emissions and Climate Change*. Refer to Section 3.0, *Introduction and Approach to Analysis*, for a detailed discussion of projected cannabis activities in the County due to Program implementation.

To address direct impacts from operational emissions, CalEEMod was run in August 2017 to provide a conservative estimate of operational air emissions potentially produced from the projected increase in cannabis cultivation above existing activities. Emissions from cultivation are generated from electricity demand from indoor and greenhouse cultivators, water demand from all cultivation types, and vehicle trips/miles traveled from cannabis industry employment. Since cannabis cultivation is a unique land use type that does not have predetermined factors for CalEEMod, user-defined land uses for indoor, greenhouse, and outdoor cultivation were run through the model, with the following assumptions for cultivation demands:

Table 3.3-4 CalEEMod Assumptions by Cultivation Type

Emission Source	Indoor	Greenhouse	Outdoor
Water Demand	0.1 gallons of water per day per sf with a growing season of 365 days	0.1 gallons of water per day per sf with a growing season of 270 days	0.03 gallons of water per day per sf with a growing season of 180 days
Electricity	200,000 kWh/year of electricity per 1,000 sf of canopy	110,000 kWh/year of electricity per 1,000 sf of canopy	N/A
Vehicle Daily Trips (employees only)	An average daily traffic trip rate of 1.64/1,000 sf of canopy with employees commuting 6 days a week		

Sources: ODOE 2017; County of Santa Cruz 2017; RAND 2010.
Detailed CalEEMod assumptions and results can be found in Appendix F.

Electricity demand estimates used the Oregon Department of Energy's (ODOE) Indoor Cannabis Cultivator Energy Use Estimator. As a conservative estimate of energy demand for indoor cultivators, high energy usage was assumed, which includes high wattage high intensity discharge (HID) fixtures, unvented, high light density (less than 40 sf per light), significant supplemental cooling and/or heating to grow space, high volume ventilation and air circulation (high level of air changes) that operates majority of the time, as well as multiple other energy using equipment, including dehumidification, pumping and water temperature control, and CO_2 production. The calculations assume a typical 12 to 18 hour per day light operation for vegetative and flowering phases and a continuous grow cycle. The model estimates the energy demand for indoor cultivators would be 200,000 kilowatt hours (kWh) per year per 1,000 sf of canopy. For estimated energy demand from greenhouse cultivators, it was assumed that approximately one half of these operations would be medium-high energy users and one half would be medium-low energy users reflecting the assumption these operations would include a mixture of cultivation types. Medium high energy use includes high wattage HID fixtures with medium light density (40-60 sf per light), significant supplemental cooling and/or heating to grow space, high volume ventilation and air circulation that is frequently on, and minimal dehumidification, pumping, CO_2 production, or addition energy usages. Medium-low energy usage includes high wattage HID fixtures at low light fixture density (greater than 60 sf per light), very minimal or no supplemental cooling or heating to grow space, minimal mechanical ventilation and air circulation (ventilation only used minimally and not continuously to control temperature), and no dehumidification, pumping, CO_2 production, or additional energy usages. The model estimates medium-high energy demand would be 140,000 kWh/year/1,000 sf, and medium low energy demand would be 80,000 kWh/year/1,000 sf. The average of these two numbers is 110,000 kWh/year/1,000 sf (ODOE 2017). See Section 3.14, *Utilities and Energy Conservation*, for more discussion on electricity rates.

Average cannabis water demand factors were determined based on literature review and observed conditions by the County Licensing Office staff (County of Santa Cruz 2017b). These factors assume that all operations would utilize new water (i.e., no water would be recycled and reused onsite) to project a reasonable worst case water demand from new cannabis cultivation. Total water demands were estimated based on estimated new cultivation/canopy area for outdoor, indoor, and greenhouse operations, average water demand factors calculated for cannabis cultivation, and standard number of growing days based on type of operation. See Section 3.14, *Utilities and Energy Conservation*, for more discussion on water use rates.

Mobile emissions were estimated based on an average daily trip rate for cannabis cultivation derived from research conducted by the RAND Drug Policy Center and the ERA Economics study (RAND 2010) (ERA Economics, LLC for CA Department of Food and Agriculture 2017). See Section 3.13, *Transportation and Circulation* for analysis of average daily trip rates and transportation impacts.

This analysis programmatically addresses emissions from manufacturing operations and construction of cannabis-related structures, including any residential units, where the use of CalEEMod was unreliable or infeasible due to the speculative nature of these activities. Utility and energy demands resulting from new cannabis home occupations and small-scale cannabis product manufacturing are not assessed, as demands are largely represented as part of the existing Countywide conditions and would represent a negligible increase over existing demands. The construction of up to 228 new homes associated with cultivation sites would have to comply with established building codes including strict state-wide energy efficiency standards. It is assumed that manufacturing facilities would occur in existing buildings and any new commercial buildings, or improvements to existing buildings and greenhouses, would also have to comply with energy efficiency and renewable energy standards in the building code. Therefore, energy demand associated with manufacturing operations and construction of cannabis-related structures is minimal.

Impacts to air quality are assessed through the evaluation of existing air quality in the County, review of existing policy framework for the protection of air quality, review of the Program's requirements, and comparison of the Program's potential emissions with MBUAPCD thresholds of significance The Program is reviewed for the potential to result in a significant change from the existing air quality setting, including potential exposure to cannabis-related odors, as well as potential inconsistencies of the Program with the MBUAPCD AQMP. The analysis takes into consideration the existing General Plan policies that identify and protect air resources including the County's goal of meeting or exceeding state and federal ambient air quality standards, and protecting residents from the health hazards of air pollution. The analysis also accounts for provisions of the Program, including the proposed requirement that: "All licenses issued under [the Program] must be consistent with the County's policies, objectives, laws, regulations, and programs related to land use, including those related to the County's General Plan and Local Coastal Program."

3.3.5 Significance Criteria

CEQA Guidelines Thresholds

The following thresholds of significance are based on Appendix G of the 2017 CEQA Guidelines. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Implementation of the Program would have a significant impact on air quality if the Program would result in any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

MBUAPCD Air Quality Thresholds

The MBUAPCD is the applicable air pollution control district for the Program. Therefore, its significance criteria are used in this analysis to determine the Program's impact on air quality based on the MBUAPCD CEQA Air Quality Guidelines.

Emissions from construction activities represent temporary impacts that are typically short in duration, depending on the size, phasing, and type of project. Air quality impacts can nevertheless be acute during construction periods, resulting in significant localized impacts to air quality. Table 3.3-5 summarizes the threshold of significance for construction activities in the County.

Table 3.3-5 Threshold of Significance for PM_{10} – Construction Impacts

Source	Threshold of Significance
Direct emissions	82 lbs/day*

*District-approved dispersion modeling can be used to refute (or validate) this determination of significance if direct emissions would not cause an exceedance of State PM_{10} AAQS. The MBUACPD guidelines also recognize the difficulty of accurately estimating fugitive emissions from earth moving and apply general areas guidelines as a screening value, where up to 8.2 acres may be graded with minimal earthmoving or 2.2 acres may be graded and excavated without exceeding the PM10 significance threshold of 82 lbs/day.
Source: MBUAPCD 2008.

Emissions from long-term operations generally represent a project's most substantial air quality impact. Table 3.3-6 summarizes the thresholds of significance for operational impacts by pollutant. An exceedance of any threshold would represent a significant impact on local or regional air quality. The following thresholds apply to all indirect and direct emissions within the air basin, whether they are subject to MBUAPCD authority, unless noted otherwise.[2]

[2] Indirect emissions come from mobile sources that access the project site but generally emit offsite; direct emissions are emitted onsite (e.g., stationary sources, onsite mobile equipment).

Table 3.3-6 Thresholds of Significance for Criteria Pollutants of Concern – Operational Impacts*

Pollutant	Threshold(s) of Significance
VOC	137 lbs/day (direct + indirect)
NO_x, as NO_2	137 lbs/day (direct + indirect)
PM_{10}	82 lbs/day (onsite only)**
CO	LOS at intersection/road segment degrades from D or better to E or F or V/C ratio at intersection/road segment at LOS E or F increases by 0.05 or more or delay at intersection at LOS E or F increases by 10 seconds or more or reserve capacity at unsignalized intersection at LOS E or F decreases by 50 or more ***
	550 lbs/day (direct only)***
SO_x, as SO_2	150 lbs/day (direct only)**

Notes: Indirect emissions come from mobile sources that access the project site but generally emit offsite; direct emissions are emitted onsite (e.g., stationary sources, onsite mobile equipment).

*Projects that emit other criteria pollutant emissions would have a significant impact if emissions would cause or substantially contribute to the violation of state or national AAQS. Criteria pollutant emissions could also have a significant impact if they would alter air movement, moisture, temperature, climate, or create objectionable odors in substantial concentrations. When estimating project emissions, local or project-specific conditions should be considered.

**The District's 82 lbs/day operational phase threshold of significance applies only to onsite emissions and project-related exceedances along unpaved roads. These impacts are generally less than significant. On large development projects, almost all travel is on paved roads (0% unpaved), and entrained road dust from vehicular travel can exceed the significant threshold. Please contact the Air District to discuss estimating emissions from vehicular travel on paved roads. District-approved dispersion modeling can be used to refute (or validate) a determination of significance if modeling shows that emission would not cause or substantially contribute to an exceedance of state and national AAQS.

***Modeling should be undertaken to determine if the project would cause or substantially contribute *(550 lbs/day) to exceedance of CO AAQS. If not, the project would not have a significant impact.

Source: MBUAPCD 2008.

3.3.6 Environmental Impact Analysis and Mitigation

This section discusses the potential air quality impacts associated with the Program. A detailed discussion of each impact follows. The introduction of excessive criteria pollutants and odors by the Program that conflict with the County's existing air quality standards and plan, may be considered significant air quality effects. Where there are potentially significant or significant and unavoidable impacts, mitigation measures are proposed and the residual impact is determined. Impacts and mitigation measures are summarized in Table 3.3-8.

3.3.6.1 Program Impacts

Impact AQ-1. Commercial cannabis cultivation and manufacturing under the Program could potentially expose sensitive receptors to substantial pollutant concentrations and create objectionable odors affecting a substantial number of people. Impacts would be less than significant with mitigation.

Impact AQ-1.1 – Direct Cultivation/Manufacturing. Direct impacts include the air pollutants and objectionable and detectable odors emitted from the direct cultivation and manufacturing of cannabis

under the Program. Sensitive receptors that are located near cannabis cultivation or manufacturing sites are most susceptible to harmful air pollutants and/or obnoxious odors produced by sources such as fuels, fertilizers, burning waste, manufacturing processes, and cannabis plants. Although the scent of cannabis plants is not necessarily harmful to people, the plants can produce a skunky smell, especially during the flowering phase, which is often why some people find the scent objectionable.

Outdoor cannabis cultivation can generate strong odors that may adversely affect sensitive receptors. However, with siting and distance/setback requirements of the Program, these effects would be minimized.

As described in Section 2.3.2, *Program Components*, cannabis cultivation would be limited within the Urban and Rural Services Lines (USL + RSL), which would limit cultivation within urban areas where air quality and odor conflicts may be more common, such as with sensitive receptors like schools and neighborhoods. The Program also requires cannabis cultivation sites to be setback from sensitive receptors, such as habitable structures, parks, and schools. The More Permissive Project generally reduces these required setbacks from the Project's setbacks, which would increase the risk of air quality and odor impacts on adjacent sensitive receptors such as rural residences. Under both scenarios, no cannabis cultivation would be allowed within a residence or residential garage, which would restrict odors within neighborhoods. The use of generators as an energy source for cultivation would not be allowed under the Program, which would prevent odors and harmful emissions emanating from diesel and gasoline fuels.

The proposed SCCC Chapter 7.128 for cultivation requires indoor cannabis cultivation to use a commercial air scrubbing or filtration system sufficient to prevent the odors associated with cannabis production from escaping the structure where cannabis is cultivated. This requirement would prevent any adverse odor effects on sensitive receptors Countywide. However, a similar requirement is not proposed or available for outdoor or greenhouse cannabis cultivation sites to prevent odors, which could travel on the wind and affect nearby neighborhoods or other sensitive receptors. Greenhouses typically contain agricultural odors, but can have an adverse effect when the greenhouse is opened up, allowing trapped odors to emanate all at once. Also, odors emanating from exhaust fans or facilities that are not effectively removing odors could adversely affect people. In addition, SCCC Chapter 7.128 as drafted does not prohibit the burning of agricultural cannabis waste or vegetative matter from clearing of a site following harvest. Outdoor and greenhouse cannabis cultivation would often occur on rural agricultural or timber production parcels, where odors from agricultural operations are a typical and anticipated occurrence. However, it is likely that even in rural areas, rural communities such as Bonny Doon and Ben Lomond could experience increased exposure to odors from licensed outdoor and greenhouse cultivators. The acreage projected for outdoor cultivation under the Program (22.8 acres) could create objectionable odors affecting a substantial number of people Therefore, direct impacts due to objectionable odors emitted from cannabis cultivation facilities for both the Project and More Permissive Project would be potentially significant.

The use of agricultural pesticides in cannabis cultivation also contributes evaporative air emissions in the form of toxic air contaminants (TACs) and VOCs that could affect sensitive receptors near outdoor and greenhouse-based cultivation sites. Based on Program registration data, of the 567 existing cultivators, 86 currently use pesticides on their cannabis grows. Of the 193 proposed

cultivators, 13 stated that they plan to use pesticides, but this value is not reliable as it was user reported and may change through the licensing process. Many of these cultivators use either organic pesticides such as MET-52, a natural fungus that gets rid of spider mites, or common pesticides found at garden supply hardware stores applied with a hand sprayer, which would have no effect on sensitive receptors. However, for larger-scale outdoor cultivation, sprinklers, dust, or powder fertilizers could be applied, which have a larger potential to affect sensitive receptors.

The California Department of Pesticide Regulation (DPR) proposed DPR 16-004 to regulate pesticide use near school sites. DPR 16-004 would require growers to notify public K-12 schools, child day care facilities, and county agricultural commissioners when certain pesticide applications made to produce an agricultural commodity near a school site are planned in the coming year and a few days prior to the applications. In addition, certain pesticide applications near these school sites would be prohibited at certain times. The proposed regulatory action would apply pesticide application restrictions Monday through Friday, during the hours of 6:00 a.m. to 6:00 p.m., depending on the distance from the treated area to a school site, the application equipment used, and type of pesticide applied. During these time periods, there must be a minimum 0.25-mile distance restriction from school sites for pesticide applications using aircraft, airblast sprayers, sprinklers, dust, powder, or fumigants. Because of the minimal number of cultivators that use pesticides, the fact that no cultivators report using industrial scale pesticides, and the setbacks already built into the Program to protect sensitive uses from airborne pollutants, pesticide use under the Program would be incremental. However, the setback of 0.25 mile for certain pesticides proposed by the state is larger than the Program setback of 600 feet from schools, which could create a potential conflict. Therefore, impacts to sensitive receptors from pesticide use on cannabis cultivation sites would be potentially significant.

The proposed SCCC Chapter 7.132 for manufacturing requires that an indoor cannabis manufacturing facility use a commercial air scrubbing or filtration system sufficient to prevent odors from escaping the facility. To fully mitigate odors, all manufacturing facilities are required to use a mechanical source capture system. Further, all cannabis manufacturing operations which generate emissions from extraction processes are required to obtain applicable permits from the MBUAPCD, such as Authority to Construct and Permit to Operate permits. Therefore, development standards included within the Program would ensure that objectionable odors emitted from indoor manufacturing facilities would be reduced to a less than significant level for both the Project and More Permissive Project.

The Program would also allow for outdoor manufacturing facilities in the form of an "open air extraction area", but only within CA, A, and AP zone districts on parcels at least 20 acres in size, and with no residences located in proximity to the operation. Since open air manufacturing would only be restricted from residence receptors, there is a possibility that other sensitive receptors such as schools, convalescent homes, or recreational areas would be affected by these outdoor manufacturing areas. Given the potential for outdoor manufacturing operations to create air pollution and objectionable odor effects on nearby sensitive receptors, the impact of open air manufacturing operations on sensitive receptors would be potentially significant for both the Project and the More Permissive Project.

Mitigation Measures

MM AQ-1.1. Siting for Odor Abatement. To reduce objectionable odor impacts associated with outdoor cultivation sites under the Program, proposed SCCC Chapter 7.128 shall be revised prior to adoption to state that potential Licensees for outdoor cannabis cultivation operations shall

consider siting the future outdoor grow with consideration of prevailing wind direction and topography to ensure that any odors emanating from the cannabis plants do not reach nearby sensitive receptors, residential neighborhoods, or a substantial number of people, to the maximum extent feasible.

Plan Requirements and Timing. SCCC Chapter 7.128 shall be revised prior to adoption of the Program.

Monitoring. The Board of Supervisors shall review and adopt a final SCCC Chapter 7.128 that includes this requirement. The Licensing Official shall determine that a site adheres to MM AQ-1.1 before issuance of a license.

MM AQ-1.2. Greenhouse Odors. To reduce objectionable odor impacts associated with airing out greenhouses used for cannabis cultivation under the Program, proposed SCCC Chapter 7.128 shall be revised prior to adoption to require greenhouses that cultivate cannabis to install and utilize a commercial air scrubbing or filtration system sufficient to prevent the odors associated with cannabis production from escaping the structure if an adverse effect has previously been documented as affecting a substantial number of people. The system need only be used prior to opening up the greenhouse to deplete any trapped odors and lessen the odors that would otherwise emanate all at once.

Plan Requirements and Timing. SCCC Chapter 7.128 shall be revised prior to final adoption of the Program by the Board of Supervisors to include the requirement.

Monitoring. The County Planning Department shall review and approve amendments to SCCC Chapter 7.128. The Licensing Official shall determine that a site adheres to MM AQ-1.2 before issuance of a license.

MM AQ-1.3. Prohibit Cannabis Material Burning. To reduce PM_{10} emissions and objectionable odors related to burning of cleared vegetation and/or agricultural waste, proposed SCCC Chapters 7.128 and 7.132 shall be revised prior to adoption to include the provision that the burning of cleared cannabis vegetation and/or excess cannabis plant materials associated with the cultivation and/or manufacturing of cannabis is prohibited.

Plan Requirements and Timing. SCCC Chapters 7.128 and 7.132 shall be revised prior to adoption of the Program to include this requirement.

Monitoring. The Licensing Official shall determine that a site adheres to MM AQ-1.3 before issuance of a license.

MM AQ-1.4. Consistency of Pesticide Use Setbacks. To ensure consistency with the foreseeable state regulation DPR 16-004, Pesticide Use Near School Sites, proposed SCCC Chapter 7.128 shall be revised prior to adoption to clarify that the County shall not issue a cultivation license to any site that would apply pesticides using aircraft, airblast sprayers, sprinklers, dust, powder, or fumigants located within 0.25 mile from a school.

Plan Requirements and Timing. SCCC Chapter 7.128 shall be revised prior to adoption of the Program by the Board of Supervisors.

Monitoring. The Licensing Official shall determine that a site adheres to MM AQ-1.4 before issuance of a license.

MM AQ-1.5. Open Air Extraction Area Setbacks. To reduce air pollutant and objectionable odor impacts associated with open air extraction areas under the Program, proposed SCCC Chapter 7.132 shall be revised prior to adoption to clarify that setbacks from open air extraction areas shall be maintained from schools, libraries, alcohol and drug treatment facilities, parks, and other sensitive receptors in addition to residence receptors to mitigate impacts from objectionable odors. The Cannabis Licensing Official shall have discretion to determine an acceptable distance between an open air extraction area and a sensitive receptor on a case-by-case basis.

Plan Requirements and Timing. SCCC Chapter 7.132 shall be revised prior to adoption of the Program.

Monitoring. The Licensing Official shall determine that a site adheres to MM AQ-1.5 before issuance of a license.

Post-Mitigation Level of Impacts

With the implementation of MM AQ-1.1 through MM AQ-1.5, residual direct air pollution and objectionable odor impacts from cannabis cultivation and manufacturing operations would be *less than significant with mitigation* for both the Project and the More Permissive Project. The County would ensure that changes in the proposed SCCC Chapters 7.128 and 7.132, and the Licensing Program are carried through and implemented on a site-by-site basis.

Impact AQ-1.2 -Indirect Cultivation/Manufacturing. Indirect impacts of the Program would result from air pollutants and odors produced due to the construction of up to 228 new onsite residential units required to cultivate, along with any associated roads, utility infrastructure, and site improvements to support onsite cannabis cultivation operations. Residences would be required for eligible parcels within A, RA, TP, and SU zone districts, but not within the CA zone district such as for the projected use of 147 acres of greenhouses. Additionally, County Fire Code requirements would require onsite water tanks, roadways, and vegetation clearing as described in Section 3.0, *Introduction and Approach to Analysis*.

Air pollutants and odors associated with construction could potentially adversely affect sensitive receptors and/or a substantial number of people, but construction of houses and infrastructure would be short-term and distributed Countywide, and would represent a limited source for odors or other emissions. Therefore, indirect impacts related to air pollution and objectionable odors would be considered *less than significant* for both the Project and the More Permissive Project.

Impact AQ-2. Commercial cannabis cultivation and manufacturing under the Program could be potentially inconsistent with the MBUAPCD AQMP. Impacts would be significant and unavoidable.

Impact AQ-2.1 – Direct Cultivation/Manufacturing. Direct impacts from the Program are related to the commercial cultivation and/or manufacturing of cannabis in the County. To determine whether the Program's operations would be consistent with the applicable air quality plan, the Program's operational air quality emissions estimated using CalEEMod (see Appendix F) were compared to the MBUAPCD AQMP for consistency. The CalEEMod results calculate the potential emissions of future cultivators, that is, those not cultivating as of 2016, based on the type of cultivation and canopy size recorded in the County's cannabis licensing registration data from 2016. As described further in Section 3.0, *Introduction and Approach to Analysis*, it is likely that the location and total number of licensed sites will vary from the registration data depending on the adopted Program regulations and

the degree to which registrants can find a suitable location for the proposed cannabis activity. Nevertheless, this analysis assumes that all registrants would be able to obtain a license within the County in order to provide a conservative analysis of a reasonable worst case scenario per State CEQA Guidelines.

Consistency with local and regional air quality plans, such as the MBUAPCD AQMP, is required under CEQA. Consistency with the AQMP means that stationary and vehicle emissions associated with the proposed Program are accounted for in the AQMP's emissions growth assumptions. The County is currently under nonattainment status for ozone, and the Project would result in emissions of ozone precursors (NO_x and ROG). The AQMP stresses that reducing NO_x emissions from mobile sources is crucial for reducing ozone formation in the NCCAB. Mobile sources account for 60 percent of the AQMP's 2015 NO_x inventory. The AQMP emission reduction strategy report shows that the NCCAB continues to make progress toward attaining the 8-hour ozone standard, but the MBUAPCD's priority is to continue to pursue reduction of ozone precursor emissions from mobile sources, especially for NO_x.

In total, the new cannabis cultivators under the Program could contribute approximately 251 lbs/day of NOx. Since the Program would emit more than 137 lbs/day of NO_x (see Table 3.3-7 below), Program emissions from cultivation are not consistent with the AQMP and are not accommodated in the AQMP. Cannabis manufacturers may contribute additional NO_x associated with additional employee trips from approximately 20 new larger/higher-yield manufacturers per year, for the first five years of the Program. As explained in Section 3.13, *Transportation and Circulation*, the average daily trips calculated for cultivation activities under the Program are a conservative estimate and are assumed to adequately characterize the impacts from both cultivation and manufacturing activities under the Program. The collective increase in NO_x from both cultivation and manufacturing would continue to exceed the threshold for NO_x and would not be consistent with the AQMP.

Measures to reduce employee trips for the commercial cannabis industry may reduce the NO_x emissions from the Program, including transportation demand management (TDM) measures such as carpooling and shuttle service during harvesting periods. However, as these measures would vary site-by-site, it is unclear whether NO_x emissions could be reduced to levels that are consistent with the AQMP. Implementation of the Program would exceed adopted thresholds and would be inconsistent with the AQMP, so direct impacts related to Program consistency with the AQMP would be *potentially significant* for both the Project and the More Permissive Project.

Commercial cannabis cultivation and manufacturing could increase employee trips in the County, which would generate NO_x levels that exceed MBUAPCD thresholds. Ridesharing and other measures to reduce trips would help reduce this impact.

Mitigation Measures

MM AQ-2.1. Implement TDM Measures. To reduce operation-generated NO_x emissions related to offsite mobile emissions caused by implementation of the Program, proposed SCCC Chapters 7.128 and 7.132 shall be revised prior to adoption to include the provision that Licensees must implement feasible TDM measures that reduce vehicle travel to and from their proposed site:

- Provide for carpool/shuttle/mini bus service for employees, especially during harvesting periods, on cultivation sites.
- Provide bicycle storage/parking facilities.
- Provide incentives to employees to rideshare or take public transportation.
- Implement compressed or flexible work schedules to reduce the number of days per week that employees are needed onsite.

Plan Requirements and Timing. SCCC Chapters 7.128 and 7.132 shall be revised prior to final adoption of the Program by the Board of Supervisors.

Monitoring. The Licensing Official shall determine that a site adheres to MM AQ-2.1 before issuance of a license.

Post-Mitigation Level of Impacts

With implementation of MM AQ-2.1, mobile emissions generated by employee trips to and from cannabis cultivation and/or manufacturing sites would be reduced. Due to the inability to ensure that all sites are implementing these TDM measures regularly and the inability to quantify the mobile emissions reductions, direct residual impacts associated with Impact AQ-2.1 would be *significant and unavoidable*.

Impact AQ-2.2 – Indirect Cultivation/Manufacturing. Indirect impacts of the Program would be related to the construction of up to 228 new residential units required to receive a license for cultivation, along with any associated roads, utility infrastructure, and site improvements to support cultivation operations. Residences would be required for parcels within A, RA, TP, and SU zone districts. Additionally, County Fire Code requirements would require water tanks, roads, and vegetation management to create defensible space as described in Section 3.0, *Introduction and Approach to Analysis*.

Air quality emissions produced by the construction and operation of these new houses and associated infrastructure under the Program would be characteristic of a typical rural single family home's emissions, and would constitute an incremental increase in emissions in the County by itself; however, as emissions from indirect impacts are considered in addition to direct impact emissions, they would add onto the already significant levels of NO_x emissions , making the Program even more inconsistent with the AQMP (see Table 3.3-7 below). Therefore, indirect impacts related to Program consistency with the AQMP would be *potentially significant* for both the Project and the More Permissive Project.

Mitigation Measures

Implement MM AQ-2.1. Implement TDM Measures. To reduce indirect impacts related to Program consistency with the AQMP, MM AQ-2.1, addressing implementation of feasible TDM measures, shall apply to Impact AQ-2.2.

Post-Mitigation Level of Impacts

With implementation of MM AQ-2.1, indirect impacts due to additional emissions generated by the construction and operation of up to 228 homes, water tanks, and associated improvements may be reduced. However, due to the inability to ensure that all sites are implementing these TDM measures on a regular basis and the inability to quantify the mobile emissions reductions, direct residual impacts associated with Impact AQ-2.2 would remain *significant and unavoidable*.

Impact AQ-3. Commercial cannabis cultivation and manufacturing under the Program could potentially violate an air quality standard or contribute to an air quality violation, and result in a cumulatively considerable net increase of a criteria pollutant for which the County is in nonattainment. Impacts would be significant and unavoidable.

Impact AQ-3.1 – Direct Cultivation/Manufacturing. Direct impacts from the Program are related to air emissions caused by the direct cultivation and/or manufacturing of cannabis in the County. There are generally two types of air emissions; short-term construction generated emissions, and long-term operational generated emissions.

Construction Generated Emissions

The main sources of construction-related fugitive dust emissions include grading, excavation, road construction, and travel of construction vehicles on unpaved surfaces. Fugitive dust is generated when the wheels or blades of construction equipment pulverize and break down surface materials, resulting in dust, which includes PM_{10}. Other sources, such as exhaust from heavy-duty diesel-powered equipment, can also contribute to PM_{10} levels at and around a construction site.

Outdoor cannabis cultivation can involve grading to create level growing areas, which results in diesel-powered equipment emissions and fugitive dust. However, grading would be limited site-by-site and distributed through the County.

Depending on the timing of cannabis cultivation and/or manufacturing license processing, construction activities for new cultivation sites and/or manufacturing facilities in the County could begin shortly after adoption of the proposed Program. Construction emissions would occur during each phase of construction, including demolition, grading/excavation, and building construction. However, the specific construction details such as scheduling/phasing, equipment, building construction size, and grading for future cultivation and manufacturing projects in the County is unknown at this time and would vary from year to year. Therefore, it is difficult to quantify the construction-related emissions that may potentially occur. For example, construction activities for some outdoor cultivation sites may involve excavation of soil to level a site that would generate emissions, such as diesel fumes from heavy equipment, while other sites may already be suited for outdoor cultivation, and would not need the use of heavy equipment and its associated emissions. Additionally, the construction of new buildings, if needed, for indoor cultivation or manufacturing facilities, would likely generate greater construction emissions than the reuse of existing warehouses or buildings for the same uses.

Construction timing for individual projects is also unknown and the potential exists for multiple construction projects to overlap or occur concurrently, increasing construction-related emissions during such time periods. However, it is likely that construction of new cultivation or manufacturing sites would be distributed around the County, although expected to be concentrated in the South County, and would represent an incremental increase in air emissions as individual sites are developed over time. Further, the MBUACPD guidelines recognize the difficulty of accurately

estimating fugitive emissions from earth moving and provide general area guidelines as a screening value. Up to 8.2 acres may be graded with minimal earthmoving, or 2.2 acres may be graded and excavated without exceeding the PM_{10} significance threshold of 82 lbs/day. It is likely that cannabis sites that require earthmoving would not exceed these screening thresholds, since the average cultivation canopy size is approximately 3,000 sf based on the County's license registration data, and most cultivation is expected to occur within existing greenhouses. In addition, all construction under the Program is required to abide by the rules and regulations contained in SCCC Chapter 16.20, Grading Regulations, which requires dust control from grading operations. Therefore, direct impacts to air quality due to short-term construction would be *less than significant* for both the Project and the More Permissive Project.

Operation Generated Emissions

The County is currently in nonattainment-transitional for ozone (VOC and NO_x are ozone precursors), nonattainment for PM_{10}, and unclassified for CO. These criteria pollutants are of concern in the County, and the Program would have a significant impact on air quality if its emissions are over the thresholds for any of these criteria pollutants. NO_x and VOCs are the primary compounds, or precursors, contributing to the formation of ozone, with the main contributors of emissions being on-road mobile sources. Primary PM_{10} (inhalable particulate matter) is considered a localized pollutant, and is often caused by road dust from vehicles operating on unpaved surfaces. Secondary PM_{10} can be formed in the atmosphere through chemical reactions involving gases. PM_{10} emissions are caused by entrained road dust, windblown dust, agricultural tilling operations, waste burning, construction, mobile sources, and industrial processes. CO is directly emitted from combustion engines and can have localized impacts, primarily in areas of heavy traffic congestion. Motor vehicles contribute most CO emissions, with electric utilities, fires, and other mobile and miscellaneous sources making up the rest.

A main source of long-term operation-related emissions under the Program would be motor vehicles traveling to and from the cultivation and/or manufacturing facilities, which produce VOC, NO_x, PM_{10}, and CO emissions. Stationary source emissions, including VOC and NO_x, are another type of long-term operation-generated emissions under the Program, and would include indoor and greenhouse cultivation sites running hydrocarbon fuel-powered equipment.

Operation-generated criteria pollutant emissions from direct impacts of cannabis cultivation were estimated using CalEEMod. Table 3.3-7 summarizes the emissions from future potential indoor, greenhouse, and outdoor cannabis cultivation combined based on the County's license registration data and expected new cultivation under the Program. Most criteria pollutant emissions are associated with estimated employee mobile trip emissions from traveling to and from cultivation facilities for work (see also Section 3.13, *Transportation and Circulation*). Additional emissions would be associated with manufacturing.

Table 3.3-7 Operational Emissions from Indoor, Greenhouse, and Outdoor Cannabis Cultivation Under the Program

		ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Emission Type	Peak Daily Operational Emissions (lbs/day)						
Direct & Onsite	Area	1.8731	0.0079	0.8537	0	0.0031	0.0031
	Energy	0	0	0	0	0	0
Indirect & Offsite	Mobile	55.1693	250.9717	845.0265	1.9145	157.7832	44.4311
TOTAL		**57.0425**	**250.9796**	**845.8802**	**1.9145**	**157.7862**	**44.4342**
Threshold		*137 (direct + indirect)*	*137 (direct + indirect)*	*550 (direct only)*	*150 (direct only)*	*82 (onsite only)*	--
Above Threshold?		NO	**YES**	NO	NO	NO	--

Notes: Indirect emissions come from mobile sources that access the project site but generally emit offsite; direct emissions are emitted onsite (e.g., stationary sources, onsite mobile equipment). Operational emissions are estimated using CalEEMod for area, energy, and mobile source emissions (see Appendix F for detailed CalEEMod assumptions and reports).
Source: MBUAPCD 2008.

The Program's prohibition of generator use would remove at least 133 generators from use in the County. This would have a nominal decrease in existing diesel emissions. These emissions are already below the threshold, but the reduction of 133 generators would further reduce diesel emissions.

The Program would exceed the MBUAPCD operational emission threshold for NO_x (see Table 3.3-7), which is an ozone precursor; ozone is currently designated as nonattainment-transitional in the County. Therefore, since the Program would contribute to an air quality violation and result in a cumulatively considerable net increase of a criteria pollutant for which the County is in nonattainment, direct impacts to air quality would be *potentially significant* for both the Project and the More Permissive Project.

Mitigation Measures

Implement MM AQ-2.1. Implement TDM Measures. To reduce operation generated NO_x emissions related to offsite mobile emissions caused by implementation of the Program, MM AQ-2.1, addressing implementation of TDM measures, shall apply to Impact AQ-3.1.

Post-Mitigation Level of Impacts

With implementation of MM AQ-2.1, direct impacts due to offsite mobile emissions generated by employee trips to and from cannabis cultivation and/or manufacturing sites would be reduced. However, due to the inability to ensure that all sites are implementing these TDM measures on a regular basis and the inability to quantify the mobile emissions reductions, direct residual impacts associated with Impact AQ-3.1 would be *significant and unavoidable*.

Impact AQ-3.2 – Indirect Cultivation/Manufacturing. Indirect impacts of the Program would result from air emissions due to the construction and operation of up to 228 new residential units required to cultivate, along with any associated roads, utility infrastructure, and site improvements to support onsite cannabis cultivation operations. Residences would be required for eligible parcels within A, RA, TP, and SU zone districts Further, the interpretation of the County's Fire Code relative to cannabis-

related structures would require development of up to 568 large tanks for fire water, vegetation management up to 100 feet around each structure, and 20-foot wide paved roads to access the structure with adequate turnaround area.

Construction Generated Emissions

The construction of up to 228 new houses and associated infrastructure would be induced by the Program, since there are already several eligible parcels that have existing houses. Construction of houses and associated development would most likely be spread out over the life of the Program, representing incremental short-term emissions occurring over a long period. Moreover, the additional structures required by the County's Fire Code would require grading, paving, architectural coatings, and other construction activities, which would be distributed and would occur incrementally as each eligible site is licensed. These construction activities could have adverse effects on air quality. However, the MBUACPD guidelines apply general area guidelines as a screening value for grading, where up to 8.2 acres may be graded with minimal earthmoving or 2.2 acres may be graded and excavated without exceeding the PM_{10} significance threshold of 82 lbs/day. It is likely that cannabis sites that require earthmoving for residences or other site improvements would not exceed these screening thresholds, since a typical rural home site development would typically require between 0.5 and 1 acre of grading. In addition, all construction under the Program is required to abide by the rules and regulations contained in SCCC Chapter 16.20, Grading Regulations, which requires dust control from grading operations. Therefore, indirect impacts related to construction generated emissions would be *less than significant* for both the Project and the More Permissive Project.

Operation Generated Emissions

Air emissions produced by the operation of new houses and associated infrastructure under the Project would be characteristic of a typical rural single family home's emissions, and would constitute an incremental increase in criteria pollutants in the County by itself; however, as emissions from indirect impacts are considered in addition to direct impact emissions, they would add onto the already significant levels of NO_x, (see Table 3.3-7 above). Therefore, indirect impacts related to operation generated emissions would be *significant and unavoidable* for both the Project and the More Permissive Project.

3.3.6.2 Summary of Program Impacts and Proposed Mitigation Measures

Table 3.3-8 below provides a summary of the air quality impacts resulting from the Program and proposed mitigation measures.

Table 3.3-8 Summary of Air Quality Impacts

Air Quality Impacts	Level of Significance	Mitigation Measures	Post-Mitigation Level of Significance	
			Project	More Permissive Project
Impacts from Commercial Cannabis Cultivation and Cannabis Product Manufacturing				
Impact AQ-1. Commercial cannabis cultivation and manufacturing under the Program could potentially expose sensitive receptors to substantial pollutant concentrations and create objectionable odors affecting a substantial number of people. Impacts would be less than significant with mitigation.				
Direct	Potentially Significant	MM AQ-1.1. Siting for Odor Abatement MM AQ-1.2. Greenhouse Odors MM AQ-1.3. Prohibit Cannabis Material Burning MM AQ-1.4. Consistency of Pesticide Use Setbacks MM AQ-1.5. Open Air Extraction Area Setbacks	Less than significant with Mitigation	Less than significant with Mitigation
Indirect	Less than significant	None required.	Less than significant	Less than significant
Impact AQ-2. Commercial cannabis cultivation and manufacturing under the Program could be potentially inconsistent with the MBUAPCD AQMP. Impacts would be significant and unavoidable.				
Direct	Potentially Significant	MM AQ-2.1 Implement TDM Measures	Significant and Unavoidable	Significant and Unavoidable
Indirect	Potentially Significant	None required	Significant and Unavoidable	Significant and Unavoidable
Impact AQ-3. Commercial cannabis cultivation and manufacturing under the Program could potentially violate an air quality standard or contribute to an air quality violation, and result in a cumulatively considerable net increase of a criteria pollutant for which the County is in nonattainment. Impacts would be significant and unavoidable.				
Direct	Potentially Significant	MM AQ-2.1. Implement TDM Measures	Significant and Unavoidable	Significant and Unavoidable
Indirect	Potentially Significant	None required	Significant and Unavoidable	Significant and Unavoidable

3.3.6.3 Secondary Impacts

Impact AQ-4. New or increased unregulated commercial cannabis cultivation and cannabis product manufacturing under the Program could potentially expose sensitive receptors to substantial pollutant concentrations and create objectionable odors affecting a substantial number of people, be potentially inconsistent with the MBUAPCD AQMP, and potentially violate an air quality standard or contribute to an air quality violation, and result in a cumulatively considerable net increase of a criteria pollutant for which the County is in nonattainment. Impacts would be significant and unavoidable.

Impact AQ-4. – Secondary Cultivation/Manufacturing. The secondary impacts of the Program relate to air emissions and odors produced by the construction and operation of unregulated cannabis cultivation and manufacturing in remote areas of the County. Potential sources of air pollution and objectionable odors from unregulated sites include the use of diesel or gasoline generators, not using commercial air scrubbers on indoor cultivation or manufacturing operations, and not observing setbacks so that the strong odor associated with cannabis, especially during the flowering phase, would disturb nearby sensitive receptors. Some existing cannabis cultivators and/or manufacturers, as well as new operators who are not eligible for a license, would be excluded from licensing by the proposed Program standards, and would not necessarily adhere to restrictions and setbacks of the Program, which would result in a greater potential to cause adverse air pollution and odors effects. Unregulated cannabis cultivators/manufacturers would also continue to contribute to increased NO_x emissions due to vehicle travel to and from sites if they expand or establish new sites.

Construction of potential future unregulated cultivation and/or manufacturing sites and accessory structures would likely not comply with SCCC Chapter 16.20, *Grading Regulations*, and so would produce more fugitive dust, particulate matter, and exhaust from grading and other construction-related activities on an ongoing basis. Operation of these unregulated sites would also not comply with the Program's requirements and regulations, and as such would produce more operation-related emissions than licensed cultivation and manufacturing operations. For example, unregulated sites may utilize portable diesel and gasoline generators to supply their energy, which contribute to PM_{10}, $PM_{2.5}$, and ozone precursor emissions when operating for extended periods of time. Unregulated manufacturing operations could involve production of butane honey oil (BHO) through volatile open loop extraction processes, which have the potential to cause explosions and contribute to harmful air emissions. In addition, unregulated cultivation sites would potentially burn trees and brush from site clearance, and burn their agricultural waste rather than taking it to a landfill or composting it, which would contribute to PM_{10} emissions.

Therefore, secondary impacts related to air emissions and objectionable odors would be *potentially significant* for both the Project and the More Permissive Project.

Mitigation Measures

Implement MM AT-1.3a. Sustained Enforcement Program. To reduce secondary impacts related to air emissions and objectionable odors associated with unregulated cannabis cultivation/manufacturing and related development activities, MM AT-1.3a, addressing County implementation of the Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program, shall apply to Impact AQ-4.

Implement MM AT-1.3b. Annual Survey and Monitoring Report. To reduce secondary impacts related to air emissions and objectionable odors associated with unregulated cannabis cultivation/manufacturing and related development activities, MM AT-1.3b, addressing County criteria for an Annual Survey and Monitoring Report of licensed activities as well as illegal activities, including recommendations regarding enforcement staffing and resources, shall apply to Impact AQ-4.

Implement MM AQ-1.3. Prohibit Cannabis Material Burning. To reduce PM_{10} emissions and objectionable odors related to burning of cleared vegetation and/or agricultural waste, MM AQ-1.3 shall be implemented as part of the County's enforcement effort for non-licensed cannabis operations.

Post-Mitigation Level of Impacts

With implementation of MMs AT-1.3a and AT-1.3b, unregulated cannabis cultivation and/or manufacturing would be reduced over time either through enforcement/closure of the grow sites or the permitting and licensing of new grow sites. Implementation of MM AQ-1.3 would reduce emissions related to burning of waste.

However, due to the high likelihood for additional or expanded unregulated cannabis cultivation and manufacturing activities regardless of the enforcement and annual survey and monitoring programs, secondary residual impacts associated with Impact AQ-4 would be *significant and unavoidable*.

Since objectionable odors associated with cannabis cultivation and manufacturing are easily discernible and more likely to be reported, it is possible to detect and enforce upon unregulated sites, making the enforcement program more effective. Therefore, secondary residual impacts related to objectionable odors would be *less than significant with mitigation* for both the Project and the More Permissive Project.

3.3.6.4 Cumulative Impacts

The impacts of the Program would be combined with cumulative impacts resulting from development under plans and projects identified in Section 3.0.4, *Cumulative Project Scenario*. Such future development would increase operational mobile emissions in the County and would expose new residents and property to NO_x. Future housing and structural development projects would incrementally contribute to these cumulative impacts.

Inconsistency with the AQMP is considered a significant cumulative adverse air quality impact. Projects which are not consistent with the AQMP have not been accommodated in the AQMP and will have a significant cumulative impact on regional air quality unless emissions are totally offset. Since it is not possible to completely offset NO_x emissions generated by the Program, cumulative impacts would be *significant and unavoidable*.

Section 3.4
Biological Resources

3.4.1 Introduction

Program Impact Analysis
At a Glance
The Program could adversely affect biological resources from disturbance of special-status species, habitats or sensitive natural communities, the movement of native resident or migratory species, or conflicts with adopted Habitat Conservation Plans. County regulations for biological resources and mitigation would ensure direct and indirect impacts are less than significant. However, unlicensed cannabis activities could have significant and unavoidable impacts.

This section evaluates biological resource issues that could result from adoption and implementation of the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program) by the County of Santa Cruz (County), including both the Project and More Permissive Project scenarios. This section discusses federal, state, and local regulations relevant to vegetation and wildlife resources that might be affected by the Program; describes the existing environmental setting of the Program area in the unincorporated areas of the County to which the Program would apply; and identifies special-status plant and wildlife species and sensitive or regulated habitats potentially affected by the Program. Potential impacts related to biological resources that would result from implementation of the Project and More Permissive Project are evaluated and where applicable, mitigation measures (MMs) are provided. Key resources and data used in the preparation of this section include the Santa Cruz County General Plan Conservation and Open Space Element, the Santa Cruz County Code (SCCC), and other sources provided in Appendix G. The overall assumptions and methodology for this analysis are detailed in Section 3.0, *Introduction and Approach to Analysis*.

3.4.2 Environmental Setting

The topography and terrain of the County is highly varied, including the steep slopes and peaks of the Santa Cruz Mountains in the north and northeast, coastal terraces in the mid-County, and the alluvial areas of the South County within the Pajaro River watershed. As described in Section 2.2.1, *Project Location*, the Program area includes more than 39 miles of rugged, mountainous, often forested, watersheds and Pacific coastline that includes sandy beaches, coastal lagoons, and areas of steep coastal bluffs.

Natural Communities and Habitats

Within the Program area, there are approximately 26 natural communities that have been grouped into eight categories: forest/woodland, riparian, scrub/shrubland, grasslands, barren, aquatic/wetland, beaches/dunes/coastlines, and developed areas (Table 3.4-1).[1] The North Coast

[1] For a detailed description of each habitat type and community, including typical plant and wildlife species found in each community, refer to Appendix G.

Region consists of grassland and scrub/shrub lands along the coastal prairies and bluffs, transitioning into forest/woodland dominated communities inland with increasing slope and elevation, while the Mountain Region predominantly supports forest/woodland communities (Figure 3.4-1). The largely developed Urban Region of the County supports fewer natural communities and consists primarily of urban habitat with riparian corridors and wetland/lagoons, and forest/woodland and grassland communities in the foothills of the Aptos planning area. Within the predominantly agricultural alluvial and mountainous areas of the South County Region, habitats typically consist of developed communities to the south, such as croplands and pastures, and forest/woodland and scrub/shrub-land towards the north and east.

Table 3.4-1 Habitat Types and Associated Communities in Santa Cruz County

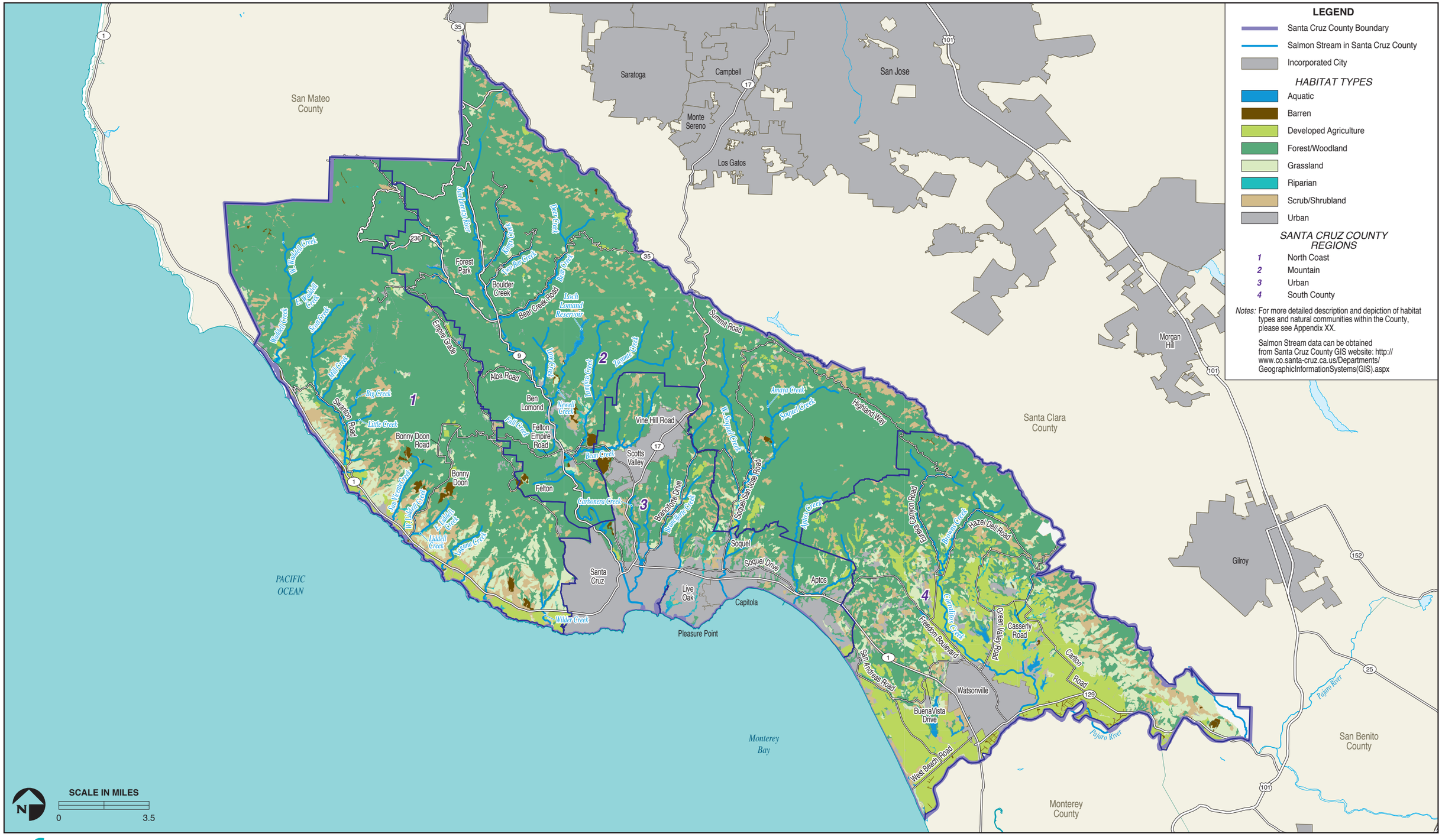
Habitat Type	Communities	Habitat Type	Communities
Forest/Woodland	Coastal Oak Woodland	Grasslands	Annual Grassland
	Closed-Cone Pine-Cypress		Perennial Grassland
	Eucalyptus	Barren	--
	Montane Hardwood-Conifer	Aquatic/ Wetland	Lacustrine
	Montane Hardwood		Riverine and Freshwater Marsh
	Ponderosa Pine		Saline Emergent Wetland
	Redwood		Wet Meadow
Riparian	Montane Riparian	Developed	Cropland
	Valley Foothill Riparian		Deciduous Orchard
Scrub/Shrub-land	Chamise-Redshank Chaparral		Pasture
	Mixed Chaparral		Urban
	Coastal Scrub		Vineyard

Notes: Beaches and incorporated coastal communities are not included within the Program area and have therefore been excluded from this analysis (refer to Appendix G).

Santa Cruz County Sandhills Habitat

Santa Cruz County Sandhills Habitat (Sandhills) is a unique natural community of plants and wildlife. The Sandhills is geographically limited to Santa Cruz County and found only on outcrops of Zayante sandy soil complexes known as the Zayante Series. The Zayante Series consists of light grey soils that are comprised of more than 90 percent sand particles derived from weathering of the marine sediments and sandstone formation. Due to its largely sandy complex, these soils drain very rapidly and hold very little moisture, resulting in limited nutrients available for vegetation and other organic matter (National Cooperative Soil Survey 1998; Sandhills Alliance for Natural Diversity 2005). Due to the unique features

In addition to supporting habitat for several rare plants and wildlife, the Sandhills support two rare and endemic plant communities - maritime coast range ponderosa pine forest and northern maritime chaparral. Photo: Land Trust of Santa Cruz County 2004.



amec foster wheeler

Habitats of Santa Cruz County

FIGURE 3.4-1

This page intentionally left blank.

and limited occurrence of the Zayante Series, the Sandhills habitat type covers only approximately 4,000 acres of land restricted to the Mountain and North Coast Regions (see Figure 3.4-2), and has been severely impacted from mineral quarrying and urban development in these regions (Land Trust of Santa Cruz County 2004).

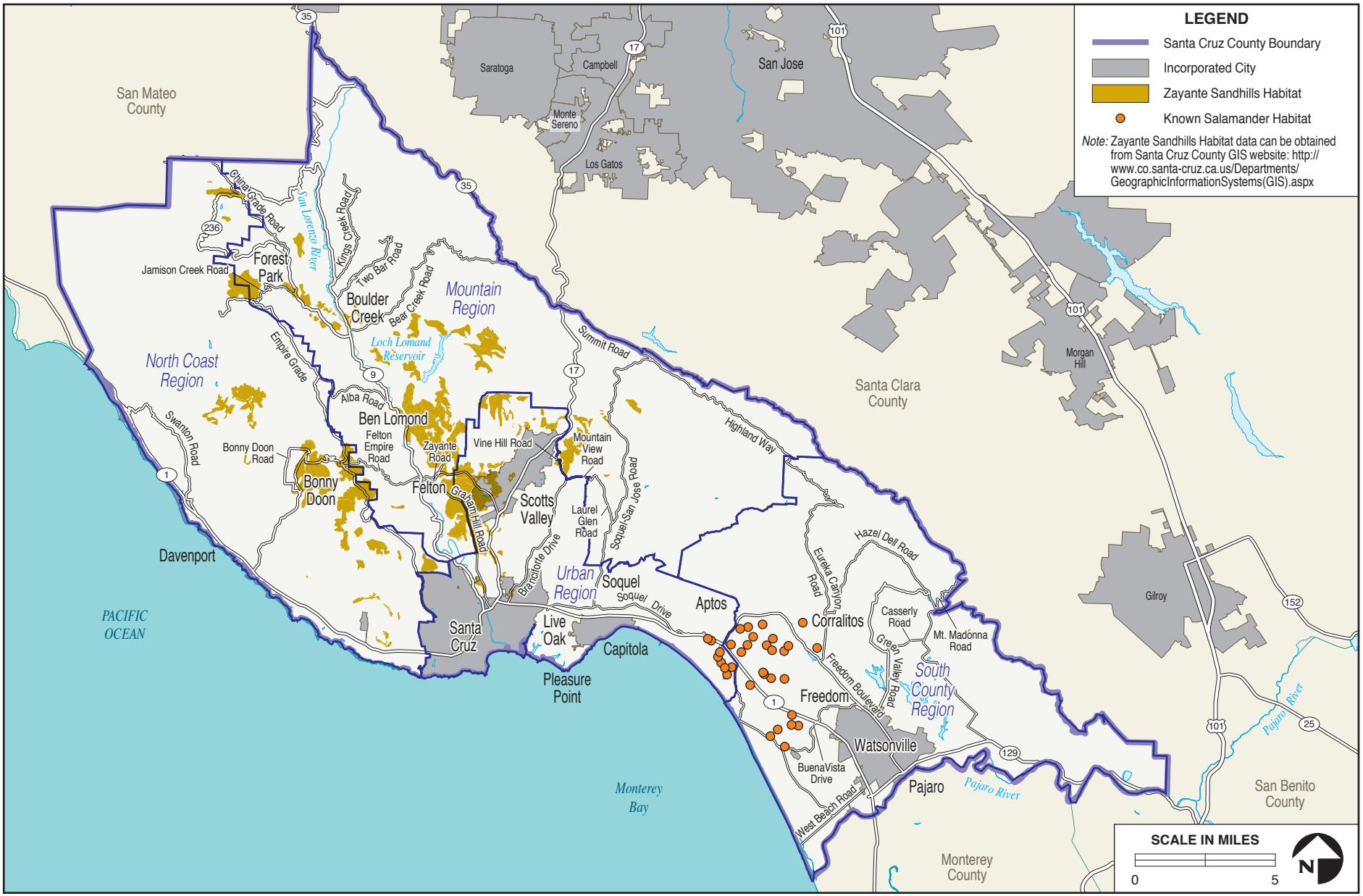
Due to the habitat extremes of these sandy soils and the narrow area in which these soils are found, a unique assemblage of ten identified plant and wildlife species have adapted to living in the Sandhills.[2] These species include: Ben Lomond spineflower (*Chorizanthe pungens var. pungens*); Ben Lomond buckwheat (*Eriogonum nudum* var. *decurrens*); Bonny Doon manzanita (*Arctostaphylos silvicola*); Santa Cruz wallflower (*Erysimum teretifolium*); Santa Cruz cypress (*Cupressus abramsianar*); Santa Cruz monkeyflower (*Mimulus rattanii* ssp. *decurtatus*); Santa Cruz kangaroo rat (*Dipodomys venustus venustus*); Mount Hermon june beetle (*Polyphylla barbata*); and the Zayante band-winged grasshopper (*Trimerotropis infantilis*).

Stream Corridors and Riparian Habitats

Riparian communities occur at the interface between terrestrial and aquatic communities. In California, riparian communities generally support exceptionally rich animal communities even though they occupy a limited amount of the land cover. The importance of riparian areas in the County far exceeds their minor proportion of the total acreage because of their prominent location within the landscape and the intricate linkages between terrestrial and aquatic communities (Gregory et al. 1991). The presence of at least seasonal (and often year-round) water and abundant invertebrates provides foraging opportunities for many species, and the diverse habitat structure provides cover and nesting opportunities. Sensitive communities that may occur include riparian communities as well as the streams, wetlands, and waterbodies that the forests may surround.

The maturity and structural diversity of stream corridors and riparian communities in the County support a high diversity and density of vertebrate species, particularly birds. Many stream corridors within the County provide habitat for many common and sensitive fish species such as the Coho salmon (*Oncorhynchus kisutch*) and steelhead (*Oncorhynchus mykiss*), as well as other amphibious and reptilian species. The wider, more mature riparian corridors provide suitable foraging and breeding habitat for several functional groups of birds including insectivores (e.g., warblers, flycatchers), seed-eaters (e.g., finches), raptors, and cavity-nesters (e.g., swallows and woodpeckers) in addition to a variety of common amphibians, reptiles, and mammals. Riparian communities are also used heavily by migrants, including a variety of passerines, and wintering birds. Leaf litter, downed tree branches, and fallen logs provide cover for the arboreal salamander (*Aneides lugubris*), California newt (*Taricha torosa*), and Sierran chorus frog (*Pseudacris sierra*), among other species. Several other lizard species and many smaller mammals also use these riparian corridors (see Appendix G).

[2] As characterized in the Biological Resources Compendium (Appendix G), the Sandhills includes the Ponderosa Pine and Barren communities.



amec foster wheeler

Zayante Sandhills and Salamander Habitat in Santa Cruz County

FIGURE 3.4-2

Special Status Plant and Wildlife Species

In addition to an abundance of common plant and wildlife species, habitat communities in the County also support a diversity of special-status plant and wildlife species. In total, 87 special-status plant species are known or thought to have potential for occurrence in the Program area, and include seriously threatened or endangered species such as the Scotts Valley polygonum (*Polygonum hickmanii*) and the Santa Cruz Mountain's pussypaws (*Calyptridium parryi* var. *hesseae*), along with many others.[3] In addition, a total of 50 special-status wildlife species are known to occur in or very close to the County. These include species found in the coastal areas and rugged watersheds of the North Coast and Mountain Regions, such as the California red-legged frog (*Rana draytonii*), Santa Cruz long-toed salamander (SCLTS) (*Ambystoma macrodactylum croceum*), marbled murrelet (*Brachyramphus marmoratus*), Northern harrier (*Circus cyaneus*), and American badger (*Taxidea taxus*). Special-status species typical of the low-land areas of the Urban and South County Regions include the Monterey spineflower (*Chorizanthe pugens* var. *pugens*), Santa Cruz tarplant (*Holocarpha macradenia*), and Bald eagle (*Haliaeetus leucocephalus*) (see Appendix G). The local extent of habitat areas for the SCLTS is depicted in Figure 3.4-2.

Wildlife Corridors within the County

For many species, the landscape is a mosaic of suitable and unsuitable habitat types. Environmental corridors such as stream courses are segments of suitable habitat that provide connectivity between larger areas of suitable habitat, allowing species to disperse through otherwise unsuitable areas. On a broader level, such environmental or wildlife corridors also function as avenues along which wide-ranging wildlife can travel, plants can propagate, genetic interchange can occur, populations can move in response to environmental changes and natural disasters, and threatened species can be replenished from other areas. In California, environmental corridors often consist of riparian areas along streams, rivers, or other natural features. In addition, the rivers and streams themselves may serve as migration corridors for anadromous fish, including salmonids such as steelhead and Coho salmon.

Mountainous watersheds, creeks, streams, and other riparian areas serve as the primary wildlife corridors within the County and are generally more present or natural in the North Coast and Mountain regions. In the Urban and South County regions, wildlife corridors are typically limited to rural areas towards the north and east, away from developed areas of the County.

Current and Historic Use of Rodenticide in Santa Cruz County

Rodenticides are a chemical pest control, which typically come in the form of poison baits and are designed to target specific nuisance rodents, such as moles, gophers, rats, mice, and squirrels. Rodenticides come in one of three categories: acute toxicants, first-generation anticoagulants, and second-generation anticoagulants.[4] Within the state, the type and application of rodenticides are regulated by the California Department of Pesticide Regulation (DPR).

[3] The legal status, general habitat requirements, general distribution, and potential to occur in the Program area of the 57 special-status plants are provided in Appendix G. While 87 special-status plant species are known or thought to occur within the Program area, 30 species were excluded from this description as these species would not occur within areas of the County that would be eligible for cannabis cultivation and manufacturing under the Program, considering both known species locations and Program siting requirements (e.g., no coastal bluffs and related plant species would be affected since the Program would not license cannabis cultivation on coastal bluff resources).

[4] Anticoagulants are substances that prevent or reduce the coagulation or clotting of blood.

On July 1, 2014, California DPR adopted new regulations that restrict the purchase, possession, and use of rodenticide baits that contain the active ingredients brodifacoum, bromodialone, difenacoum, and difethialone, which are known as second-generation anticoagulant rodenticides. The regulations limit purchase, possession, and use of second-generation anticoagulants to certified pesticide applicators and those under their direct supervision. California DPR adopted these regulations due to overwhelming evidence of wildlife weakened or killed by second-generation anticoagulants. Other categories of rodenticides—the first-generation anticoagulants, acute toxicants, and certain burrow fumigants—are still available to consumers.

All rodenticides are toxic to wildlife, but second-generation anti-coagulants are unique in that rodents frequently eat more than a single dose of them, and the effects of that dose are often delayed for a few days. Meanwhile, the rodents may continue to eat more poison, resulting in a super-lethal dose that builds up in their tissues. When predators eat these weakened or dead rodents, the dose may also be deadly to the predators. Incident reports collected by California DPR conclude that second-generation anticoagulant products pose significant risks to non-target wildlife and that these risks are greater than those posed by other rodenticide active ingredients.

Used by both commercial (commercial retailers, warehouses, restaurants) and general consumers for the elimination or control of pest and nuisance species, primarily mice or rats, the use of rodenticides has been proven to lead to the poisoning or death of both target and non-target wildlife species in the County. Non-target species include predator species, such as owls, hawks, raccoons, bobcats, mountain lions, foxes, skunks, coyotes, and bears. While specific records are not available for the County, there have been several observed cases of non-target species poisoning due to application of rodenticides (California DPR 2015; Tai Moses 2017).

Rodenticides are used by the existing cannabis cultivation industry in the County; however, it is unclear what type of rodenticides are used, and to what degree. Cannabis cultivation is disproportionately located in mountainous areas and in locations interfacing directly with wildlands inhabited by wildlife that are known to accidentally ingest rodenticides or prey that has ingested rodenticides, leading to illness and death of wildlife beyond the target species of the rodenticide. Through investigation into rodenticide use in the County as part of this EIR, it is apparent that the cannabis industry's use of rodenticide is a part of a much wider application of these chemicals by many other residences and businesses to control pests within a range of uses in the County.

3.4.3 Regulatory Setting

Biological resources are governed by federal, state, and local laws and ordinances. Appendix A describes federal and state regulations that pertain to biological resources in the Program area. State and local regulations that are directly relevant to future commercial cannabis cultivation and manufacturing under the Program are discussed below. The General Plan Conservation and Open Space Element and the SCCC both contain policies and regulations for the protection of important biological resources.

3.4.3.1 State

Section 401 of the Clean Water Act

Under Section 401 of the Clean Water Act (CWA), the State Water Resources Control Board (SWRCB) must approve a Section 404 permit for all proposed dredging or filling activities that affect waters of the U.S. The Regional Water Quality Control Board (RWQCB) regulates these activities and issues water quality certifications for those activities requiring a Section 404 permit. In addition, the RWQCB has authority to regulate the discharge of "waste" into waters of the State pursuant to the Porter-Cologne Water Quality Control Act (see also, Appendix A).

California Fish and Game Code

The California Fish and Game Code includes regulations governing the use of, or impacts on, many of the state's fish, wildlife, and sensitive habitats. The California Department of Fish and Wildlife (CDFW) exerts jurisdiction over the bed and banks of rivers, lakes, and streams according to provisions of Sections 1601–1603 of the Fish and Game Code. The Fish and Game Code requires a Streambed Alteration Agreement for the fill or removal of material within the bed and banks of a watercourse or water body and for the removal of riparian vegetation.

Certain sections of the Fish and Game Code describe regulations pertaining to certain wildlife species. For example, Fish and Game Code Sections 3503, 3513, and 3800 (and other sections and subsections) protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by CDFW. Raptors such as eagles, falcons, hawks, and owls, and their nests are specifically protected in California under Fish and Game Code Section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Non-game mammals are protected by Fish and Game Code Section 4150, and other sections of the code protect other taxa.

California Pesticides and Pest Control Operations

The California Pesticide and Pest Control Operations code (California Code of Regulations Title 3. Division 6. Pesticides and Pest Control Operations) includes a comprehensive pest control operations program governing the use and management of pest control substances and related industries. The goal of California's pesticide regulatory program is to protect people and the environment from harm that could be caused by unsafe pesticide use. Pesticide use is controlled by federal, state, and local government agencies. The U.S. Environmental Protection Agency (U.S. EPA) sets minimum pesticide use standards and delegates pesticide enforcement regulatory authority to the states. California's pesticide laws and regulations are typically more rigorous and carried out by regulatory programs wider in scope than any other state.

Public Resources Code, Section 21083.4 (Oak Woodland Conservation)

California Public Resources Code (CPRC), Section 21083.4 requires that, as part of determining whether an environmental impact report, a negative declaration, or a mitigated negative declaration shall be required for any project (Section 21081.1 CPRC), a county shall determine whether a project within its jurisdiction may result in a conversion of oak woodlands that will have a significant effect

on the environment. If a significance finding is made the county shall require oak woodland mitigation that may include one or more of the following measures: (1) conserve oak woodlands through the use of conservation easements, (2) plant an appropriate number of trees, (3) contribute funds to the Oak Woodlands Conservation Fund, and (4) other measures as approved by the county that reduce the impact to a less than significant level. Several types of projects are exempt from these provisions including those undertaken pursuant to an approved Natural Community Conservation Plan, affordable housing projects, conversion of oak woodlands on agricultural land, and when the regulatory program of a state agency requires a plan or other written documentation containing environmental information (Section 21080.5 CPRC). For purposes of this section, the term "oak" is defined as a native tree species in the genus Quercus with a diameter at breast height of greater than 5 inches and is not a species designated as use for commercial purposes (Section 4526 of the CPRC).

3.4.3.2 Local

County of Santa Cruz General Plan and Local Coastal Program

Conservation and Open Space Element

The Conservation and Open Space Element, Chapter 5 of the County of Santa Cruz General Plan and Local Coastal Program (General Plan/LCP), guides land use planning to provide a balance of conservation and preservation of natural resources. The following objectives and policies of the Conservation and Open Space Element pertain to the Program. For a comprehensive list of all objectives and policies, see Chapter 5 of the General Plan.

Objective 5.1 Biological Diversity (LCP). To maintain the biological diversity of the County through an integrated program of open space acquisition and protection, identification and protection of plant habitat and wildlife corridors and habitats, low-intensity and resource compatible land uses in sensitive habitats and mitigations on projects and resource extraction to reduce impacts on plant and animal life.

Policy 5.1.4 Sensitive Habitat Protection Ordinance (LCP). Implement the protection of sensitive habitats by maintaining the existing Sensitive Habitat Protection Ordinance. The ordinance identifies sensitive habitats, determines the uses that are allowed in and adjacent to sensitive habitats, and specifies required performance standards for land in or adjacent to these areas. Any amendments to this ordinance shall require a finding that sensitive habitats shall be afforded equal or greater protection by the amended language.

Policy 5.1.6 Development within Sensitive Habitats (LCP). Sensitive habitats shall be protected against any significant disruption of habitat values; and any proposed development within or adjacent to these areas must maintain or enhance the functional capacity of the habitat. Reduce in scale, redesign, or, if no alternative exists, deny any project which cannot sufficiently mitigate significant adverse impacts on sensitive habitats unless approval of a project is legally necessary to allow a reasonable use of the land.

Policy 5.1.7 Site Design and Use Regulations (LCP). Protect sensitive habitats against any significant disruption or degradation of habitat values in accordance with the Sensitive Habitat Protection Ordinance. Utilize the following site design and use regulations on parcels containing these resources, excluding existing agricultural operations:

(a) Structures shall be placed as far from the habitat as feasible.

(b) Delineate development envelopes to specify location of development in minor land divisions and subdivisions.

(c) Require easements, deed restrictions, or equivalent measures to protect that portion of a sensitive habitat on a project parcel which is undisturbed by a proposed development activity or to protect sensitive habitats on adjacent parcels.

(d) Prohibit domestic animals where they threaten sensitive habitats.

(e) Limit removal of native vegetation to the minimum amount necessary for structures, landscaping, driveways, septic systems and gardens.

(f) Prohibit landscaping with invasive or exotic species and encourage the use of characteristic native species.

Policy 5.1.8 Chemicals within Sensitive Habitats (LCP). Prohibit the use of insecticides, herbicides, or any toxic chemical substances in sensitive habitats, except when an emergency has been declared, when the habitat itself is threatened, when a substantial risk to public health and safety exists, including maintenance for flood control by Public Works, or when such use is authorized pursuant to a permit issued by the Agricultural Commissioner.

Policy 5.1.9 Biotic Assessments (LCP). Within the following areas, require a biotic assessment as part of normal project review to determine whether a full biotic report should be prepared by a qualified biologist:

(a) Areas of biotic concern, mapped.

(b) Sensitive habitats, mapped & unmapped.

Policy 5.1.12 Habitat Restoration with Development Approval (LCP). Requires as a condition of development approval, restoration of any area of the subject property which is an identified degraded sensitive habitat, with the magnitude of the restoration to be commensurate with the scope of the project.

Objective 5.2 Riparian Corridors and Wetlands (LCP). To preserve, protect and restore all riparian corridors and wetlands for the protection of wildlife and aquatic habitat, water quality, erosion control, open space, aesthetic and recreational values and the conveyance and storage of flood waters.

Policy 5.2.3 Activities within Riparian Corridors and Wetlands (LCP). Development activities, land alternation, and vegetation disturbance within riparian corridors, wetlands, and required buffers shall be prohibited unless an exception is granted per the Riparian Corridor and Wetlands Protection Ordinance. As a condition of riparian exception, require evidence of approval for development from the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and other federal or state agencies that may have regulatory authority over activities within riparian corridors and wetlands.

Policy 5.2.4 Riparian Corridor Setback (LCP). Require a buffer setback from riparian corridors in addition to the specified distances found in the definition of riparian corridor. This setback shall be identified in the Riparian Corridor and Wetland Protection Ordinance and established based on stream characteristics, vegetation and slope. Allow reductions to the buffer setback only upon approval of a riparian exception. Require a 10 foot separation from the edge of the riparian corridor buffer to any structure.

Policy 5.2.5 Setbacks from Wetlands (LCP). Prohibit development within the 100 foot riparian corridor of all wetlands. Allow exceptions only where consistent with the Riparian Corridor and Wetlands Protection Ordinance, and in all cases, maximize distance between proposed structures and wetlands. Require measures to prevent water quality and degradation from adjacent land uses, as outlined in the Water Resources section.

Policy 5.2.6 Riparian Corridors and Development Density (LCP). Exclude land within riparian corridors in the calculation of development density per new parcel size. Grant full density credit for the portion of the property outside the riparian corridor which is within the required buffer setback, excluding areas over 30 percent slope, up to a maximum of 50 percent of the total area of the property which is outside the riparian corridor.

Policy 5.2.9 Management Plans for Wetland Protection (LCP). Require development in or adjacent to wetlands to incorporate the recommendations of a management plan which evaluates: migratory waterfowl use December 1 to April 30; compatibility with agricultural use and biotic and water quality protection; maintenance of biological productivity and diversity; and the permanent protection of adjoining uplands.

Objective 5.4 Monterey Bay and Coastal Water Quality (LCP). To improve the water quality of Monterey Bay and other Santa Cruz County coastal waters by supporting and/or requiring the best management practices for the control and treatment of urban run-off and wastewater discharges in order to maintain local, state and national water quality standards, protect County residents from health hazards of water pollution, protect the County's sensitive marine habitats and prevent the degradation of the scenic character of the region.

Policy 5.4.1 Protecting the Monterey Bay National Marine Sanctuary from Adverse Impacts (LCP). Prohibit activities which could adversely impact sensitive habitats of the National Marine Sanctuary, including the discharge of wastes and hazardous materials. The main sources of concern are wastewater discharge, urban runoff, toxic agricultural drainage water (including flows originating outside of Santa Cruz County), and the accidental release of oil or other hazardous material from coastal tanker traffic.

Objective 5.6 Maintaining Adequate Streamflows (LCP). To protect and restore in-stream flows to ensure a full range of beneficial uses including recreation, fish and wildlife habitat, and visual amenities as part of an ecosystem-based approach to watershed management.

Policy 5.6.1 Minimum Streamflows for Anadromous Fish (LCP). Pending a determination based on a biological assessment, preserve perennial stream flows at 95 percent of normal levels during summer months, and at 70 percent of the normal winter baseflow levels. Oppose new water rights application and time extensions, change petitions, or transfer of existing water rights which would individually diminish or cumulatively contribute to the diminishment of the instream flows necessary to maintain anadromous fish runs and riparian vegetation below the 95 percent/70 percent standard.

Objective 5.7 Maintaining Surface Water Quality (LCP). To protect and enhance surface water quality in the County's streams, coastal lagoons and marshes by establishing best management practices on adjacent land uses.

Policy 5.7.1 Impacts from New Development on Water Quality (LCP). Prohibit new development adjacent to marshes, streams and bodies of water if such development would cause adverse impacts on water quality which cannot be fully mitigated.

Santa Cruz County Code, Chapter 16.30 – Riparian Corridor and Wetlands Protection

The purpose of this chapter is to minimize or eliminate any development activities in the riparian corridor, and preserve, protect, and restore riparian corridors for: protection of wildlife habitat; protection of water quality; protection of aquatic habitat; protection of open space, cultural, historical, archaeological, paleontological, and aesthetic values; transportation and storage of floodwaters; prevention of erosion; and to implement the policies of the General Plan and the Local Coastal Program Land Use Plan. The riparian corridor and wetlands protection code limits development activities in riparian corridors. No one can undertake any development activities in riparian corridors or their buffer zones other than those allowed through exemptions and exceptions as defined in Chapter 16.30.

Santa Cruz County Code, Chapter 16.32 – Sensitive Habitat Protection

The purposes of this chapter are to minimize the disturbance of biotic communities that are rare or especially valuable because of their special nature or role in an ecosystem, and which could be easily disturbed or degraded by human activity; to protect and preserve these biotic resources for their genetic, scientific, and educational values; and to implement policies of the General Plan and the Local Coastal Program Land Use Plan. In addition, no toxic chemical substance shall be used in a sensitive habitat. No one can begin development activity within an area of biotic concern until a biotic approval has been issued unless such activity has been reviewed for biotic concerns concurrently with the review of a development or land division application pursuant to Chapter 18.10 of the Santa Cruz County Code.

SCCC Chapter 16.32 also establishes a salamander protection zone (S-P zone) which provides additional protection of the population and habitat of the SCLTS (*Ambystoma macrodactylum croceum*) associated with the Valencia Lagoon population. This zone district was put in place to allow for the development in the upland habitat of the neighborhood south of the lagoon and is unique to this known breeding pond. The S-P zone is approximately located in Aptos between the Rio Del Mar and Freedom Boulevard exits. It extends approximately 1,500 feet south of Highway 1, between these two exits. Properties located in the S-P zone are subject to additional requirements found in Section 16.32.090 of the SCCC. There are approximately 12 known breeding ponds and several pond suspected of supporting SCLTS in the area between Aptos, Corralitos and Watsonville. Upland habitat within ¼ mile of a known or suspected breeding pond is protected under Chapter 16.32 as sensitive habitat. The salamander is listed by the federal government as an endangered species, and by the State of California as a fully protected species; the highest level of protection allowed by the State.

SCCC Chapter 16.32 includes a requirement as a condition of approval that there be restoration of any area which is a degraded sensitive habitat or has caused or is causing the degradation of a sensitive habitat, provided, that any restoration required shall be commensurate with the scale of the proposed development.

Santa Cruz County Code, Chapter 16.34 – Significant Trees Protection

The purpose of this chapter is to preserve significant trees and forest communities on private and public property in order to protect and enhance the County's natural beauty, property values, and tourist industry. This code regulates the removal of trees in the Coastal Zone. This chapter establishes

the type of trees to be protected, the circumstances under which they may be removed, and the procedures for obtaining a permit for their removal. No one may cause, permit, aid, abet, suffer, or furnish equipment or labor to remove, cut down, or trim more than one-third of the green foliage of, poison, or otherwise kill or destroy any significant tree, as defined in this chapter within the Coastal Zone until a significant tree removal approval for the project has been obtained.

3.4.4 Methodology and Assumptions

This analysis of potential biological resource impacts reviews the existing environmental setting in the Program area and identifies special-status plant and wildlife species and sensitive or regulated habitats potentially affected by the Program due to removal of sensitive communities or species or potential degradation of water quality caused by herbicide/pesticide use and releases of sediment, including analysis of both the Project scenario and the More Permissive Project scenario. Refer to Section 3.0, *Introduction and Approach to Analysis*, for a detailed discussion of projected cannabis activities in the County due to Program implementation.

The analysis accounts for provisions of the Program that require: "All licenses issued under this Chapter must be consistent with the County's policies, objectives, laws, regulations, and programs related to land use, including those related to the County's General Plan and Local Coastal Program." In particular, this analysis accounts for the County's existing policies and regulations protecting known local resources, including the Sandhills Habitat area under the Sandhills Habitat Conservation Plan (HCP) and SCCC Chapter 16.32, which establishes a S-P zone to protect the habitat and population of the SCLTS.

3.4.5 Significance Criteria

CEQA Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2017 California Environmental Quality Act (CEQA) Guidelines. For purposes of this EIR, implementation of the Program may have a significant adverse impact related to biological resources if it 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 the CDFW and the U.S. Fish and Wildlife Service (USFWS);
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW and USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- 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.

3.4.6 Environmental Impact Analysis and Mitigation

This section discusses the potential impacts to biological resources associated with the Program. Where there are potentially significant or significant and unavoidable impacts, mitigation is proposed and the residual impact is determined.

3.4.6.1 Program Impacts

Impact BIO-1. Commercial cannabis cultivation and cannabis product manufacturing under the Program could have adverse effects on unique, rare, threatened, or endangered plant or wildlife species. Impacts would be less than significant with mitigation.

Impact BIO-1.1 – Direct Cultivation/Manufacturing. Implementation of the Program could result in direct adverse impacts to special-status plant or wildlife species through licensing and operation of new or expanded commercial cannabis cultivation and cannabis product manufacturing sites and facilities. Eligible cultivation and manufacturing sites are located throughout the County and have a high potential to occur within the range of special-status species known to exist within the County and Program area.[5] As detailed in Section 3.0, *Introduction and Approach to Analysis*, new cannabis canopy would be limited to 8 to 43 acres countywide under the Program, with cultivation of up to an additional 147 acres on CA zoned land by existing farmers, primarily within existing greenhouses. From a Countywide perspective, direct impacts may be limited to a relatively small area. There is also potential for existing cannabis operations to relocate within a current site, move to a new site, or close entirely. Existing cannabis operations that move or abandon an existing location would be required to restore the site from any degradation, consistent with County General Plan policy.

However, Program cannabis activities within the area of license eligibility of either the Project or More Permissive Project scenario may affect special-status plant and wildlife species through disturbance of vegetation, individual species, or populations, and the disturbance, modification, or destruction of habitat. Cultivation, manufacturing, and associated construction activities could result in both temporary and permanent disturbance of sensitive or special-status species as a result of soil tilling, grading, excavation, fill placement, placement of structures such as greenhouses, drying sheds, or other infrastructure, degradation of water quality, and hydrological disruption such as dewatering or diversion, as well as injury or mortality of individuals by equipment, vehicle traffic, and worker foot traffic.

Although many cannabis cultivation operations are known to employ organic techniques, the use of herbicides, pesticides, fertilizer, or other chemicals that are used during the growth, manufacturing, or construction process could directly harm plants or wildlife and their habitat. For instance, if such

[5] Refer to Appendix G for a list and description of special-status plants and wildlife known to occur within the Program area.

chemicals are used in areas where they could wash into aquatic habitats, they would have the potential to adversely affect the survival, reproduction, and growth of individual fish. Rodenticides consumed directly by wildlife or indirectly through consumption of poisoned food sources could have adverse effects on sensitive species as well. Potential impacts to specific biological resources within the County are discussed herein.

Special-Status Fish Species or Essential Fish Habitat (EFH). With regard to special-status fish species, restrictions provided in Chapter 2, *Project Description,* include required setbacks from streams and other water bodies. Similarly, SCCC Chapter 16.30 would prohibit associated development activities within specified setbacks from streams and other water bodies. Therefore, the Program is not expected to result in direct adverse effects on special-status fish or EFH due to either direct impacts on habitat, or to any direct injury or mortality of fish due to development or other activities. Further, because licensees would be required to comply with all local, state, and federal laws regarding stormwater management, the Program is not expected to result in the degradation of aquatic habitat for these species due to increases in erosion or sedimentation (see also Section 3.9, *Hydrology and Water Quality*). However, water demand for irrigation could total as much as 643 acre feet per year Countywide. Water drawn either directly from fish-bearing streams or from wells that are hydrologically connected to fish-bearing streams could reduce stream flows, particularly in late summer months when water demand for crops is high and stream levels are at their lowest. Therefore, direct impacts to federally threatened Central California Coast steelhead and South-Central California Coast steelhead, the federal and state endangered Central California Coho salmon, the Monterey roach (*Lavinia symmetricus subditus*), the federally endangered tidewater goby (*Eucyclogobius newberryi*), and EFH are considered *potentially significant.*

California Listed Species of Special Concern. Suitable habitat for California species of special concern, which include the American badger (*Taxidea taxus*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), and ringtail (*Bassariscus astutus*), is relatively common and widespread in the Program area, and the potentially suitable habitat being impacted as a result of the Program would constitute a very small proportion of regionally available habitat. Additionally, the Program is not expected to result in a loss of riparian habitat due to its required setbacks for both scenarios, which is often used by both San Francisco dusky-footed woodrats and ringtails for nesting/denning. Therefore, the Project and More Permissive Project are not expected to result in a substantial loss or disruption of habitat for these species through cannabis cultivation and manufacturing activities. Impacts on the Blainville's horned lizard (*Phrynosoma blainvillii*) are expected to be negligible, as the species typically prefers microhabitats of sandy, loosely textured soils which are not expected to be disrupted or lost through licensing of cannabis cultivation or manufacturing sites. Further, potential impacts may occur to California amphibious and reptilian species of concern, including the western pond turtle (*Actinemys marmorata*), foothill yellow-legged frog (*Rana boylii*), California giant salamander (*Dicamptodon ensatus*), and the Santa Cruz black salamander (*Aneides niger*). These species are inhabitants of ponds, streams, riparian corridors, and moist woodlands and forests. However, the Project and More Permissive Project are not expected to result in loss of aquatic habitat for any of these species, or in the loss of habitat close to water bodies where they concentrate much of their activities, and required setbacks from riparian and aquatic habitats would also reduce the potential for, and magnitude of, impacts to these individuals. Therefore, direct impacts to California listed species of special concern are considered *less than significant*.

Nesting Birds and Habitat. Given the range of activities anticipated to occur for both cannabis cultivation and manufacturing, implementation of the Program has the potential to result in the injury or mortality of birds, especially eggs or young in nests. Such impacts may occur because of vegetation

removal or the disturbance of individuals nesting within or immediately adjacent to cultivation or manufacturing sites. In addition, implementation of the Program would result in a loss of nesting habitat. However, as described above, the Program includes physical restrictions on cultivation areas and eligible manufacturing sites to control where and how cannabis could be cultivated and manufactured. Such restrictions include required setbacks of 100 feet from a perennial stream, 50 feet from an intermittent or ephemeral stream, and 100 feet from the high water mark of another water body. Similarly, SCCC Chapter 16.30 would prohibit associated manufacturing and development activities within 50 feet of a perennial stream, 30 feet of an intermittent stream, and 100 feet of the high water mark of a lake, wetland, estuary, lagoon, or natural body of standing water. Therefore, the Program is not expected to result in a loss of riparian or wetland nesting habitat. Further, impacts on non-sensitive upland habitats (see Impact BIO-2 for a discussion of impacts on sensitive upland habitats) represent a very small proportion of the upland habitats that support these species regionally. Thus, loss of regionally common habitat is not expected to result in a substantial effect on these species' populations. Given the widespread nature of the Program area, although the total acreage of disturbance would be limited, impacts on active nests of both common and sensitive bird species could occur; therefore, this impact is considered *potentially significant*.

Pallid Bat. The pallid bat (*Antrozous pallidus*) is a California species of special concern that is uncommon in the North Coast and Mountain Regions of the Program area. Pallid bats will roost in deep crevices in trees such as coast redwood (*Sequoia sempervirens*), as well as in the hollows of large snags or in abandoned buildings in a variety of habitats. Although the extent of construction and operation activities anticipated to occur under the Program is relatively limited, the Project may result in direct impacts on pallid bats. For example, individual bats could be physically injured or killed, subjected to physiological stress because of being disturbed, or exposed to increased predation if flushed during daylight hours if trees or old buildings that contain roosting colonies or individual bats are removed or demolished. Program-related disturbance in close proximity to a maternity roost could also potentially cause females to abandon their young. In addition, the removal of trees in order to clear a site for cultivation could result in the loss of breeding or roosting sites for pallid bats. While any one site is unlikely to impact breeding habitat for either species due to their rarity in the Program area, Program-wide impacts could be significant because the species' populations and available roosting habitats are limited locally and regionally. Loss of any occupied roosting habitat or individuals might have a substantial effect on local and regional populations of the species. Thus, impacts of both the Project and More Permissive Project on the pallid bat are considered *potentially significant*.

Other Threatened or Endangered Individuals and Habitat. Cultivation and manufacturing activities under the Program could result in disturbance of breeding, foraging, or dispersal habitat for federal- or state-listed threatened or endangered species. Suitable foraging, dispersal, and breeding habitat for these species consists of sensitive areas and natural communities included within the area of eligibility for licensing of cannabis cultivation and manufacturing facilities under the Program. While proposed development restrictions and setback requirements would limit or avoid the loss of suitable habitat for several of these special-status species, implementation of the Program would still have the potential to result in the permanent loss of a limited, but unknown amount of such habitat. In addition, activities associated with construction and operation would have the collective potential to result in the direct injury or mortality of threatened or endangered individuals and permanent loss of suitable upland foraging, dispersal, and breeding habitat represents a substantial impact on the species due to their regional or global rarity and the highly localized nature of several species.

Therefore, impacts of both the Project and More Permissive Project on these species are considered *potentially significant*.

Special Status Plants. Although overall acreage of disturbance is projected to be relatively small, Program activities may result in impacts, including habitat loss and degradation, of 13 federal- or state-listed plant species and 39 plant species that are not federal- or state-listed, but are categorized by the California Native Plant Society (CNPS) as species of concern ranging in California Rare Plant Rank (CRPR) from 1 to 4 (see Appendix G). Although potential cannabis cultivation and manufacturing activities are anticipated to occupy relatively limited acres (refer to Section 3.0, *Introduction and Approach to Analysis*), Program activities may also result in injury or mortality of individuals due to land clearing, site grading, vegetation removal, worker or farmer foot traffic, equipment use, pesticide/herbicide use, or vehicle traffic. Operation and maintenance activities involving vegetation control, herbicide and pesticide use, or foot or equipment traffic could further reduce local populations of special-status plant species by disturbing and degrading their habitat. While the Program includes development restrictions and setback requirements which would reduce adverse effects on sensitive species or habitat, the loss of suitable habitat, habitat fragmentation, and individual plant loss could occur as these listed species may grow in habitat outside protected areas. Due to the regional rarity of these species, this impact is considered *potentially significant*. SCCC Chapter 16 requires identification of resources onsite prior to issuance of land clearing permits, grading permits or development permits, but it is uncertain whether this existing process would capture all potential impacts to special-status plants associated with licensed cannabis activities.

Rodenticide Impacts to Sensitive Species. The use of rodenticides and poison baits for pest control may result in both direct and secondary poisoning of sensitive mammals, birds, amphibians, or reptiles, either through the exposure to poison baits and chemicals or through the consumption of rodents or invertebrates that have consumed the poison bait. In particular, use of rodenticides in rural and agricultural areas presents a risk for sensitive species such as mountain lions, foxes, and raptors. Rodenticide is used Countywide, in cannabis cultivation and manufacturing activities as well as by residents and businesses to control pests. In particular, cannabis cultivation is located in mountainous or rural areas with a wildland interface that includes wildlife that may come in contact with and consume rodenticides. Based on the 2016 License Registration, 16 cultivators (2.1 percent) of the 760 respondents identified their desire to use rodenticides for pest control on current or future licensed sites (see Appendix D). However, this data may not reliably predict how, where, or how often rodenticides may be used by cannabis activities. Additionally, it is unclear what type of rodenticide would be used for cannabis cultivation sites. It is foreseeable that cannabis activities may use second generation rodenticides through a commercial applicator, which may lead to unintentional poisonings. Adverse effects on wildlife from rodenticide application remains a significant concern throughout the County from a range of uses, and impacts from the use of rodenticides by cannabis activities have the potential to adversely affect wildlife, including sensitive species. Therefore, Program impacts to biological resources from the use of rodenticides are considered *potentially significant*. Further, given the common application of rodenticides by many other commercial and residential users, the sensitivity of species, and the known biological effects of rodenticides within the County, impacts resulting from the use of rodenticides are discussed in a cumulative degree (refer to Section 3.4.6.4, *Cumulative Impacts*).

Mitigation Measures

MM BIO-1.1a. Special-status Species Habitat Assessment. Licensees who apply for a cultivation or manufacturing license for a site that would involve clearing of established native

vegetation in an area that has been identified as being potentially occupied by a special-status wildlife species, or a federal or state-listed special-status plant species, are required to have County Cannabis Licensing Office staff , or other qualified staff or professionals determine through a site visit whether a biotic assessment is necessary based on the potential for special-status species to occur. If a biotic assessment is required, the Licensee shall hire a County-approved biologist to conduct an assessment of habitat suitability for such species. A biotic assessment would consist of a consulting biologist determining whether protected species or habitat may be present, and whether avoidance, minimization or compensatory measures are necessary. In addition, the assessment shall determine the extent to which specific restoration measures are required where disturbance associated with previous cultivation on the property being considered for licensing has occurred. Habitat suitability shall be determined by the qualified biologist based on the following standards:

Special-Status Wildlife: To determine habitat suitability, a County-approved biologist will determine whether the impacted areas consist of habitat that can support listed species, including but not limited to California red-legged frog, California tiger salamander, SCLTS, or San Francisco garter snake. The biologist will take into account conditions that may preclude the use of the area by such species, such as developed lands or historically tilled agricultural fields; lands not within the dispersal of the nearest suitable breeding habitat, or lands separated from the nearest breeding habitat by barriers to dispersal, and will document these conditions in making a final determination.. Should the assessment result in a determination that there is a potential to encounter listed species, the biologist shall include measures to avoid, minimize and mitigate impacts to those species, including site design, and exclusionary fencing, timing restrictions, or other measures specific to the species that may be present. Alternatively, the Licensee may request that an assessment be conducted through the County's biological resources assessment process, which is carried out by County resource planners.

Special-Status Plants: To determine habitat suitability, a County-approved biologist will determine whether the impact areas (plus a 100-foot buffer) consist entirely of land uses that are unsuitable for special-status plants, such as historically tilled agricultural fields or gardens, and developed or degraded lands.[6] Alternatively, the Licensee may request that an assessment be conducted through the County's biological resources assessment process, which is carried out by County resource planners.

Marbled murrelet: Habitat suitability for marbled murrelet shall be determined by a County-approved biologist based on the presence or absence of old-growth habitat within 0.25-mile of the proposed cultivation or manufacturing site, unless the site consists of existing tilled agricultural fields or garden area or is existing developed land. Alternatively, the Licensee may request that an assessment be conducted through the County's biological resources assessment process, which is carried out by County resource planners.

- If suitable old-growth habitat is identified within 0.25-mile of a previously undisturbed site, the Licensee will assume that the old-growth forest is occupied by the marbled murrelet and will establish a 0.25-mile buffer zone around the old-growth forest during the nesting season (March 25 through September 15, as defined by the Pacific Seabird Group Marbled Murrelet Technical Committee [2003]) or applicable corvid management plan, such as the Marbled

[6] For the purposes of this Program, historically tilled agricultural fields refers to land that has been tilled or graded for the purpose of agricultural crop production sometime within the last 5 years.

Murrelet Recover Plan published by the U.S. Fish and Wildlife Service, to ensure that no nests of marbled murrelets will be disturbed by construction or operation activities. No construction of new buildings, roads, driveways, or utilities may be performed within the buffer during the nesting season; OR,

- If the Licensee chooses not to assume presence of the marbled murrelet, the County-approved biologist shall conduct protocol-level presence/absence surveys for the species prior to the onset of initial ground-disturbing activities. The survey will be conducted per the guidelines issued by the Pacific Seabird Group Marbled Murrelet Technical Committee (2003).

  The results of the survey will be submitted to the County of Santa Cruz for review and approval. If it is determined that no marbled murrelets are present within 0.25-mile of the site, no seasonal buffer zone will be required. If marbled murrelets are determined to be present, a 0.25-mile buffer zone around the old-growth forest during the nesting season shall be implemented to ensure no nests of marbled murrelets will be disturbed by construction or operation activities. No new activities will be performed within the buffer during the nesting season.

  The results of any required habitat suitability assessment(s) shall be submitted to the County for review and approval. If it is determined that the site does not support suitable habitat for any special-status plant or wildlife species, no further investigation or mitigation shall be required. If it is determined that the site or nearby vicinity supports potentially suitable habitat for special-status species, the following pre-activity surveys shall be required:

  Other Special-Status Wildlife: A County-approved biologist will survey the work site a minimum of 48 hours prior to initial ground-disturbing activities, or the first instance of ground-disturbance that occurs following issuance of a Program License for a given cultivation site, if determined necessary by the County, during construction activities at intervals recommended by the biologist. If California red-legged frogs or California tiger salamanders are identified to occur at the site, a qualified biologist will relocate the individuals to an appropriate relocation site outside of the work area. Only USFWS-approved biologists will participate in activities associated with the capture, handling, and monitoring of California red-legged frogs and only USFWS- and CDFW-approved biologists will participate in activities associated with the capture, handling, and monitoring of California tiger salamanders. Because the SCLTS is fully protected, individuals cannot be handled. To avoid take of this species, no conversion of oak woodland to cannabis production shall occur within 0.25-mile of a known or suspected pond or between such ponds up to 1 mile apart, and surveys of ponds within 1 mile of proposed cannabis activities shall be required. No license shall be issued for cannabis activities within 0.25-mile of a pond unless it is for indoor cultivation or manufacturing in an existing structure.

  Because the San Francisco garter snake is a state fully protected species, individuals shall not be handled. To avoid take of this species, surveys shall be required for proposed cannabis activities in the vicinity of the Waddell Creek area.

  Special-Status Plants: In cases where an initial site assessment determines that special-status plants may occur in the disturbance area, prior to initial ground disturbance, a focused survey in the appropriate bloom season for potentially occurring special-status plant species shall be conducted in the identified suitable habitat and a 50-foot survey buffer. The purpose of the survey will be to assess the presence or absence of the potentially occurring species. If none

of the target species are found in the impact area or surrounding 50-foot buffer, then no further MMs will apply.

If CRPR 1 or 2 special-status plant species occur on a potential cultivation/manufacturing site, Licensing staff shall complete an initial assessment. If avoidance of these species is not feasible, a biotic assessment shall be completed by a County-approved biologist. If the area includes sensitive habitat, the assessment shall include avoidance and minimization measures as well as mitigation and/or restoration measures. Annual reports shall be required for a minimum of 5 years, or until success criteria has been met for restoration plans, and for life of the site's license for management plans. All biotic assessments and restoration plans shall be reviewed and approved by the County's Planning Department Environmental Coordinator. If more than 10 percent of a listed species located on the cultivation site would be impacted, the affected species shall be transplanted to other undisturbed areas of the site. If relocation is not possible, the license shall not be granted.

Areas proposed to be preserved as compensatory mitigation for special-status plant impacts must contain verified extant populations of the CRPR-ranked plants that would be impacted. Mitigation areas shall be managed to encourage persistence and even expansion of the preserved target species until success criteria are reached. Mitigation lands cannot be located on land that is currently held publicly for resource protection unless substantial enhancement of habitat quality would be achieved by the mitigation activities. The mitigation habitat shall be of equal or greater habitat quality compared to the impacted areas, as determined by a qualified plant ecologist, in terms of soil features, extent of disturbance, vegetation structure, and dominant species composition, and shall contain at least as many individuals of the species as are impacted by project activities. The permanent protection and management of mitigation lands shall be ensured through an appropriate mechanism, such as a conservation easement or fee title purchase. A Habitat Mitigation and Monitoring Plan (HMMP) shall be developed and implemented for the mitigation lands. That plan shall include, at a minimum, the following information:

- A summary of habitat impacts and the proposed mitigation.
- A description of the location and boundaries of the mitigation site and description of existing site conditions.
- A description of measures to be undertaken to enhance the mitigation site for the focal special-status species, such as through focused management that may include removal of invasive species in adjacent suitable but currently unoccupied habitat.
- A description of measures to transplant individual plants or seeds from the impact area to the mitigation site, if appropriate (which will be determined by a qualified plant or restoration ecologist).
- Proposed management activities to maintain high-quality habitat conditions for the focal species.
- A description of habitat and species monitoring measures on the mitigation site, including specific, objective final and performance criteria, monitoring methods, data analysis, reporting requirements, and monitoring schedule. At a minimum, performance criteria shall include demonstration that any plant population fluctuations over the monitoring period do not indicate a downward trajectory in terms of reduction in numbers and/or occupied area for the preserved mitigation population that can be attributed to management; that are not

the result of local weather patterns, as determined by monitoring of a nearby reference population, or other factors unrelated to management.

- Contingency measures for mitigation elements that do not meet performance criteria.

Prior to the initiation of any other protective measures, a County-approved biologist will determine, in consultation with the USFWS and CDFW (if applicable), appropriate relocation sites for any special-status species that may be observed during the pre-activity survey and that need to be relocated.

Plan Requirements and Timing: The Licensee shall hire a qualified biologist approved by the County to perform a habitat assessment, in coordination with the USFWS and CDFW as required for state or federal permits and state or federally listed species, for the proposed cannabis cultivation or manufacturing site. The habitat assessment shall be submitted to the County Planning Department for review and approval prior to issuance of any cultivation or manufacturing license. Subsequent actions identified as necessary in the habitat assessment, such as species removal or relocation, shall be initiated following any required consultation with USFWS and CDFW under state and federal regulations. All necessary requirements identified in the habitat assessment such as buffers, species monitoring, and plant species replacement, shall be indicated on final site plans.

Monitoring: The Licensee shall demonstrate to the County Licensing Office and/or Planning Department that habitat assessment requirements have been completed prior to commencement of cannabis activities.

MM BIO-1.1b. Habitat Compensation. Where avoidance of species' sensitive habitat is demonstrated to be infeasible, compensatory mitigation for permanent impacts on the California red-legged frog, California tiger salamander, and/or SCLTS, due to loss of suitable habitat, such as loss of continuous connection within an upland stream or riparian corridor for the California red-legged frog, shall be provided at a ratio of 1:1. This ratio reflects the expectation that the majority of cultivation and/or manufacturing sites would represent relatively low-quality habitat that receives little if any use by listed species due to their scarce and localized nature. Mitigation may be achieved through one or more options, subject to County approval, including:

- Onsite restoration, enhancement, or creation of suitable habitat if feasible onsite restoration opportunities exist;
- Offsite restoration or creation of suitable habitat for the impacted species;
- Financial contribution to an in-lieu fee program that results in restoration or creation of suitable habitat for the impacted species; and/or
- Purchase of mitigation credits at a USFWS- and/or CDFW-approved mitigation bank whose designated service area includes the cultivation site.

If habitat is restored, enhanced, or created onsite or offsite, either by the Licensee of a specific cultivation and/or manufacturing site or as part of a County-sponsored in-lieu fee program, a County-approved biologist will develop a HMMP for review and approval by the County. The HMMP will contain the following components (or as otherwise modified by regulatory agency permitting conditions):

- A summary of habitat impacts and the proposed mitigation.

- A description of the location and boundaries of the mitigation site and description of existing site conditions.
- A description of measures to be undertaken to enhance the mitigation site for the target species and to protect particularly sensitive resources such as breeding ponds.
- MMs to address any temporary construction-related impacts associated with creation and/or restoration of habitat for the target species.
- A description of maintenance measures, including regular maintenance and less frequent, longer-term maintenance to ensure long-term functionality.
- A description of habitat and species monitoring measures on the mitigation site, including specific and objective performance criteria, monitoring methods, data analysis, reporting requirements, and monitoring schedule. At a minimum, success criteria will include a determination by a County-approved biologist that the mitigation site provides ecological functions and values for the focal species equal to or exceeding those in the habitat that is impacted.
- A contingency plan for mitigation elements that do not meet performance or final success criteria within 5 years; this plan will include specific triggers for remediation if performance criteria are not being met and a description of the process by which remediation of problems with the mitigation site, such as the presence of non-native predators and competitors, will occur.
- Monitoring of the mitigation area shall occur for the period established in the HMMP, or until success criteria, or revised criteria based on an approved adaptive management strategy, are met. An endowment may be required in some cases.

  Plan Requirements and Timing: Compensatory habitat requirements shall be noted on final site plans. If an HMMP is required, the Licensee shall hire a qualified biologist approved by the County to prepare and submit an HMMP to the County Planning Department for review and approval prior to issuance of any cultivation or manufacturing license. A 5-year site mitigation monitoring plan shall also be prepared by the biologist prior to issuance of a license, with annual reports submitted to the County's Planning Department Environmental Coordinator.

  Monitoring: Licensees shall demonstrate to the County that appropriate mitigation sites have been provided. County Licensing Office and/or Planning Department compliance monitoring staff and a qualified County biologist shall inspect mitigation sites to ensure that sufficient habitat mitigation has been provided, per the requirements of the HMMP.

MM BIO-1.1c. Worker Environmental Awareness Program. Before any ground-disturbing activities begin within areas that involve established native vegetation, the Licensee shall hire a County, USFWS-, and CDFW-approved biologist to conduct a training session to be attended by all personnel associated with site construction. At a minimum, the training will include a description of the California red-legged frog, California tiger salamander, SCLTS, and/or San Francisco garter snake and their habitat, the importance of the species, the measures that are being implemented to avoid and minimize impacts as they relate to the cultivation site, and the boundaries within which the work may be accomplished.

Plan Requirements and Timing: Pre-construction training and orientation shall be held by the approved biologist prior to the start of any ground-disturbing activities. All employees

shall sign a form documenting that they have attended the Worker Environmental Awareness Program and understand the information presented to them. The form shall be submitted to the County Licensing Office and/or Planning Department for document compliance.

Monitoring: County Licensing Office and/or Planning Department compliance staff shall monitor for compliance during the Worker Environmental Awareness Program.

MM BIO-1.1d. Prevention of Spread of Nonnative Invasive Plants. The Licensee of a cannabis cultivation and/or manufacturing site shall employ the following Best Management Practices (BMPs) for weed control to avoid and minimize the spread of nonnative invasive plant species:

- Consistent with County General Plan policy, areas of disturbance from existing cannabis activities that have degraded habitat areas shall be restored when licensing results in the closure and/or relocation of existing cannabis operations.
- Prior to grading or soil disturbance, invasive weed infestations within areas of direct permanent or temporary disturbance will be removed, and all vegetative material will be carefully bagged and transported to the landfill for professional high-temperature composting, taking care to prevent seed dispersal during the process by covering trucks transporting such material from the site.
- Following construction, site-appropriate native seed from a local source shall be planted on all disturbed ground that will not be cultivated or landscaped and maintained.
- Plantings in landscaped areas shall consist of site-appropriate native species to the extent practicable.
- Heavy equipment used in the activity area shall be washed prior to and following work at the site, before the equipment is used in other ground-disturbing activities, to prevent spread of weed seeds.

Plan Requirements and Timing: Operational BMPs for weed control shall be included on final site plans and submitted to the Licensing Official prior to issuance of a cultivation and/or manufacturing license.

Monitoring: The Licensing Official shall monitor operations periodically and verify compliance before renewing a license.

MM BIO-1.1e. Roosting Bat Survey. Licensees who apply for a cultivation or manufacturing license that involves clearing of established native vegetation, removal of mature trees, or demolition of existing structures in an area identified by the County as potentially occupied by pallid bats, shall be required to perform a pre-construction bat survey by a County-approved biologist, prior to any removal or renovation of buildings. The biologist shall survey likely bat roosts, including closed areas such as an attic space or trees greater than 24 inches in diameter at 4.5 feet above grade. No activities that would result in disturbance of active roosts shall proceed prior to the completed surveys and recommendations. If no active roosts are found, then no further action is warranted.

If a roost is present, the biologist shall determine the species and number of individuals present. If the roost is not active at the time of the survey, the Licensee may choose to install bat exclusion devices to prevent bats from taking up occupancy of the structure prior to the onset of the proposed activity.

If an active nursery roost is located and the site cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, disturbance shall not take place during the maternity roost season (March 15 - July 31), and a disturbance-free buffer zone (determined by a County-approved biologist) shall be enforced during this period.

If disturbance of an active non-breeding bat roost cannot be avoided, the individuals may be removed and relocated by an approved biologist, between August 1 and March 14. Bats may be removed through exclusion if a removal/relocation plan is approved by CDFW. For structures, appropriate one-way doors shall be constructed and left in place for a minimum of three fair weather nights where temperatures are 50° F or greater. The one-way doors shall be installed the day prior to a night with no precipitation and forecast temperatures 50° F or greater. Removal of trees with roosts shall occur at dusk or later, to allow bats to escape during the darker hours. Tree removal shall occur in the evening when precipitation is not forecast, and temperatures are 50° F or greater.

If a tree or structure containing a pallid bat maternity roost is to be removed, the biologist shall design and determine an appropriate location for an alternative roost structure, based on the location of the original roost and habitat conditions in the vicinity. The roost structure shall be built to specifications as determined by a qualified biologist, or it may be purchased from an appropriate vendor. The structure shall be placed as close to the impacted roost site as feasible.

Plan Requirements and Timing: The Licensee shall hire a qualified biologist approved by the County to conduct roosting bat surveys prior to the start of construction. The results of the survey shall be submitted to the Licensing Official for review and approval prior to issuance of any cultivation or manufacturing license. The name and contact information for the qualified biologist shall be provided to the County Licensing Office and/or Planning Department prior to the survey. The County Licensing Office and/or Planning Department shall be notified prior to the proposed survey date.

Monitoring: County Licensing Office and/or Planning Department staff shall confirm compliance in the field prior to initiation of grading activities.

MM BIO-1.1f. Nesting Bird Survey. For sites involving clearance of existing mature vegetation during breeding season, the Licensee shall hire a County-approved biologist to conduct a pre-activity survey for nesting birds to ensure that no nests will be disturbed during construction or operation of a proposed cultivation or manufacturing site. These surveys shall be conducted no more than seven days prior to the start of initial ground-disturbing activities. During these surveys, the biologist shall inspect all potential nesting habitats (e.g., trees, shrubs, ruderal grasslands, buildings, and bridges) in and immediately adjacent to the impact areas for nests.

If an active nest is found sufficiently close to work areas to be disturbed by construction or operation of a proposed site, the biologist shall determine the extent of a construction-free buffer zone to be established around the nest (typically 0.5-mile for bald and golden eagles, 300 feet for other raptors, 250 feet for tricolored blackbird colonies, and 100 feet for other non-raptors) to ensure that no nests of protected birds shall be disturbed during construction or operation of a proposed site. No new Program-related activities shall be performed within the buffer zone until the young have fledged or the nest has been determined to be inactive by a County-qualified ornithologist.

Plan Requirements and Timing: The Licensee shall hire a qualified County-approved biologist to conduct nesting surveys prior to the start of any construction activity. The results

of the survey shall be submitted to the County Planning Department for review and approval prior to issuance of a cultivation or manufacturing license. The name and contact information for the qualified biologist shall be provided to the County Planning Department prior to the survey. The surveys shall be conducted no sooner than seven working days prior to the start of construction. The County Planning Department shall be notified prior to the survey of the proposed survey date.

Monitoring: The County Licensing Office and/or Planning Department staff shall confirm compliance prior to initiation of grading activities.

MM BIO-1.1g. Pest Management Plan. Prior to license approval for cultivation and/or manufacturing, a Pest Management Plan shall be prepared and submitted to the County Cannabis Licensing Office. The Pest Management Plan shall describe the methods to be used for pest control, including the type, location, timing, and methods used for any rodenticide. Cannabis licensees shall be prohibited from the use of rodenticides to control pests. If rodents are a pest issue for a potential licensee, non-toxic alternatives to rodenticides shall first be attempted, such as mechanical controls like traps, gopher fencing, and weeding; biological controls such as natural pheromones; or cultural controls such as site maintenance and hygiene. Only after it can be demonstrated to the satisfaction of the Licensing Official that non-toxic pest control has been ineffective can rodenticides be considered consistent with the approved Pest Management Plan.

Plan Requirements and Timing: The Licensee shall submit the Pest Management Plan to the Licensing Office for review and approval prior to issuance of a cultivation or manufacturing license.

Monitoring: The County Licensing Office staff shall confirm compliance in the Pest Management Plan during each site inspection and/or license renewal following license approval.

MM BIO-1.1h. Water Draw Restrictions. For sites with an approved water source that has either direct or indirect connectivity to a fish-bearing stream, water shall only be drawn from that source between October 15 and April 15 for all agricultural purposes, including irrigation and County Fire Code requirements. Sufficient storage for the seasonal water demands shall be provided. To the maximum extent possible, water demand shall be met with rainwater harvest pursuant to MM-HYDRO-2.2. Rainwater Harvesting for Cannabis Cultivation prior to drawing water from a source that may impact stream flow.

Plan Requirements and Timing: The County Cannabis Licensing Office shall coordinate with the Planning Department to ensure that water sources connected with a fish-bearing stream that is used by cannabis operations is only drawn between October 15 and April 15 through review and approval of a cultivation or manufacturing license.

Monitoring: The County Licensing Office staff shall confirm compliance with requirements for cannabis water use and sources.

Implement MM HYDRO-1.1. Pesticide and Herbicide Control. To reduce potential direct impacts to special-status fish species associated with the use of pesticides and herbicides for cannabis cultivation, MM HYDRO-1.1, addressing restrictions on the type of allowable pesticides and herbicides and their appropriate labeling, placement, storage, and use to prevent release into the environment shall apply to Impact BIO-1.1.

Post-Mitigation Level of Impacts

The implementation of MM HYDRO-1.1 and MM BIO-1.1g would ensure that pesticides and herbicides are not disseminated into the environment, including surface waters, and therefore minimize adverse effects to wildlife and special-status fish species related to cannabis activities. With implementation of MMs BIO-1.1a through BIO-1.1c, as well as MM BIO-1.1g, MM BIO-1.1h, and MM HYDRO-1.1, direct impacts to special-status wildlife species, including listed fish species and nesting birds, would be reduced to a *less than significant with mitigation* level. The identification of individuals or populations and their habitat, as well as through the cautious avoidance and management of activities as required in these measures would reduce the potential for disturbance to these sensitive species. Implementation of MMs BIO-1.1a and BIO-1.1e would reduce impacts to special-status plant species to a *less than significant with mitigation* level. Further, MM BIO-1.1f would serve to reduce the direct impacts of the Program on special-status bat species and their roosting habitats to a *less than significant with mitigation* degree.

Impact BIO-1.2 – Indirect Cultivation/Manufacturing. Indirect impacts to special-status plant or wildlife species could result from new development, such as the construction of up to 228 residences, grading for building pads, vegetation management to create defensible space for required fire infrastructure, extension of utility infrastructure, or road improvements required to support operation of cannabis cultivation and manufacturing sites. The County Fire Code applicable to cannabis-related activities within structures could require significant site improvements to provide onsite fire water tanks (up to 568 tanks of up to 120,000 gallons each) with related site pad clearing and grading, installation of a 20-foot wide road with turnaround, and defensible space around a cannabis-related structure of up to 100 feet. For sites that have water rights to nearby creeks or are dependent upon wells that have direct connectivity to nearby creeks, the filling of tanks for fire water storage has the potential to draw down creek water to a level that could potentially adversely affect special-status fish, such as Coho and Steelhead.

The More Permissive Project may result in incrementally more new development than the Project. Therefore, for both Project scenarios, cultivation and manufacturing would result in indirect impacts to special-status plants and wildlife species. Proposed indirect development activities would be subject to existing County Code and licensing review to ensure compliance with County policies and regulations that protect biological resources within the County; however, due to the extensive range of the Program area, indirect development activities under the Project and More Permissive Project could result in development within areas that support habitat for special-status species but are not currently identified by the County as areas of biotic concern. Therefore, indirect impacts of the Program to special-status species are considered *potentially significant*.

Mitigation Measures

Implement MM BIO-1.1a. Special-status Species Habitat Assessment. To reduce potential indirect impacts to special-status plant and wildlife species, MM BIO-1.1a, requiring habitat assessment surveys and implementation of specific monitoring, removal, or compensatory measures, shall apply to Impact BIO-1.2.

Implement MM BIO-1.1b. Habitat Compensation. To reduce potential indirect impacts to special-status wildlife species, MM BIO-1.1b, requiring habitat preservation, shall apply to Impact BIO-1.2.

Implement MM BIO-1.1c. Worker Environmental Awareness Program. To reduce potential indirect impacts to special-status wildlife species, MM BIO-1.1c, requiring a County-approved biologist to conduct worker awareness training, shall apply to Impact BIO-1.2.

Implement MM BIO-1.1d. Prevention of Spread of Nonnative Invasive Plants. To reduce potential indirect impacts to special-status plant and wildlife species, MM BIO-1.1d, requiring Licensees to implement BMPs to reduce potential spread of nonnative invasive plant species during construction and operation of sites, shall apply to Impact BIO-1.2.

Implement MM BIO-1.1e. Roosting Bat Survey. To reduce potential indirect impacts to special-status plant and wildlife species, MM BIO-1.1e, requiring a qualified biologist to conduct surveys for special-status bats and suitable roosting sites, shall apply to Impact BIO-1.2.

Implement MM BIO-1.1f. Nesting Bird Survey. To reduce potential indirect impacts to special-status plant and wildlife species, MM BIO-1.1f, requiring a qualified biologist to conduct surveys for nesting birds and avoidance or removal of their nests, shall apply to Impact BIO-1.2.

Implement MM BIO-1.1h. Water Draw Restrictions. To reduce impacts to water sources that have either direct or indirect connectivity to a fish-bearing stream, MM BIO-1.1h requiring water only be drawn from that source between October 15 and April 15 for all agricultural purposes, including irrigation and Fire Code requirements, shall apply to Impact BIO-1.2.

MM-HYDRO-2.3. Water Tank Supply Management. To reduce indirect impacts related to water table drawdown impacts to streamflows, MM HYDRO-2.3, addressing management of fire water tanks, shall apply to Impact BIO-1.2.

Post-Mitigation Level of Impacts

With implementation of MMs BIO-1.1a through BIO-1.1c, as well as MM BIO-1.1f through BIO-1.1h, indirect impacts to special-status wildlife species, including nesting birds, would be reduced to a *less than significant with mitigation* level. The identification of individuals or populations and their habitat, as well as through the cautious avoidance and management of activities as required in these measures would reduce the potential for disturbance to these sensitive species. Implementation of MMs BIO-1.1a and BIO-1.1d would reduce indirect impacts to special-status plant species to a *less than significant with mitigation* level. Further, MM BIO-1.1e would serve to reduce the indirect impacts of the Program on special-status bat species and their roosting habitats to a *less than significant with mitigation* level. Implementation of MM HYDRO-2.3 would reduce indirect impacts from Fire Code requirements to a *less than significant with mitigation* level.

Impact BIO-2. Commercial cannabis cultivation and cannabis product manufacturing under the Program could have adverse effects on habitats or sensitive natural communities. Impacts would be less than significant with mitigation.

Impact BIO-2.1 – Direct Cultivation/Manufacturing. Eligible cultivation and manufacturing sites are located throughout eligible areas of the County and have a high potential to occur within sensitive natural communities that may serve as habitat for special-status plant or wildlife species, including: oak woodland, central dune scrub, coastal prairie, northern maritime chaparral, Monterey pine forest, northern interior cypress forest, maritime coastal range ponderosa pine forest, old-growth forest, San Andreas oak woodland, and Santa Cruz Sandhills. The County's existing policies and regulations

protect known local resources, including the Santa Cruz Sandhills, which are protected by the Sandhills Interim Habitat Conservation Plan (IPHCP). The limited extent and/or high quality of these communities make them ecologically valuable resources. Activities included under licensing and operation of cannabis cultivation and manufacturing sites could significantly alter suitable habitat conditions through encroachment, fragmentation, or direct loss of habitat by cannabis cultivation and manufacturing. While the More Permissive Project would have a larger potential impact area because it allows for incrementally more cultivation in more locations than the Project, the adverse effects anticipated under each scenario would be similar in nature. Additionally, some existing cultivation or manufacturing may be required to close or relocate through the licensing process. Consistent with the County General Plan, degraded habitat that has occurred from cannabis operations would be required to be restored as part of the licensing and enforcement process, which would have a beneficial effect on biological resources. However, potential impacts from new cannabis activities would be considered *potentially significant* for both cannabis cultivation and manufacturing under the Project and More Permissive Project.

In addition, the Program has the potential to result in impacts on riparian habitats and associated streams and water bodies. However, the Project and More Permissive Project include physical restrictions on cultivation areas to control where and how cannabis could be cultivated. Such restrictions include required setbacks from streams and water bodies. Similarly, SCCC Chapter 16.30 would prohibit associated manufacturing and development activities within specified setbacks from streams and water bodies. Therefore, neither the Project nor the More Permissive Project are expected to directly result in loss of riparian communities, streams, nor water bodies and impacts to these communities are considered *less than significant.*

Mitigation Measures

MM BIO-2.1a. Sensitive Communities Habitat Assessment. Cannabis cultivators and manufacturers who apply for a license on a site containing undeveloped habitat shall be required to have Licensing Office or Planning Department staff determine through a site visit whether a habitat assessment is necessary based on the potential for sensitive communities to occur onsite. If a habitat assessment is required, the licensee shall hire a County-approved biologist to conduct an assessment for the presence or absence of sensitive communities. The assessment shall include the proposed cultivation or manufacturing area and all areas within 300 feet of the site. If it is determined that the site does not support sensitive habitat, no further mitigation shall be required.

If the site is determined to support sensitive habitat, the protected community shall not be disturbed. The Licensee shall design, construct, and operate the proposed cultivation and/or manufacturing site to avoid sensitive communities, and to include a 300-foot buffer around old growth forest and a 50-foot buffer around all other sensitive habitats, including:

- Central Dune Scrub
- Coastal Prairie
- Northern Maritime Chaparral
- Native Monterey Pine Forest
- Northern Interior Cypress Forest
- Maritime Coast Range Ponderosa Pine Forest

- Old-Growth Forest
- San Andreas Oak Woodland
- Zayante Sandhills Soils

  Plan Requirements and Timing: If sensitive communities occur onsite, the Licensee shall hire a qualified biologist approved by the County to prepare a Sensitive Communities Habitat Assessment. The biologist shall submit the assessment to the County Planning Department for review and approval prior to issuance of any cultivation or manufacturing license. All necessary buffers shall be flagged by a qualified biologist prior to initiation of construction activities.

  Monitoring: The Licensing Office staff shall monitor site construction to ensure buffers for sensitive communities are flagged consistent with the listed requirements.

MM BIO-2.1b. Avoid Oak Woodland. To the extent feasible, activities on cultivation/manufacturing sites shall avoid impacts on oak woodland. Avoidance is considered to be completely avoiding any work or staging under the dripline of trees within an oak woodland area, plus a 50-foot buffer. The Licensee shall design, construct, and operate the cultivation and/or manufacturing site to completely avoid impacts on oak woodland including a 50-foot buffer established prior to initial ground disturbance. The buffer shall be established at 50 feet from the perimeter of the woodland (as measured by tree driplines for trees on the outer edge of the woodland) unless otherwise agreed upon by a qualified plant ecologist retained by the County.

Plan Requirements and Timing: The Licensee shall flag or fence the boundary of the designated avoidance buffer prior to initial ground disturbance. All buffers shall be depicted on final site plans.

Monitoring: The Licensing Office staff shall monitor site construction to ensure buffers for sensitive communities are flagged consistent with the listed requirements.

MM BIO-2.1c. Community Replacement. If complete avoidance of oak woodland is not attainable or feasible, compensation for permanent impacts on oak woodland habitat shall be provided through the replacement of oak woodland vegetation. Compensation requirements shall be based on the acreage of tree and shrub canopy removed. Oak woodland shall be avoided within 0.25 mile of a known SCLTS Pond (see Impact BIO-1.1). Any operation that impacts oak woodland vegetation shall implement the following measures:

- Unavoidable impacts on oak woodland vegetation shall be mitigated through the replacement of oak woodland vegetation on the parcel that contains the cultivation site and, if needed, outside of that parcel.
- Temporary impacts on oak woodland are defined as impacts to understory herbaceous vegetation within the oak woodland habitat that occurs outside the dripline of any tree or shrub. Temporary impacts shall be mitigated by reseeding the temporary impact area with a local or site-based native seed source and native seed mixture that is similar in species and cover to that present in the impacted oak woodland.
- Permanent impacts on oak woodland shall be mitigated at a replacement ratio based on the diameter breast height (DBH) of the trees being removed. As trees and shrubs in oak woodlands may be widely spaced or more closely spaced, and exact composition may differ depending on microhabitat conditions that vary across the County, the mitigation plantings

shall either be composed of the same species and in the same proportions as those removed, or shall reflect the composition and density of a reference site near the cultivation site. In addition, the mitigation planting areas shall be seeded with a native seed mixture that is similar in species and cover to that present in the impacted oak woodland habitat. All plant materials shall be replaced using a local native plant source. The mitigation plantings shall be preferentially installed on the parcel that contains the cultivation/manufacturing site and can be situated in the area temporarily impacted by the site. When the planting site is not itself a sensitive habitat the oak woodland mitigation plantings may convert a non-sensitive community to oak woodland over time, if that area is determined to be suitable by a qualified restoration ecologist. The cultivator/manufacturer shall develop an Oak Woodland HMMP for replacement of trees and shrubs. If the replacement of oak woodland vegetation cannot be implemented within the cultivation site, or there is not a sufficient area to mitigate oak woodland tree and shrub impacts, acreage for oak woodland planting shall be acquired within the vicinity of the cultivation/manufacturing site. The Oak Woodland HMMP shall be prepared by a County-approved and qualified restoration ecologist and shall provide, at a minimum, the following items:

- Habitat impacts summary and proposed habitat mitigation actions.
- Goals of the restoration to achieve no net loss.
- The location of the mitigation sites and existing site conditions.
- Mitigation design including:
- Proposed site construction schedule.
- Description of existing and proposed soils, hydrology, geomorphology, and geotechnical stability.
- Site preparation and grading plan.
- Invasive species eradication plan, if applicable.
- Soil amendments and other site preparation.
- Planting plan (plant procurement/propagation/installation).
- Maintenance plan.
- Monitoring measures, performance and success criteria, which, at a minimum shall include at least 80 percent planted oak and shrub survivorship at 5 years post-planting.
- Monitoring methods, duration, and schedule.
- Contingency measures and remedial actions.
- Reporting measures.

This mitigation will be deemed complete and the cultivator will be released from further responsibilities when the final success criteria have been met as determined by the County.

Plan Requirements and Timing: A Restoration Plan, including proposed planting areas and proposed plant pallets, including any necessary Oak Woodland HMMP, shall be prepared by a County-approved biologist and reviewed and approved by County Planning Department permit compliance staff prior to issuance of a license.

Monitoring: Licensing staff shall verify compliance with the Restoration Plan and/or Oak Woodland HMMP in the field before and during construction or development of the site.

Post-Mitigation Level of Impacts

With implementation of MMs BIO-2a through BIO-2c, direct impacts from licensing and operation of cannabis cultivation and/or manufacturing sites on sensitive natural communities or habitats would be reduced to a *less than significant with mitigation* level for both the Project and the More Permissive Project.

Impact BIO-2.2 – Indirect Cultivation/Manufacturing. Indirect impacts of the Program on habitat or sensitive natural communities would be similar to those described under Impact BIO-2.1, above. Construction of roads, site improvements, and supporting structures indirectly related to cannabis cultivation and manufacturing could potentially be sited on or near sensitive habitat. The County Fire Code for cannabis-related activities within structures would require significant site improvements to provide onsite fire water tanks (up to 568 tanks of up to 120,000 gallons each) with related site pad clearing and grading, installation of a 20-foot wide road with turnaround, and defensible space around a cannabis-related structure of up to 100 feet. For sites located in the upper watersheds that install new wells for their water supply, combined with the water tank requirement, stream flow could be impacted due to drawdown, which could adversely affect aquatic habitat or riparian sensitive communities.

Proposed indirect development activities would be subject to existing County Code and licensing review to ensure compliance with County policies and regulations that protect biological resources. However, given the nature and extensive range of the Program area, indirect development activities have the potential to occur within sensitive habitat or natural communities not currently identified by the County as areas of biotic concern. Therefore, indirect impacts of the Program would be considered *potentially significant*.

Mitigation Measures

Implement MM BIO-1.1d. Prevention of Spread of Nonnative Invasive Plants. To reduce indirect impacts to the loss or alteration of sensitive natural communities or suitable habitats for special-status plants and wildlife, MM BIO-1.1d, addressing the control of nonnative invasive plant species, shall apply.

Implement MM BIO-2.1a. Sensitive Communities Habitat Assessment. To reduce indirect impacts to the loss or alteration of sensitive natural communities or suitable habitats for special-status plants and wildlife, MM BIO-2.1a, requiring the identification and protection of sensitive habitat within the area of disturbance, shall apply.

Implement MM BIO-2.1b. Avoid Oak Woodland. To reduce indirect impacts to the loss or alteration of sensitive natural communities or suitable habitats for special-status plants and wildlife, MM BIO-2.1b, requiring the avoidance of sensitive oak woodland habitat, shall apply.

Implement MM BIO-2.1c. Community Replacement. To reduce indirect impacts to the loss or alteration of sensitive natural communities or suitable habitats for special-status plants and wildlife, MM BIO-2.1c, addressing compensatory requirements for the replacement of impacted vegetation or preservation of suitable offsite habitat shall apply.

Implement MM BIO-1.1h. Water Draw Restrictions. To reduce impacts to water sources that have either direct or indirect connectivity to a fish-bearing stream, MM BIO-1.1h requiring water only be drawn from that source between October 15 and April 15 for all agricultural purposes, including irrigation and Fire Code requirements, shall apply to Impact BIO-2.2.

MM-HYDRO-2.3. Water Tank Supply Management. To reduce indirect impacts related to water table drawdown impacts to streamflows, MM HYDRO-2.3, addressing management of fire water tanks, shall apply to Impact BIO-2.2.

Post-Mitigation Level of Impacts

With implementation of MMs BIO-1.1d, and BIO-2.1a through BIO-2.1c, indirect impacts from construction and operation of supporting development for cannabis cultivation and/or manufacturing sites on sensitive biological communities or habitats would be reduced to a less than significant with mitigation level for both the Project and the More Permissive Project. Implementation of MM HYDRO-2.2, Rainwater Harvesting, MM-HYDRO-2.3. Water Tank Supply Management, and MM BIO-1.1h. Water Draw Restrictions, would reduce indirect impacts from County Fire Code requirements to a less than significant with mitigation level.

Impact BIO-3. Commercial cannabis cultivation and cannabis product manufacturing under the Program could have adverse effects on the movement of any native resident or migratory species. Impacts would be less than significant with mitigation.

Impact BIO-3.1 – Direct Cultivation/Manufacturing. The Project and More Permissive Project both include physical restrictions on cultivation and/or manufacturing sites to control where and how cannabis can be cultivated or manufactured. Such restrictions include required setbacks from streams and water bodies. The Program is not expected to result in substantial impacts on riparian or stream environmental corridors, which allow movement throughout the landscape by both aquatic and terrestrial species. Because impacts would be scattered throughout the Program's area of eligibility, and the maximum allowed cannabis canopy size on an individual parcel in any zoning district is 22,000 sf for the Project and 44,000 sf for the More Permissive Project, the Project and More Permissive Project are not expected to result in a substantial impact on wildlife movement through upland communities. However, the Program would require outdoor cannabis cultivators to secure and enclose cultivation sites with a minimum 6-foot high, opaque fence. Installation of such barriers would have the potential to adversely affect resident or migratory species movement between foraging, dispersal, or breeding habitats, particularly within more biologically diverse regions of the County. Therefore, indirect impacts are considered *potentially significant.*

Mitigation Measures

Implement MM AV-1.1. Fencing Requirements. To reduce indirect impacts to the movement of native resident or migratory species from installation of security fencing, MM AV-1.1, addressing requirements for cannabis cultivation site security fencing, shall apply to Impact BIO-3.2.

MM BIO-3.1. Wildlife Fencing. If fencing is required by the Licensing Official for outdoor cultivation sites, cannabis cultivation Licensees shall prepare a Wildlife Fencing Plan for all cannabis cultivation sites proposed. The Wildlife Fencing Plan shall identify the type, material, length, and design of proposed fencing, and shall consist of non-disruptive, wildlife-friendly fencing such as post and rail fencing, wire fencing, and high-tensile electric fencing, to allow

passage by smaller animals and prevent movement in and out of cultivation sites by larger mammals such as deer.

Plan Requirements and Timing: The Licensee shall submit the Wildlife Fencing Plan to the County for review and approval prior to issuance of any cannabis cultivation license.

Monitoring: A County-approved biologist shall review the plan and confirm the adequacy of design for passage of smaller wildlife and safe prevention of entry by larger mammals such as deer. The Licensee shall demonstrate to County compliance monitoring staff that all perimeter fencing requirements are in place as required.

Post-Mitigation Level of Impacts

With implementation of MMs AV-1.1 and BIO-3.1, indirect impacts to the movement of native resident or migratory species due to cannabis cultivation fencing requirements under the Program would be reduced to *less than significant with mitigation*.

Impact BIO-3.2 – Indirect Cultivation/Manufacturing. Commercial cannabis cultivation and manufacturing may result in indirect impacts to the movement of any native or migratory species through the construction of residential units and ancillary development necessary to support cultivation or manufacturing under the Program. However, supporting development would be subject to existing plans and policies designed to protect and ensure the movement of native or migratory species throughout the County, and preserve wildlife corridors. Therefore, this impact is considered *less than significant*.

Impact BIO-4: Commercial cannabis cultivation and cannabis product manufacturing under the Program may conflict with adopted local plans, policies, or ordinances oriented towards the protection and conservation of biological resources. Impacts would be less than significant with mitigation.

Impact BIO-4.1 – Direct Cultivation/Manufacturing. SCCC Chapter 16.34, *Significant Trees Protection*, applies in the Coastal Zone and sensitive habitats in the Program area and requires specific findings to be made prior to issuance of a permit for the removal of significant trees in the Coastal Zone. To comply with this ordinance under the Program, the Licensee would apply for a tree removal permit and comply with the required mitigation conditions if removal of any significant tree is necessary and the findings can be made. The Licensee would be required to mitigate for loss of trees by replacing them with trees acceptable to the County Planning and Development Department. The replacement trees would be planted onsite to the extent feasible. If replacement onsite is not feasible, the Licensee would be responsible for identifying a location where trees could be planted, monitored and maintained. The More Permissive Project would involve licensing of more sites than the Project, which would increase the potential for impacts on trees and the maximum potential acreage of impacts on habitat and communities; however, compliance with SCCC Chapter 16.34, *Significant Trees Protection*, would ensure that impacts in the Coastal Zone would be *less than significant*.

In addition to SCCC Chapter 16.34, 19 adopted HCPs issued under the federal Endangered Species Act to private entities undertaking projects that might result in take of an endangered or threatened species are active in the County of Santa Cruz (USFWS 2017), including the IPHCP for the Sandhills Habitat. Per County Ordinance 16.32, Sensitive Habitat Protection, development activity within an area of biotic concern (including areas that provide habitat for rare or endangered species which meet the definition of Section 15380 of the CEQA guidelines and areas which provide habitat for rare,

endangered or threatened species as designated by the State Fish and Game Commission, USFWS, or CNPS) cannot begin until a biotic approval has been issued by the County. The County would not issue a license for cannabis cultivation on a site with an approved HCP until a biological assessment is performed by an applicant-funded and County-approved biologist. The County would typically not allow activities such as cannabis cultivation on a site with an approved HCP if such cultivation would conflict with the HCP. SCCC Chapter 16.32 also establishes protection for known habitat area for the SCLTS with the S-P zone district. However, SCCC Chapter 16.32 does not explicitly state that the required biological assessment would prohibit issuance of a license for any activities that would conflict with the approved HCP or the S-P zone. Therefore, the Project and More Permissive Project could potentially result in a conflict with an approved HCP or County habitat protection measures, and impacts are considered *potentially significant*.

Additionally, the General Plan contains conservation measures that would protect biological resources, as well as measures to avoid, minimize, and mitigate impacts on such resources. County protective measures include regions that impact Zayante Sandhill habitats, SCLTS, and California tiger salamander; cannabis-related development would be prohibited in these 2 habitats under current policy. Therefore, Program conflicts with adopted local plans, policies, or ordinances oriented towards the protection and conservation of biological resources are considered *less than significant* for both the Project and More Permissive Project scenarios.

Mitigation Measures

MM BIO-4.1. Avoidance of Conflict with an Approved HCP. During the County's review of license applications for cannabis cultivation and manufacturing, the County shall review whether a cultivation or manufacturing site is located within an area subject to an adopted HCP during its biological resources assessment process. The County shall not issue a license for any site on which the proposed activity would conflict with an adopted HCP.

Plan Requirements and Timing: The Cannabis Licensing Office shall screen all Licensees for site locations within an approved HCP. If the proposed site is located within an approved HCP, the County Planning Department shall review for consistency prior to license approval, and may recommend denial of the license due to biotic impacts.

Monitoring: The County Planning Department and Cannabis Licensing Office monitoring staff shall ensure compliance.

MM BIO-4.2. No Cannabis Activities allowed within Sandhills Habitat or Salamander Protection Zone. During the County's review of license applications for cannabis cultivation and manufacturing, the County shall review whether a cultivation or manufacturing site is located within the Sandhills habitat or in oak woodland within ¼ mile of a known or suspected salamander breeding pond during its biological resources assessment process. The County shall not issue a license for any cannabis activity proposed within the Sandhills or SCLTS habitats, with the exception of those indoor activities that do not require any soil disturbance.

Plan Requirements and Timing: The Cannabis Licensing Office shall screen all Licensees for location within Sandhills or SCLTS habitats. If the proposed site is located within the Sandhills or SCLTS habitats and requires any amount of ground disturbance, the Cannabis Licensing Office shall deny the license application following review and concurrence by County Planning Department staff.

Monitoring: The County Planning Department and Cannabis Licensing Office monitoring staff shall ensure compliance.

Post-Mitigation Level of Impacts

With implementation of MMs BIO-4.1 and BIO-4.2, the County would ensure no cannabis cultivation or manufacturing site licensed under the Program would conflict with adopted HCPs, SCCC Chapter 16.32 addressing S-P zoning, and Sandhills habitat, and direct impacts would be reduced to a *less than significant with mitigation* degree.

Impact BIO-4.2 – Indirect Cultivation/Manufacturing. Indirect impacts of cannabis cultivation and manufacturing would occur through the construction or expansion of buildings such as greenhouses, commercial buildings, and residential structures, or related infrastructure such as required water tanks and fire prevention improvements to support cultivation and manufacturing operations. Site preparation activities for related development and improvements could conflict with local plans or policies oriented towards the protection of local biological resources through the clearing/grading of land or removal of habitat identified under a HCP, or through the cutting or removal of trees protected under SCCC Chapter 16.34, *Significant Trees Protection*. However, such activities would be subject to the same County policies and regulations as described under Impact BIO-4.1 above. No impacts would result from conflicts with SCCC Chapter 16.34 due to existing requirements. Where the siting of construction and operation of new or expanded development would occur within areas overlapping an adopted HCP, indirect impacts would be similar to those described under Impact BIO-4.1, and are considered *potentially significant* for both the Project and the More Permissive Project.

Mitigation Measures

Implement MM BIO-4.1. Avoidance of Conflict with an Approved HCP. To reduce potential indirect impacts from the allowance of residential structures or ancillary development on a site with an approved HCP, MM BIO-4.1, requiring the County to review and approve cannabis cultivation and manufacturing licenses only on sites that would not conflict with an approved HCP, shall apply to Impact BIO-4.2.

Implement MM BIO-4.2. No Cannabis Activities allowed within Sandhills or SCLTS Habitat. To reduce potential indirect impacts from the allowance of residential structures or ancillary development on a site with Santa Cruz County Sandhills Habitat or SCLTS Habitat, MM BIO-4.2, requiring the County to deny cannabis cultivation and manufacturing licenses on sites that would impact these sensitive areas, shall apply to Impact BIO-4.2.

Post Mitigation Level of Impacts

With implementation of MMs BIO-4.1 and BIO-4.2, the County would ensure that residential development and ancillary improvements required to support licensing of commercial cannabis cultivation and manufacturing sites do not adversely affect Santa Cruz County Sandhills Habitat or SCLTS habitat, and residual indirect impacts would be *less than significant with mitigation* for both the Project and the More Permissive Project scenarios.

3.4.6.2 Summary of Project Impacts and Proposed Mitigation Measures

Table 3.4-2 below provides a summary of the Program impacts related to biological resources and proposed MMs.

Table 3.4-2 Summary of Biological Resources Impacts

Biological Resources Impacts	Level of Significance	Mitigation Measures	Post-Mitigation Level of Significance	
			Project	More Permissive Project
Impacts from Commercial Cannabis Cultivation and Cannabis Product Manufacturing				
Impact BIO-1. Commercial cannabis cultivation and cannabis product manufacturing under the Program could have adverse effects on unique, rare, threatened, or endangered plant or wildlife species. Impacts would be less than significant with mitigation.				
Direct	Potentially Significant	MM HYDRO-1.1. Pesticide and Herbicide Control. MM BIO-1.1a. Special-status Species Habitat Assessment. MM BIO-1.1b. Habitat Compensation. MM BIO-1.1c. Worker Environmental Awareness Program. MM BIO-1.1d. Prevention of Spread of Nonnative Invasive Plants. MM BIO-1.1e. Roosting Bat Survey. MM BIO-1.1f. Nesting Bird Survey. MM BIO-1.1g. Pest Management Plan. MM BIO-1.1h. Water Draw Restrictions	Less than significant with Mitigation	Less than significant with Mitigation
Indirect	Potentially Significant	MM BIO-1.1a. Special-status Species Habitat Assessment. MM BIO-1.1b. Habitat Compensation. MM BIO-1.1c. Worker Environmental Awareness Program. MM BIO-1.1d. Prevention of Spread of Nonnative Invasive Plants. MM BIO-1.1e. Roosting Bat Survey. MM BIO-1.1f. Nesting Bird Survey. MM BIO-1.1h. Water Draw Restrictions MM-HYDRO-2.3. Water Tank Supply Management	Less than significant with Mitigation	Less than significant with Mitigation

Table 3.4-2 Summary of Biological Resources Impacts (Continued)

Biological Resources Impacts	Level of Significance	Mitigation Measures	Post-Mitigation Level of Significance	
			Project	More Permissive Project
Impact BIO-2. Commercial cannabis cultivation and cannabis product manufacturing under the Program could have adverse effects on habitats or sensitive natural communities. Impacts would be less than significant with mitigation.				
Direct	Potentially Significant	MM BIO-2.1a. Sensitive Communities Habitat Assessment. MM BIO-2.1b. Avoid Oak Woodland. MM BIO-2.1c. Community Replacement.	Less than significant with Mitigation	Less than significant with Mitigation
Indirect	Potentially Significant	MM BIO-1.1d. Prevention of Spread of Nonnative Invasive Plants. MM BIO-2.1a. Sensitive Communities Habitat Assessment. MM BIO-2.1b. Avoid Oak Woodland. MM BIO-2.1c. Community Replacement. MM BIO-1.1h. Water Draw Restrictions MM-HYDRO-2.3. Water Tank Supply Management	Less than significant with Mitigation	Less than significant with Mitigation
Impact BIO-3. Commercial cannabis cultivation and cannabis product manufacturing under the Program could have adverse effects on the movement of any native resident or migratory species. Impacts would be less than significant with mitigation.				
Direct	Less than Significant	MM AV-1.1. Fencing Requirements. MM BIO-3.1. Wildlife Fencing MM BIO-1.1h. Water Draw Restrictions	Less than Significant with Mitigation	Less than Significant with Mitigation
Indirect	Potentially Significant	None required.	Less than Significant	Less than Significant
Impact BIO-4: Commercial cannabis cultivation and cannabis product manufacturing under the Program may conflict with adopted local plans, policies, or ordinances oriented towards the protection and conservation of biological resources. Impacts would be less than significant with mitigation.				
Direct	Potentially Significant	MM BIO-4.1. Avoidance of Conflict with an Approved HCP. MM BIO-4.2. No Cannabis Activities allowed within Sandhills or Salamander Habitat.	Less than significant with Mitigation	Less than significant with Mitigation
Indirect	Potentially Significant	MM BIO-4.1. Avoidance of Conflict with an Approved HCP. MM BIO-4.2. No Cannabis Activities allowed within Sandhills or Salamander Habitat.	Less than significant with Mitigation	Less than significant with Mitigation

3.4.6.3 Secondary Impacts

Impact BIO-5. Unregulated commercial cannabis cultivation and cannabis product manufacturing under the Program could have adverse effects on unique, rare, threatened, or endangered plant or wildlife species; habitats or sensitive natural communities; the movement of any native resident or migratory species; or may conflict with adopted local plans, policies, or ordinances oriented towards the protection and conservation of biological resources. Impacts would be significant and unavoidable.

Impact BIO-5.1 – Secondary Cultivation/Manufacturing. Project-induced additional or expanded unregulated and unlicensed cannabis cultivation and manufacturing could occur at levels beyond the baseline, by both existing and new cannabis activities. Operation of unlicensed sites and facilities that have been known to engage in unregulated and often illegal activities throughout the County with the potential to result in substantially adverse effects on sensitive plant and wildlife species. The impacts are caused by clear-cutting of forests, destruction of habitat, introduction of hazardous materials, introduction of barriers such as security fencing to movements of native resident or migratory species, unpermitted stream diversions, and other damaging activities required to support unregulated cannabis cultivation or manufacturing operations. However, the exact extent of these activities and the magnitude that would occur after implementation of the Program is highly speculative and unknown. Therefore, due to the ambiguous and unquantifiable nature of this impact, potential secondary impacts of the Project and More Permissive Project on biological resources are considered *potentially significant*.

Secondary impacts of the Program on natural communities and sensitive biological habitats would be similar to those discussed under Impact BIO-1.3, and so impacts are considered *potentially significant*.

Secondary impacts of the Program on natural corridors and the movement of native resident or migratory species could result from additional new or expanded unregulated cannabis cultivation and manufacturing sites engaging in adverse activities ranging from the unpermitted development in remote areas of the County that provide passage for native or migratory species, installation of fencing or security features which could prevent the passage of wildlife, or illegal diversion of streams which are crucial to the life cycle and movement of aquatic or riparian species. Due to the potential for operation of unlicensed and unpermitted cultivation and manufacturing sites, secondary impacts on the movement of native resident or migratory species are considered *potentially significant*.

Secondary impacts of the Program resulting from conflicts with adopted local plans or policies designed to protect, preserve, or conserve biological resources, such as the IPHCP for the Sandhills, would be similar to those discussed under Impact BIO-1.3 above, and impacts are considered *potentially significant*.

Mitigation Measures

Implement MM AT-1.3a. Sustained Enforcement Program. To reduce secondary impacts to special-status species, sensitive natural communities or habitats, the movement of native resident or migratory species from installation of security fencing, and conflicts with adopted HCPs, associated with unregulated cannabis cultivation/manufacturing and related development activities, MM AT-1.3a, addressing County implementation of the Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program, shall apply to Impact BIO-5.

Implement MM AT-1.3b. Annual Survey and Monitoring Report. To reduce secondary impacts to special-status species, sensitive natural communities or habitats, the movement of native resident or migratory species from installation of security fencing, and conflicts with adopted HCPs, associated with unregulated cannabis cultivation/manufacturing and related development activities, MM AT-1.3b, addressing County criteria for an **Annual Survey and Monitoring Report** of licensed activities as well as illegal activities, including recommendations regarding enforcement staffing and resources, shall apply to Impact BIO-5.

Post-Mitigation Level of Impacts

While implementation of MMs AT-1.3a and AT-1.3b would reduce the effect of secondary impacts to the maximum extent feasible by the County, impacts would remain significant. With implementation of these measures, the County would ensure that illegal cannabis cultivation and manufacturing operations in all zone districts is minimized through enforcement, site monitoring, and annual surveys which are conducted in a reliable manner, addressing operations on a case-by-case basis, thereby reducing the potential for continued unlicensed cannabis cultivation operations. However, due to the high likelihood for continued operation of unlicensed manufacturing regardless of increased enforcement throughout the County, secondary impacts of the Program are considered *significant and unavoidable*.

3.4.6.4 Cumulative Impacts

As described in Section 3.0, cumulative development and growth in population and employment is projected to be gradual toward 2040 with some change in agricultural uses and crop types and a changing regulatory landscape for commercial cannabis activities both regionally and statewide. Concurrent development of residential, commercial, and agricultural land uses with commercial cannabis cultivation and manufacturing could potentially result in adverse impacts to special-status species, sensitive communities, and other sensitive biological resources.

The cumulative impact on biological resources resulting from the Program in combination with other projects in the Program area would be dependent on the relative magnitude of adverse effects of these projects on biological resources compared to the relative benefit of impact avoidance and minimization efforts prescribed by planning policies, MMs, and permit requirements for each project, including compensatory mitigation and proactive conservation measures. Cumulative impacts to biological resources would be *less than significant.*

The General Plan contains conservation measures that would benefit biological resources, as well as measures to avoid, minimize, and mitigate impacts on such resources. In addition, some projects in the region that impact Zayante Sandhill habitats, similar to those impacted by the Program, would be covered activities under the IPHCP for the Sandhills. This plan ensures mitigation of impacts on this sensitive habitat and the special-status species it supports. For development that is approvable, the plan requires purchase of credits at the Zayante Sandhills Conservation Bank, a high quality Sandhills Preserve that will be protected and managed in perpetuity to enhance endangered species populations and their habitats. Therefore, cumulative impacts of the Program on local habitat conservation plans are considered *less than significant.*

Further, on a cumulative basis, the Program would bring a substantial number of existing cultivation sites into compliance with a variety of biological resource protection laws and regulations. Although individual sites approved through the permit process may have the potential to significantly impact

biological resources, these impacts would be minimized through the implementation of MMs as described above. Minimum parcel sizes, maximum cultivation areas, requirements to implement setbacks from streams and sensitive habitats, requirements to demonstrate adequate water supply, and other restrictions would, over time, result in cultivation sites being located in less sensitive areas and operated in a manner that would have fewer impacts than would otherwise occur. Therefore, provided the Program successfully incorporates the MMs described in this EIR, the direct and indirect effects of the Program will not result in a cumulatively considerable contribution to any significant cumulative effects on biological resources.

In addition to the Program's potentially adverse effects on wildlife from rodenticide application, the wide-scale use of rodenticides throughout the County by residents and businesses has resulted in the documentation of inadvertent poisoning or killing of non-target species, including special-status wildlife. The use and application of rodenticides to eradicate nuisance or pest species continues to result in adverse effects on wildlife and their habitats across all regions of the County, as described in Section 3.4.2, *Environmental Setting*, above. Cannabis cultivation is disproportionately located in mountainous areas and in locations interfacing directly with wildlands inhabited by wildlife that are known to accidentally ingest rodenticides or prey that has ingested rodenticides, leading to illness and death of wildlife beyond the target species of the rodenticide. While the potential application of rodenticides under the Program would be less than significant with mitigation that requires a near-complete ban on rodenticides associated with cannabis operations (with waivers granted in very limited cases) and preparation of a Pest Management Plan for each licensee, the application of rodenticides by noncompliant cannabis cultivators, residents, commercial developments, farmers, and many other users within the County would still continue to have a substantial adverse effect on local wildlife. Due to the evidence of adverse effects on wildlife and current use of rodenticides within the County, implementation of the Program in addition to continued application of rodenticides by users within the County will result in a cumulatively considerable impact to native wildlife. Implementation of a mitigation to address reduction of cannabis related use of rodenticides may reduce cumulative *potentially significant* impacts.

Recommended Mitigation Measures

Recommended MM BIO-5.1. Rodenticide Use Reduction and Control Program (RURCP). To address cumulatively considerable impacts of county-wide application of rodenticides, the County Licensing Official, Environmental & Resource Protection Division, shall develop a Countywide RURCP applicable to cannabis cultivation to reduce secondary poisoning of non-target wildlife. The County shall coordinate with local and state agencies, including CDFW, California DPR, and the County Agricultural Commissioner to develop and implement provisions of the program. To address the management of rodenticides throughout the County, the RURCP should consider, but not be limited to, the following aspects and topics for inclusion into the program:

- Toxicity studies to identify the extent and effects of rodenticides in all regions of the County.
- Identification of areas of the County subject to increased threat of secondary poisoning from rodenticide application.
- Identification and promotion of alternative rodent management measures, including biological controls such as owl boxes and natural pheromones; mechanical controls such as physical traps, gopher fencing, and weeding; or cultural controls.

- Opportunities for public outreach or education about effects of rodenticide use and safe pest management practices.

  Plan Requirements and Timing: Within two years of adoption of the Licensing Program, the County Licensing Office shall present to the County Board of Supervisors a recommended RURCP, with information about cost, effectiveness and concerns.

  Monitoring: The County Licensing Office shall coordinate with the various agencies and departments to ensure the production of the RURCP in conformance with this measure.

Post-Mitigation Level of Impacts

While many users and applicators within the County currently apply rodenticides in conformance with existing state and federal regulations, the toxicity of rodenticides and evidence of secondary poisoning of non-target wildlife remains a significant issue within the County resulting from the common application of rodenticides by many user groups in areas of the County that are rural and serve as habitats for many wildlife species. Implementation of MM BIO-5.1 would require the County to develop and implement a RURCP which identifies and addresses impacts from the use and application of commercially and publicly available rodenticides. Although not identified as an impact of the Program, Countywide rodenticide application from many existing and proposed residential, business and agricultural users would be managed and regulated through implementation of MM BIO-5.1, such that impacts resulting from the secondary poisoning of non-target species would be cumulatively reduced to a *less than significant with mitigation* level. However, as a recommended MM, if the County does not implement MM BIO-5.1, cumulative impacts of rodenticide use Countywide would be *significant and unavoidable*.

Section 3.5
Cultural Resources

3.5.1 Introduction

Cannabis cultivation and manufacturing may result in environmental impacts to cultural resources, including the damage or degradation of historic resources and buildings, tribal cultural resources, and subsurface archeological or paleontological resources. This section identifies and evaluates issues related to cultural resources that could result from the Project and More Permissive Project scenarios of the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program).

Program Impact Analysis
At a Glance
The Program could adversely affect historic buildings and cultural/tribal resources from ground disturbance or reuse of buildings older than 50 years. County regulations for cultural resources and mitigation to protect historic structures would ensure direct and indirect impacts are less than significant. However, project-induced additional or expanded unlicensed cannabis activities could have significant and unavoidable impacts.

This section is based on information from the Santa Cruz County General Plan Conservation and Open Space Element, Santa Cruz County Native American Cultural Sites Ordinance, Santa Cruz County Paleontological Resource Protection Ordinance, Santa Cruz County Historic Preservation Ordinance, Santa Cruz County Zoning Ordinance, previous archaeological studies, review of the California Inventory of Historic Resources for Santa Cruz County, a cultural resources records search of the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) at Sonoma State University, and outreach to tribal representatives through the Native American Heritage Commission (NAHC). The cultural resources evaluation is included as Appendix H of this EIR.

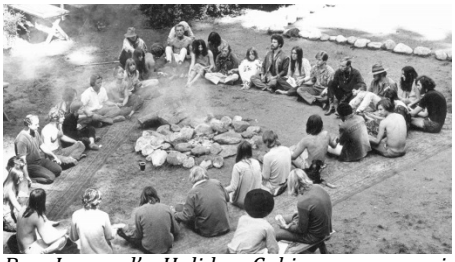
3.5.2 Environmental Setting

Cultural resources are defined as significant or unique historic-period buildings, structures, districts, and objects; archeological sites dating from either the prehistoric or historic period; or paleontological (i.e., fossil) materials. The potential exists for undiscovered subsurface prehistoric archaeological or paleontological resources throughout the County of Santa Cruz (County) in areas of potential cultivation under the Program. Resources are most likely associated with areas of known historic habitation, such as the areas surrounding the City of Santa Cruz and the City of Watsonville, though prehistoric habitation is documented throughout habitable areas of the County. As detailed in Appendix H, the County has a rich history of habitation dating back 8,500 to 10,000 years ago, and included the region's first known habitants, the Ohlone or Costanoan, beginning in approximately 6,000 Before Present (B.P.). Native habitation extended through European exploration periods beginning in 1769 with the first Portola expedition and establishment of the Mission La Exaltacion de la Santa Cruz in 1791. Settlers claimed land in the County through the 1800s as part of the state's Gold Rush and expansion of ranching and American industrialization, including shipping, commercial agriculture, and tourism. Agriculture also expanded rapidly in coastal bluff areas and the rich soils of the Pajaro Valley, which supported the growth of agricultural economies supported by landowners

and immigrant populations cultivating berries, apples, and row crops. Additional details of the evolution and development of prehistoric cultures and early American establishment in the County are described in Appendix H.

3.5.2.1 History of Cannabis Cultivation in Santa Cruz County

The following summary describes the history of cannabis cultivation in the County; as described above, a summary of the cultural setting for the prehistory, ethnography, and history of the County is detailed in Appendix H.



Ben Lomond's Holiday Cabins commune in 1967-1968 was a known location of cannabis cultivation. Source: Good Times Santa Cruz 2016.

Cannabis cultivation has been documented in the County for more than 40 years, though cultivation likely occurred earlier as well. The majority of cannabis cultivation occurred within small discrete operations within private residences, garages, or small gardens (County of Santa Cruz 2017a). Hippie communes were another common source of cannabis during the 1960s in the County; this included Ben Lomond's Holiday Cabins commune in the San Lorenzo Valley (Good Times Santa Cruz 2016).

Founded in 1993, the Wo/Men's Alliance for Medical Marijuana (WAMM) still operates today. Source: WAMM 2017.

The County was one of the first jurisdictions to legalize cannabis for medical use with voter approval of Measure A in 1992, and was home to the second medical marijuana club in the world with the opening of the Santa Cruz Cannabis Buyers Club in April 1995 (Marijuana 2014). With the passage of Measure A, the Wo/Men's Alliance for Medical Marijuana (WAMM) was founded in 1993 and is the nation's oldest continuously operating medical cannabis collective; the founders of WAMM originally began cultivating cannabis for medicinal uses in the 1970s (WAMM 2017). With the implementation of California Proposition 215 in 1996, cannabis cultivation for medical uses became legalized and the cannabis industry in the County began to grow.[1] Cannabis operations became larger over time, and some cultivators began to develop specific strains of cannabis to increase the amount of tetrahydrocannabinol (THC) or cannabidiol (CBD) in response to a growing body of research on effectiveness of cannabis for medicinal purposes, as well as medical user demands. Cultivators also began to distribute cannabis products through dispensaries as an alternative to cannabis collectives (County of Santa Cruz 2017a).

[1] California Proposition 215 in 1996, also known as the Medical Use of Marijuana Initiative, exempts patients who possess or cultivate cannabis for medical treatment recommended by a physician from criminal laws which otherwise prohibit possession or cultivation of cannabis, and allows physicians to recommend use of cannabis for medical treatment.

3.5.2.2 Identified Cultural Resources in Santa Cruz County

Historic Built Environment Resources

Historic resources include buildings, structures, and objects of historic or aesthetic importance that amplify the local population's sense of community, enhance perceptions and enjoyment of the community, and provide an important measure of the physical quality of life. When a significant concentration of such resources occurs within a defined geographic space, a historic district may be defined.

To identify historic resources in the County, data from the NWIC records search was reviewed, as well as the County of Santa Cruz Historic Resource Inventory (HRI) and the Office of Historic Preservation's (OHP's) County of Santa Cruz's Designated California Historical Landmarks (CHL) list.

Historic Resources within the County

The Powder Works Bridge, built in 1872, spans the San Lorenzo River in the San Lorenzo Valley. The bridge became a National Landmark in 2015 due largely to its use of a Smith truss, a nationally noteworthy timber truss type developed by Robert W. Smith.

There are 47 historic properties and districts in Santa Cruz County listed on the National Register of Historic Places (NRHP), including 2 National Historic Landmarks (NHLs). The NRHP is the official list of districts, sites, buildings, structures, and objects deemed worthy of preservation by the Secretary of the Interior. NHLs are designated nationally significant historic places because they possess exceptional value or quality in illustrating or interpreting the heritage of the U.S. One designated NHLs in located in the unincorporated County, namely the California Powder Works Bridge (National Park Service 2016). Built in 1872, the Powder Works Bridge spans the San Lorenzo River in the San Lorenzo Valley. The Powder Works Bridge was an essential component of the California Powder Works, the first black powder mill on the West Coast, and is an example of nineteenth-century covered bridge construction and a Smith truss, a nationally-significant timber bridge type (National Park Service 2013). The bridge became a dedicated NHL in 2015.

Grace Episcopal Church, built in November 1906, is currently the oldest religious structure in Boulder Creek. The building was listed on the National Register of Historic Places in 2016 and currently houses the Boulder Creek Historical Society.

CHLs are buildings, structures, sites, or places that have been determined to have statewide historical significance. There are eight designated CHLs in the County, including the unincorporated historic town of Glenwood, Felton Covered Bridge, Big Basin Redwoods State Park, and the Castro Adobe. More details on these CHLs are provided in Appendix H (Office of Historic Preservation 2017).

Historic resources in the unincorporated areas of the County are protected through the implementation of the Santa Cruz County Historic Preservation Ordinance (refer to Section 3.5.3.2 – Santa Cruz County Code [SCCC] Chapter 16.42). County Planning staff maintains the HRI, a listing of all officially designated historic resources in the County. Parcels that are designated in the

County's Historic Landmark L Combining District (refer to Section 3.5.3.2 – SCCC Chapter 13.10) are considered historic resources in the HRI. There are currently 264 parcels within the Historic Landmark L Combining District; this list is located in Appendix H. Properties which are listed on the NRHP and the CHL are also included in the County's HRI and are protected under SCCC Chapter 16.42.

Archaeological and Tribal Cultural Resources

Archaeological resources represent and document activities, accomplishments, and traditions of previous civilizations and link current and former inhabitants of an area. Archaeological resources may date from the historic or prehistoric period, and include deposits of physical remains of the past such as artifacts, manufacturing debris, dietary refuse, and the soils in which they are contained, or areas where prehistoric or historic activity measurably altered the earth.

Detailed study of archaeological sites is the only method of gaining knowledge and understanding of prehistoric times. Many of the sites and the artifacts and remains in them are a sacred part of the heritage, religion, and culture of the Native American community. As archaeological sites are among the most fragile, nonrenewable resources in California, various laws and regulations require the development of property to be accompanied by a rational and respectful concern for the protection of cultural resources (County of Santa Cruz 2017b).

The County also contains areas of great importance for the study and preservation of the past of the Native Americans of California. Native American cultural sites contain unique, irreplaceable resources significant to the history of the County and the cultural heritage of all humankind. Such sites have a deep, spiritual significance to all Native Americans, especially the native peoples of the State of California, and constitute a precious archaeological and historical heritage. It is the policy of the County to preserve and protect these sites and resources for their historic, cultural, educational, and scientific values. Native American cultural resources in the unincorporated areas of the County are protected through the implementation of the Santa Cruz County Native American Cultural Sites Ordinance (SCCC Chapter 16.40). This chapter establishes regulations for the protection, enhancement, and perpetuation of Native American cultural sites in order to promote the public welfare, and to implement the stated policies of the County's General Plan and Land Use Plan of the Local Coastal Program (LCP). Additionally, in February 2017, the County contacted Native American representatives to request consultation regarding tribal cultural resources for this EIR, consistent with AB 52. Following a 30-day comment period, the County did not receive a request for consultation. Nonetheless, this analysis addresses the potential tribal cultural resources to the extent feasible based on available information.

Archaeologic Potential of the County

Some areas of the County are more likely than others to contain undiscovered archaeological resources based on topography and geological conditions. Level to gently rolling hills near the coast or along water courses in the County are more likely to contain archaeological sites; however, because humans have occupied the County for at least 9,000 years (see Appendix H for a detailed prehistory of the County), dramatic changes in landforms may have occurred and archaeological sites may be found throughout the County (County of Santa Cruz 2017b). However, areas of archaeological sensitivity, or where there is a very high potential for a significant archaeological site to occur, are determined by an inventory of known sites in the County. These areas occur throughout the entire County, with large concentrations within the coast of the North Coast Region, a large cluster inland in the South County Region, near or surrounding waterways throughout the North Coast, Mountain, and

South County regions, and parts of the Urban Region. The total area of mapped archaeologically sensitive resource areas in the County is approximately 99,056 acres, or approximately 25.5 percent of the entire County (Santa Cruz County GIS 2017).

Additionally, staff of the NWIC at Sonoma State University performed a records search of the CHRIS on April 7, 2017 to identify known archaeological and historical sites within a 5-mile radius of two sample localities in the County: the Pajaro Valley and the San Lorenzo Valley (see Appendix H). As the Program applies to a large area covering unincorporated portions of the County, a Program-wide records search was not conducted; however, the NWIC records search was focused on the Pajaro Valley and the San Lorenzo Valley, where a large amount of cannabis cultivation is expected to occur under the Program, to characterize the potential for cultural resources to overlap with areas of potential commercial cannabis activities. The results of the literature and a records search indicate that at least 174 previous cultural resources studies have occurred within a 5-mile radius centered on two key areas of the County subject to the Program in San Lorenzo Valley and Pajaro Valley. Previous studies have identified 31 archaeological sites, including historic, prehistoric, and multicomponent archaeological sites, with some sites containing historic and prehistoric burials.

Paleontological Resources

Paleontological resources are the evidence of once-living organisms as preserved in the rock record. They include both the fossilized remains of ancient plants and animals and the traces thereof, such as trackways, imprints, and burrows. In general, fossils are older than recorded human history or greater than 5,000 years old and are typically preserved in sedimentary rocks. Although rare, fossils can also be preserved in volcanic rocks and low-grade metamorphic rocks under certain conditions (Society of Vertebrate Paleontology 2010).

Geology and Paleontology

The geologic setting is key to identifying potentially important paleontological resources in the County. As described in Section 3.6, *Geology and Soils*, the County is characterized by diverse topography, geologic features, and soils, and is located in the Coast Ranges physiographic province of California, which is characterized by low mountain ranges, generally parallel to the coast, that are underlain by granite and metamorphic basement rock types, bordered by two fault systems. Uplifted marine terraces characterize the coastline, which consist of sediments deposited below sea level. Please refer to Section 3.6, *Geology and Soils*, for a more complete description of regional geology.

Paleontological resources are contained within the geologic deposits or bedrock that underlie the soil layer. In order to ascertain whether a particular area has the potential to contain significant fossil resources at the subsurface, a review of relevant scientific literature, museum records, and geologic mapping to determine the geology and associated paleontology of the area was conducted. Significant valuable, irreplaceable paleontological resources exist in the County which may be degraded or destroyed by development activities. Policies to protect these resources for their scientific and educational values are contained in both the County General Plan and the LCP Land Use Plan, and SCCC Chapter 16.44 (Paleontological Resource Protection) establishes appropriate protective regulations and procedures. Specifically, seven areas within the County are likely to have rare or unique hydrological, geological, and paleontological resources related to their scarcity, scientific or educational value, aesthetic quality or cultural significance. The largest of these areas is located across the Mountain and Urban regions, situated between Lompico, Glenwood, and Scotts Valley. Another area is located within the North Coast and Urban regions, on the northwestern edge of the City of

Santa Cruz. The remaining five areas are all located within the North Coast Region, with two occurring close together north of Bonny Doon, and three located on marine terraces along the coast between Davenport and the City of Santa Cruz. The total area of mapped geologic paleontological resource areas in the County is approximately 6,161 acres, or approximately 1.6 percent of the entire County (Santa Cruz County GIS 2016). Additionally, the University of California Museum of Paleontology contains records for 679 paleontological localities in the County (Appendix H).

3.5.3 Regulatory Setting

This analysis was conducted in conformance with the goals and policies of federal, state, and local regulations. The following section summarizes the most applicable policies and regulations which would relate directly to future cannabis cultivation and cannabis product manufacturing under the Project and More Permissive Project and their associated impacts. Additional federal, state, and local policies and regulations are provided in Appendix A.

3.5.3.1 State

California Register of Historic Resources

The State of California Historical Resources Commission has designed the California Register for use by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. The California Register is the authoritative guide to the state's significant historical and archaeological resources.

Under California law, cultural resources are protected by California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources. Section 5024 requires state agencies to provide notice to, and to confer with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned resources.

The California Register program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance; identifies historical resources for state and local planning purposes; determines eligibility for state historic preservation grant funding; and affords certain protections under the California Environmental Quality Act (CEQA). The following criteria are utilized when determining if a resource has architectural, historical, archaeological, or cultural significance.

- **Criterion 1:** Is the resource 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 U.S.?
- **Criterion 2:** Is the resource associated with the lives of persons important to local, California, or national history?
- **Criterion 3:** Does the resource embody the distinctive characteristics of a type, period, region, method of construction, or represent the work of a master or possess high artistic values?
- **Criterion 4:** Has the resource yielded, or have the potential to yield, information important to the prehistory or history of the local area, California, or the nation?

These factors are broadly mirrored in criteria for historic significance within CEQA, California Register of Historic Resources (CRHR), and the SCCC.

3.5.3.2 Local

County of Santa Cruz General Plan and Local Coastal Program

The County of Santa Cruz General Plan and Local Coastal Program (General Plan/LCP) was adopted by the Board of Supervisors in May of 1994 and certified by the California Coastal Commission in December of 1994. The Santa Cruz County General Plan Conservation and Open Space Element includes policies to conserve historical, paleontological, and archaeological resources. Relevant objectives and policies are listed below (County of Santa Cruz 1994). General Plan objectives and policies denoted with "LCP" in the title indicate that objective/policy is included as part of the Local Coastal Program.

Conservation and Open Space Element

Objective 5.9 – Hydrological, Geological and Paleontological Resources (LCP). To protect hydrological, geological and paleontological resources which stand out as rare or unique and representative in Santa Cruz County because of their scarcity, scientific or educational value, aesthetic quality or cultural significance.

Hydrological, Geological and Paleontological Resources Policy 5.9.1 – Protection and Designation of Significant Resources (LCP). Protect significant geological features such as caves, large rock outcrops, inland cliffs and special formations of scenic or scientific value, hydrological features such as major waterfalls or springs, and paleontological features, through the environmental review process. Designate such sites on the General Plan and LCP Resources and Constraints Maps where identified. Currently identified sites of Significant Hydrological, Geological and Paleontological Features are as follows:

Bonny Doon Planning Area:

- Majors Creek Canyon: The cliffs and exposed rocks of this canyon to the east of Highway 1 are outstanding scenic features.
- Martin Road: East and west of Marin Road, encompassed in the botanical sites, are unusual sandhill outcroppings.
- Wilder Creek: This area contains a concentration of limestone caves worth protecting.
- Table Rock: Highly scenic coastal rock formations (sedimentary intrusive bodies) can be found in the vicinity of Table Rock and Yellow Bank Creek.

Hydrological, Geological and Paleontological Resources Policy 5.9.2 – Protecting Significant Resources Through Easements and Land Dedications (LCP). Encourage and obtain where possible Open Space Easements or other forms of land dedication to conserve as open space those areas containing hydrological, geological or paleontological features of significant scenic or scientific value.

Objective 5.19 – Archaeological Resources (LCP). To protect and preserve archaeological resources for their scientific, educational and cultural values, and for their value as local heritage.

Archaeological Resources Policy 5.19.1 – Evaluation of Native American Cultural Sites (LCP). Protect all archaeological resources until they can be evaluated. Prohibit any disturbance

of Native American Cultural Sites without an appropriate permit. Maintain the Native American Cultural Sites ordinance.

Archaeological Resources Policy 5.19.2 – Site Surveys (LCP). Require an archaeological site survey (surface reconnaissance) as part of the environmental review process for all projects with very high site potential as determined by the inventory of archaeological sites, within the Archaeological Sensitive Areas, as designated on the General Plan and LCP Resources and Constraints Maps filed in the Planning Department.

Archaeological Resources Policy 5.19.3 – Development Around Archaeological Resources (LCP). Protect archaeological resources from development by restricting improvements and grading activities to portions of the property not containing these resources, where feasible, or by preservation of the site through project design and/or use restrictions, such as covering the site with earth fill to a depth that ensures the site will not be disturbed by development, as determined by a professional archaeologist.

Archaeological Resources Policy 5.19.4 – Archaeological Evaluations (LCP). Require the applicant for development proposals on any archaeological site to provide an evaluation, by a certified archaeologist, of the significance of the resource and what protective measures are necessary to achieve General Plan and LCP Land Use Plan objectives and policies.

Archaeological Resources Policy 5.19.5 – Native American Cultural Sites (LCP). Prohibit any disturbance of Native American Cultural Sites without an archaeological permit which requires, but is not limited to, the following:

- A statement of the goals, methods, and techniques to be employed in the excavation and analysis of the data, and the reasons why the excavation will be of value.
- A plan to ensure that artifacts and records will be properly preserved for scholarly research and public education.
- A plan for disposing of human remains in a manner satisfactory to local Native American Indian groups.

Objective 5.20 – Historic Resources. To protect and where possible restore buildings, sites and districts of historic significance to preserve the rich cultural heritage of the community.

Historic Resources Policy 5.20.3 – Development Activities. For development activities on property containing historic resources, require protection, enhancement and/or preservation of the historic, cultural, architectural, engineering or aesthetic values of the resource as determined by the Historic Resources Commission. Immediate or substantial hardship to a project applicant shall be considered in establishing project requirements.

Historic Resources Policy 5.20.4 – Historic Resources Commission Review. Require that applicants for development proposals on property containing a designated Historic Resource submit plans for the protection and preservation of the historic resource values to the Historic Resources Commission for its review and approval; require an evaluation and report by a professional historian or a cultural resources consultant when required by the Commission.

Historic Resources Policy 5.20.5 – Encourage Protection of Historic Structures. Encourage and support public and private efforts to protect and restore historic structures and continue their use as an integral part of the community.

Historic Resources Policy 5.20.6 – Maintain Designation as a Certified Local Government. Support existing and further develop local historic resource programs in order to maintain the California State Department of Parks and Recreation's designation of Santa Cruz County as a Certified Local Government (CLG).

Santa Cruz County Code (SCCC)

Chapter 16.40 – Santa Cruz County Native American Cultural Sites Ordinance

The Board of Supervisors of the County of Santa Cruz adopted the Native American Cultural Sites Ordinance, SCCC Chapter16.40, which establishes regulations for the protection, enhancement, and perpetuation of Native American cultural sites. The ordinance requires an archaeological survey for any discretionary project resulting in ground disturbance and located within a mapped archeological sensitive area. In addition, an archeological survey is required for any project resulting in ground disturbance within 500 feet of a recorded Native American cultural site.

Furthermore, any person who discovers human remains, or any artifact or other evidence of a Native American cultural site during ground disturbance or excavation shall adhere to the following regulations:

- Cease and desist from all further excavations and disturbances within 200 feet of the discovery.
- Arrange for staking completely around the area of discovery by visible stakes no more than 10 feet apart, forming a circle having a radius of no less than 100 feet from the point of discovery.
- Notify the Sheriff-Coroner and Planning Director of the discovery.

If the Planning Director determines that the discovery is a site of cultural significance, an archaeological report must be prepared and no further excavation or development may take place except as authorized by an Archaeological Site Development Approval.

Chapter 16.42 – Santa Cruz County Historic Preservation Ordinance

The Board of Supervisors of the County of Santa Cruz adopted the Historic Preservation Ordinance, SCCC Chapter 16.42, which intends to implement the General Plan historic resources policies to designate, preserve, protect, enhance, and perpetuate those historic structures, districts and sites within the unincorporated area of the County. This ordinance establishes the definition of historic resources in the County, the procedures for designation of historic structures, and standards for permit review for alteration of an historic structure. Specifically, it does the following:

- Establishes the County's historic resources inventory which identifies significant historic resources in the unincorporated portion of the County;
- Requires that a historic review be conducted prior to carrying out of activities or final County approval of projects which affect historic resources; and
- Regulates activities which affect historic structures, objects, properties, sites or districts.

The County Planning staff maintains the HRI, a listing of all officially designated historic resources in the County. Periodically, this inventory is revised to recognize changes in the specific properties or to

add/delete historic resources based on updated information. The Historic Resource Commission reviews proposals to amend the HRI and applications for changes to the exterior of properties included on the HRI. For officially designated historic resources, the State Historic Building Code, a more lenient building code developed to allow structural modifications to historic buildings, may be used in place of the standard building codes.

Chapter 16.42.050 – Historic resource designation.

Structures, objects, sites and districts shall be designated as historic resources if, and only if, they meet one or more of the following criteria and have retained their architectural integrity and historic value:

- The resource is associated with a person of local, State or national historical significance.
- The resource is associated with an historic event or thematic activity of local, State or national importance.
- The resource is representative of a distinct architectural style and/or construction method of a particular historic period or way of life, or the resource represents the work of a master builder or architect or possesses high artistic values.
- The resource has yielded, or may likely yield, information important to history.

Chapter 16.42.060 – Development procedures for designated historic resources.

For projects involving demolition of the historic structure, or involving relocation of an historical structure, the application submittal shall also include:

- A special inspections report from the County Planning Department on the condition of the structure.
- An historical documentation report prepared according to guidelines established by the Historic Resources Commission. The report shall contain the following:
    - Information which supports the claim that preservation is not feasible due to the deteriorated condition of the structure or object, or would create exceptional hardship, or is necessary to alleviate a dangerous condition.
    - Provisions to preserve the historic values of the structure or object by documentation and/or preservation of artifacts and building materials.
- Alternation and/or new construction is subject to restrictions and review by the County to preserve historic features.

Chapter 16.44 – Santa Cruz County Paleontological Resource Protection Ordinance

This chapter establishes appropriate protective regulations and procedures around significant valuable, irreplaceable paleontological resources in Santa Cruz County which may be degraded or destroyed by development activities, in order to protect these resources for their scientific and educational values. The ordinance requires a paleontological survey for the following development activities located in areas of known paleontological resources as shown on the paleontological resource protection maps (on file in the Planning Department):

- All development projects which will result in ground disturbance; and

- All shoreline protection projects and shoreline access projects.

If the Environmental Coordinator determines from the paleontological survey that more information is required to ensure protection of paleontological resources, a paleontological report is required. For projects where environmental review is required, the paleontology surveyor report would be incorporated into the environmental review procedures.

Furthermore, if a paleontologist determines during development activities that significant paleontological resources exist on the project site that were not previously identified, then the project developer shall immediately cease and desist from excavation or disturbance of the project site, and shall allow inspection of the site by the Planning Director.

Chapter 13 – Santa Cruz County Zoning Ordinance

Chapter 13.10 Article V. L Historic Landmark Combining District

The purposes of the Historic Landmark L Combining District are to:

- Preserve and enhance structures, objects, sites, and areas of historic, archaeological, culture, architectural, engineering, or aesthetic significance, importance, and value as part of the development, heritage, or cultural characteristics of the County, state, or nation;
- Identify those structures, objects, sites, and districts which have been designated as historic resources by the Board of Supervisors pursuant to the provisions of Chapter 16.42 SCCC, *Historic Resources Preservation*; and
- Regulate alterations, new construction, relocations, demolitions, and excavations which affect historic structures, objects, and sites or districts in accordance with the provisions of Chapter 16.42 SCCC, *Historic Resources Preservation*.

The Historic Landmark L Combining District is used to denote those properties which have been designated by the Board of Supervisors as historic resources pursuant to the provisions of Chapter 16.42 SCCC, Historic Resources Preservation. In addition to the regulations for development and use of the site imposed by the basic zone district, use, alterations, new construction, relocations, demolitions, and excavations which affect historic structures, objects, sites or districts in the Historic Landmark L Combining District are also subject to the regulations set forth in Chapter 16.42 of the SCCC, *Historic Resources Preservation*.

3.5.4 Methodology and Assumptions

This analysis determines whether the Program has the potential to create impacts to cultural resources in the County, considering both the Project scenario and the More Permissive Project scenario identified in Chapter 2, *Project Description*. As stated in Chapter 2, *Project Description*, the County is broken up into four general regions for planning purposes: North Coast, Mountain, Urban, and South County regions. Cultural resources occur throughout the County and are sometimes characterized in this analysis by the region in which they occur. Refer to Section 3.0, *Introduction and Approach to Analysis*, for a detailed discussion of projected cannabis activities in the County due to Program implementation.

The analysis is based on a review of the existing cultural resources identified in Section 3.5.2, *Environmental Setting*, information and analysis available in cultural resources reports that have been previously conducted for properties in the County, and data gathered from the NWIC records search. Sources consulted during the NWIC records search include: the NRHP, the California Points of Historical Interest (CPHI), the CHL, the CRHR, the OHP, the HRI for the County, and the Archaeological Determination of Eligibility (ADOE) list. In addition, both modern and historical maps were reviewed.

To determine whether any known Native American cultural sites such as traditional use or gathering areas and places of religious or sacred activity are present within the County, the NAHC in Sacramento was contacted on March 29, 2017 to request a review of their Sacred Lands File (SLF) inventory. The NAHC responded on April 5, 2017, stating that the SLF indicates the presence of Native American cultural resources within the County was "negative". In addition, consultation letters were sent to Native American individuals and tribal representatives provided by the NAHC. An outreach letter (sent via electronic mail on April 19, 2017) describing the Program was sent to these individuals and organizations requesting their input. A copy of the letters sent, the list of contacts provided by NAHC, and responses received are included in Appendix H.

Additionally, a cultural resources record search was conducted in April 2017, which focused on two concentrated areas of known cannabis cultivation in Pajaro Valley and San Lorenzo Valley, where a substantial portion of cannabis cultivation and manufacturing is expected to occur based on the County's license registration data (Appendix D). The analysis also takes into consideration the existing General Plan and LCP policies that require conserving cultural and appropriate historical, paleontological and archaeological resources, and relevant chapters in the SCCC.

3.5.5 Significance Criteria

State CEQA Guidelines Section 15064.5 states that a resource shall be considered "historically significant" if it meets any of the criteria for listing in the CRHR (Public Resources Code [PRC] Section 5024.1, Title 14 California Code of Regulations, Section 4852). A resource may qualify for CRHR listing if it:

A. Is associated with events that have made a significant contribution to the broad patterns of California's history or cultural heritage;
B. Is associated with the lives of persons important in our past;
C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
D. Has yielded, or may be likely to yield, information important in prehistory or history.

Cultural resources meeting one or more of these criteria are defined as "historical resources" under CEQA. Included in the definition of historical resources are prehistoric archaeological sites, historic archaeological sites, historic buildings and structures, traditional cultural properties important to a tribe or other ethnic group, cultural districts and landscapes, and a variety of other property types. Resources included in a local register of historical resources [pursuant to PRC Section 5020.1(k)], or identified as significant in an historical resources survey [meeting the criteria in PRC Section 5024.1(g)] also are considered "historical resources" for the purposes of CEQA.

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, or not identified in an historical resources survey, does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1(c). Generally, for historical resources, if a building is older than 50 years in age, it would have potential for significance under CEQA and the CRHR.

CEQA Guidelines Thresholds

The following thresholds of significance are based on Appendix G of the 2017 CEQA Guidelines. For purposes of this EIR, implementation of the Program may have a significant adverse impact on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5(b).
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5(c).
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Disturb any human remains, including those interred outside of formal cemeteries.

Appendix G of the CEQA Guidelines states that a project is considered to have a significant impact on Tribal Cultural Resources if it is found to:

- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
    - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

3.5.6 Environmental Impact Analysis and Mitigation

This section discusses the potential impacts to cultural resources associated with the Program. A detailed discussion of each impact follows. Where there are potentially significant or significant and unavoidable impacts, mitigation measures are proposed and the residual impact after mitigation is determined. The analysis takes into consideration a provision of the Program which requires that all cultivation licenses issued must be consistent with the County's policies, objectives, laws, regulations, and programs related to land use, including those related to the County's General Plan and LCP.

3.5.6.1 Program Impacts

Impact CR-1. Commercial cannabis cultivation and cannabis product manufacturing under the Program that occur in or near properties which may be historically significant but are not on the County's Historic Resources Inventory could potentially cause physical demolition, destruction, relocation, or alteration of historical resources. Impacts would be less than significant with mitigation.

Impact CR-1.1 – Direct Cultivation/Manufacturing. The direct impacts of the Program relate to the cultivation of cannabis plants and manufacturing of cannabis products. Cannabis cultivation and/or manufacturing could potentially involve reuse of historic structures for cannabis operations. For example, indoor grow operations commonly require construction of interior grow rooms to contain and control cannabis cultivation facilities, such as lights, irrigation, and climate control systems. Cannabis manufacturing operations could also require construction to contain various manufacturing equipment. If this were to occur within an historical building without first understanding and documenting the resource and designing the operation to preserve the historic value, the construction of indoor cannabis cultivation and/or cannabis manufacturing operations could adversely affect character-defining features and undermine the historic value of the property.

While historic structures that are listed on federal, state, and local inventories would be subject to County review under existing SCCC Chapter 16.42 addressing historic resources, potentially eligible historic structures that are not currently recorded may serve as sites for cannabis-related activities and would be subject to potential adverse impacts without measures to avoid degradation of historic structures. Similarly, any new cultivation and/or manufacturing operations within an eligible historic structure that has not been identified as a resource could interfere with the value and integrity of an historical resource. Further, cannabis-related activities, such as land clearing and modifications to existing structures that are near properties that are known historical resources, may have an adverse effect on the physical context of the historic structure, which may diminish its historic value. As the More Permissive Project would involve a greater area in the County that is eligible for cultivation sites than the Project, there would theoretically be more potential for historic resource impacts under the More Permissive Project.

As described in Section 3.5.3.2 above, the County General Plan/LCP Conservation and Open Space Element requires avoidance of impacts to historic resources. Known built historic resources in the County have been designated within the Historic Landmark L Combining District (Chapter 13.10 Article V of the Zoning Ordinance). Any proposed cultivation and/or manufacturing proposed on parcels that are zoned Historic Landmark L Combining District would be subject to the regulations for development and use of the historic resource property imposed by SCCC Chapter 13.10, as well as the regulations set forth in SCCC Chapter 16.42, Historic Resources Preservation. Adherence to these regulations would reduce any adverse effects on known built historical resources. However, structures that may be eligible historic resources but are currently unknown would require preliminary review to determine whether adverse effects may result from a proposed cannabis activity. The County Planning Department currently evaluates the potential for discretionary development proposals to adversely affect potentially significant historic structures and requires a historic resources assessment if the potential is high. This impact is *potentially significant*.

Mitigation Measures

MM CR-1.1: Preliminary Historic Assessment of Structures 50 Years Old or More. Prior to licensing cannabis cultivation or manufacturing activities on properties containing a structure or structures that are 50 years old or older and are not identified as historic resources in the County HRI, the structure(s) shall be reviewed for eligibility by the Planning Department Historical Resource Planner as an historic resource consistent with SCCC Chapter 16.42 and with the California Register of Historic Resources criteria. If the Planning Department determines after a preliminary review that the structure(s) may potentially meet the criteria for listing as a historic resource, and that the proposed licensed activities or developments have the potential to impact the historic significance of the structure(s), then the Licensee shall provide a historic assessment of the structure(s) prepared by a qualified historic consultant. The historic assessment shall include a completed DPR 523a form and a letter prepared by the historic consultant stating whether the property has historic significance. If it is determined based upon the historic assessment that the licensed activity or development will impact a structure that is eligible as an historic resource pursuant to SCCC Chapter 16.42 or the California Register of Historic Resources criteria, then the staff historical resource planner shall review the site development for compliance with the Secretary of the Interior Standards for the Treatment of Historic Properties. Project conditions will be applied as appropriate to ensure compliance with the Secretary of the Interior Standards.

Plan Requirements and Timing. On a case-by-case basis, the Cannabis Licensing Official shall request a review of the potential historic resource by the County Historical Resources Planner prior to granting a potential licensee a cannabis cultivation and/or manufacturing license.

Monitoring. When reviewing a potential structure(s) for cannabis activities, the Licensing Official and Historical Resources Planner shall determine if the structure is 50 years old or more; if so, the structure(s) shall be reviewed by the County to assess integrity and historic significance.

Post-Mitigation Level of Impacts

Implementation of MM CR-1 would ensure that historic review or historical documentation for any structure that is older than 50 years, has integrity and may have significance, and thereby may be a potentially eligible historic structure that would be impacted by cannabis activities, would be reviewed as part of licensing of cultivation and/or manufacturing. For any structure found to be eligible for listing as a historic resource consistent with SCCC Chapter 16.42 or with the California Register of Historic Resources criteria, historic review of the project consistent with SCCC Chapter 16.42 shall be required and the project shall include conditions when necessary to ensure that the project complies with the Secretary of the Interior Standards for the Treatment of Historic Properties. With the addition of appropriate project conditions to ensure compliance with the Secretary of the Interior Standards pursuant to CEQA guidelines 15064.5(b)(3), any residual impacts associated with Impact CR-1.1 would be *less than significant with mitigation.*

Impact CR-1.2. – Indirect Cultivation/Manufacturing. The indirect impacts of the Program relate to the construction of up to 228 new residential units, structures, roads, and utilities associated with cannabis cultivation and/or cannabis product manufacturing. In addition, compliance with the Fire Code for cannabis-related activities within structures could require significant site improvements to provide onsite fire water tanks (with potential for up to 568 tanks of up to 120,000 gallons each) with

related site pad clearing and grading, installation of a 20-foot wide road with turnaround, and managing vegetation for defensible space around a cannabis-related structure of up to 100 feet. Site grading and construction of the required paved roads and water tank structures would cause additional site disturbance and increase the risk of disturbance to a historic resource.

Although these new homes and site improvements would generally be built on existing lots, and some would be built regardless of Program implementation, they would still be considered an indirect impact of the Program since these new homes would be induced by the Program. As such, the development of homes and site improvements would only occur if commercial cannabis activities are licensed on a property. As discussed in Impact CR-1.1, if these supporting developments have the potential to result in the demolition, destruction, relocation or alteration of either a known historic resource listed on the County's HRI or a building that is 50 years old or older, and it is not identified through the standard review process, there is a potential adverse effect on historic resources. The additional development beyond cannabis cultivation and manufacturing development would exacerbate the risk of impacts to historic resources, which would be a *potentially significant* impact.

Mitigation Measures

Implement MM CR-1.1: Preliminary Historic Assessment of Structures 50 Years Old or More. As appropriate, review of historic resources for any site subject to licensing would apply to Impact CR-1.

Post-Mitigation Level of Impacts

Assessment of historic structures on a case-by-case basis will ensure that any undocumented historic structures are identifies and protected as part of the licensing process. Any development on or involving historic properties, including those listed in the HRI, would also be subject to the guidelines and regulations set forth in the General Plan, Chapter 13.10 of the SCCC, Historic Landmark L Combining District, and Chapter 16.42 of the SCCC, Historic Resources Preservation Ordinance. Any of the new houses, water tanks, roads, and associated improvements would be subject to existing regulations and review processes. Therefore, with compliance with County policies, ordinances, and guidelines that protect significant historic resources, and with the implementation of MM CR-1.1, indirect impacts of both the Project and the More Permissive Project to historic resources would be *less than significant with mitigation*.

Impact CR-2. Commercial cannabis cultivation and cannabis product manufacturing under the Program could potentially cause disruption, alteration, destruction, or adverse effects on archaeological resources, tribal cultural resources, human remains, or paleontological resources. Impacts would be less than significant.

Impact CR-2.1 – Direct Cultivation/Manufacturing. The direct impacts of the Program relate to the direct cultivation of cannabis plants and manufacturing of cannabis products. Cannabis-related activities would occur across the County, but cannabis cultivation would be focused in the Mountain Region, including the San Lorenzo Valley, and the South County Region, including the Pajaro Valley. Prehistoric and historic archaeological resources are known to be present in the areas where cannabis activities are proposed, particularly in rural undisturbed areas. Some areas of the County may also include sites of historic or cultural significance to a community or ethnic group, such as the Ohlone/Costanoan tribes (refer to Appendix H). Site preparation and grading for cannabis cultivation or a new cannabis manufacturing building, or improved access for these uses, could disrupt or disturb

undiscovered cultural resources or a site of cultural significance under CEQA and/or eligible for listing on the California Register, or uncover human remains. Outdoor grows use natural ground soil for cultivation, which would require ground disturbance to grade an area for growing. Greenhouses, indoor grows, and new manufacturing buildings would also require ground disturbing and grading to prepare the site for a structure or building.

Both the Project and the More Permissive Project could have a potentially adverse effect on archaeological resources, tribal cultural resources, human remains, or paleontological resources if cannabis cultivation or manufacturing is done in an area where resources are present and unknown. Under the Project, licenses would only be granted to registrants who applied during the registration period, which includes some registrants who have existing operations already. For example, 567 registrants out of 760 reported they are currently cultivating cannabis. Therefore, some percentage of cultivation and/or manufacturing sites are already disturbed at these existing cannabis operations. Furthermore, a great deal (147 acres of the projected 190.1 acres) of future cannabis cultivation and manufacturing activities is projected to occur within existing greenhouses on CA parcels that have been farmed for three years prior, and these farmers were not required to register.

As described in Section 3.5.3.2, the County General Plan and LCP Conservation and Open Space Element objectives and policies require avoidance of impacts to both historic and prehistoric cultural resources. Further, Chapter 16.40 of the SCCC, or the Santa Cruz County Native American Cultural Sites Ordinance, establishes regulations and requirements to protect Native American cultural sites. Adherence to this ordinance would mitigate Program impacts to archaeological resources, tribal cultural resources, and human remains. In addition, Chapter 16.44 of the SCCC, or the Santa Cruz County Paleontological Resource Protection Ordinance, establishes regulations and procedures to protect significant valuable, irreplaceable paleontological resources in the County. Adherence to this ordinance through licensing would address Program impacts to paleontological resources. Under existing SCCC requirements, the need for an archaeological or paleontological survey would be determined by the County on a case-by-case basis during licensing for cannabis cultivation and/or manufacturing license applications. Therefore, compliance with all County policies, ordinances, and guidelines that protect significant cultural resources would ensure that direct impacts of both the Project and the More Permissive Project to archaeological resources, tribal cultural resources, human remains, and paleontological resources would be *less than significant*.

Impact CR-2.2 – Indirect Cultivation/Manufacturing. The indirect impacts of the Program relate to the construction of new residential units, structures, roads, and utilities associated with cannabis cultivation sites. As in Impact CR-2.1, site preparation and grading activities for new developments could inadvertently uncover archaeological, tribal, or paleontological resources. Development of accessory structures, fencing, or roads could also have indirect effects that include restricting access to a cultural resource, or altering the setting of a resource or cultural landscape.

In addition, as described in Impact CR-1.2, site grading and construction of the required paved roads and water tank structures would cause additional site disturbance and increase the risk of disturbance to undiscovered archaeological resources, tribal cultural resources, human remains, and paleontological resources.

Under the Project, licenses would only be granted to registrants who applied during the registration period, which includes some registrants who have existing operations already, as well as farmers at sites in the CA district, predominantly in existing greenhouses. Therefore, some percentage of cultivation and/or manufacturing sites are already disturbed at these existing cannabis operations.

Both the Project and the More Permissive Project could have potentially adverse effects. However, like Impact CR-2.1, any development or ground-disturbing activity would also be subject to the guidelines and regulations set forth in the General Plan and Chapters 16.40 and 16.44 of the SCCC and would be reviewed on a case-by-case basis during planning review. Therefore, indirect impacts of both the Project and the More Permissive Project to archaeological resources, tribal cultural resources, human remains, and paleontological resources would be *less than significant*.

3.5.6.2 Summary of Program Impacts and Proposed Mitigation Measures

Table 3.5-1 below provides a summary of the Program impacts related to cultural resources and proposed mitigation measures.

Table 3.5-1 Summary of Cultural Resources Impacts

Cultural Resources Impacts	Level of Significance	Mitigation Measures	Post-Mitigation Level of Significance	
			Project	More Permissive Project
Impacts from Commercial Cannabis Cultivation and Cannabis Product Manufacturing				
Impact CR-1. Commercial cannabis cultivation and cannabis product manufacturing under the Program that occur in or near properties which may be historically significant but are not on the County's Historic Resources Inventory could potentially cause physical demolition, destruction, relocation, or alteration of historical resources. Impacts would be less than significant with mitigation.				
Direct	Potentially Significant	MM CR-1.1. Preliminary Historic Assessment of Structures 50 Years Old or More.	Less than significant with Mitigation	Less than significant with Mitigation
Indirect	Less than significant	MM CR-1.1. Preliminary Historic Assessment of Structures 50 Years Old or More.	Less than significant with Mitigation	Less than significant with Mitigation
Impact CR-2. Commercial cannabis cultivation and cannabis product manufacturing under the Program could potentially cause disruption, alteration, destruction, or adverse effects on archaeological resources, tribal cultural resources, human remains, or paleontological resources. Impacts would be less than significant.				
Direct	Less than Significant	None required	Less than Significant	Less than Significant
Indirect	Less than Significant	None required	Less than Significant	Less than Significant

3.5.6.3 Secondary Impacts

Impact CR-3. Unregulated commercial cannabis cultivation and cannabis product manufacturing under the Program could potentially cause adverse effects on historical resources, archaeological resources, tribal cultural resources, human remains, or paleontological resources. Impacts would be significant and unavoidable.

Impact CR-3. – Secondary Cultivation/Manufacturing. The secondary impacts of the Program relate to project-induced additional or expanded unregulated cannabis cultivation and manufacturing activity above baseline levels, which would be expected to occur in more remote areas of the County. However, these unregulated sites could be located anywhere in the County, including areas with known historical resources, archaeological resources, tribal cultural resources, human remains, or paleontological resources, or areas with a high potential to encounter unknown resources. Most of these sites would likely be located in unpopulated areas hidden from public view, such as remote mountainous properties and residential properties. Due to the secretive nature of these unregulated sites, cannabis cultivators/manufacturers would be unlikely to follow the appropriate guidelines and regulations pertaining to cultural resources set forth by the state and County. Therefore, these sites could potentially have an adverse effect on archaeological resources, tribal cultural resources, human remains, and paleontological resources from unpermitted ground disturbance. Since most built historical resources in the County are located in populated urban areas, the potential for unregulated cannabis activity going unnoticed within properties in the Historic Landmark L Combining District is unlikely. However, there is still a potential for unregulated and illegal cannabis activity to have an adverse effect on built historic resources, especially within structures that are eligible historic resources but are not listed on a local, state, or federal resource list. This is similar to the impact that any non-permitted development could have, since it is outside the system that identifies historic resources and regular compliance with regulations.

However, due to the inability to predict the location of unregulated commercial cannabis cultivation and/or manufacturing sites and the likelihood that future unregulated cannabis-related activities would result in the damage or demolition of known or unknown historical resources, archaeological resources, tribal cultural resources, human remains, or paleontological resources, secondary impacts of both the Project and the More Permissive Project to cultural resources would be *potentially significant*.

Mitigation Measures

Implement MM AT-1.3a. Sustained Enforcement Program. To reduce secondary impacts to historical and cultural resources associated with unregulated cannabis cultivation/manufacturing and related development activities, MM AT-1.3a, addressing County implementation of the Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program, shall apply to Impact CR-3.

Implement MM AT-1.3b. Annual Survey and Monitoring Report. To reduce secondary impacts to historical and cultural resources associated with unregulated cannabis cultivation/manufacturing and related development activities, MM AT-1.3b, addressing County criteria for an Annual Report, of licensed activities as well as illegal activities, including recommendations regarding enforcement staffing and resources, shall apply to Impact CR-3.

Post-Mitigation Level of Impacts

Since the locations of all built historic resources that are on the County HRI are known, it is possible to enforce appropriate practices related to historic resources on these properties. However, there is still a potential for unregulated and illegal cannabis activity to occur within structures that are eligible historic resources but are not listed on a local, state, or federal resource list. With implementation of MMs AT-1.3a and AT-1.3b, unregulated cannabis cultivation and/or manufacturing would be reduced over time either through enforcement/closure of the grow sites or the permitting and licensing of new grow sites. Therefore, unregulated cannabis activity in known sensitive cultural resource areas would be reduced, since the locations of archaeological sensitive areas and sensitive paleontological features in the County are known, and it is possible to enforce appropriate practices related to archaeological, tribal cultural, and paleontological resources in these areas. With implementation of these mitigation measures and consistency with the County's General Plan and Chapters 13.10 and 16.42 of the SCCC, secondary residual impacts in these known sensitive areas would be mitigated to a less than significant level. However, it is impossible to know where undiscovered eligible historical structures and sensitive archaeological and paleontological resources exist, unless the person who discovers these resources alerts the County. Since unregulated cultivators/manufacturers are unlikely to alert the County if their activities occur in potentially historic buildings or their ground-disturbing activities uncover potential cultural resources, residual impacts associated with Impact CR-3 would remain *significant and unavoidable*.

3.5.6.4 Cumulative Impacts

As described in Section 3.0, *Introduction and Approach to Analysis*, cumulative development and growth in population and employment is projected to be gradual toward 2035 with some change in agricultural uses and crop types and a changing regulatory landscape for commercial cannabis activities both regionally and statewide. Concurrent development of residential, commercial, and agricultural land uses with commercial cannabis cultivation and manufacturing could potentially result in disruption of built historic resource and archaeological, paleontological, or tribal cultural resources. Such impacts would likely be related to the potential disturbance of built historic resources and uncovered archaeological or paleontological resources. However, it is anticipated that restrictions and regulations of the proposed Program, as well as review processes for Development Plans and/or land use permits would address these issues on a project-specific level before permit or cannabis license issuance. The Program requires that cannabis cultivation and manufacturing comply with existing County policies and regulations and includes mitigation measures to protect historic resources. Development permits would be reviewed by the County to ensure compliance with the County's General Plan as well as the L Historic Landmark Combining District zoning, Native American Cultural Sites Ordinance, Historic Preservation Ordinance, and Paleontological Resource Protection Ordinance (Chapters 13.10, 16.40, 16.42, and 16.44 of the SCCC). Therefore, cumulative impacts to cultural resources are anticipated to be *less than significant*.

Section 3.6
Geology and Soils

3.6.1 Introduction

Cannabis cultivation and manufacturing may result in the environmental impacts related to grading, slope failure, soils instability and landslides, erosion and sedimentation, and exposure of new structures to seismic shaking. This section identifies and evaluates issues related to geology and soils that could result from the Project and More Permissive Project scenarios of the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program). Key resources or data used in the preparation of this chapter include the Santa Cruz County General Plan Public Safety and Noise Element, Santa Cruz County Code (SCCC), including the Geologic Hazards Ordinance, Grading Ordinance, Erosion Control Ordinance, and County Building Code, U.S. Natural Resources Conservation Service (NRCS) Soil Survey Maps, Alquist-Priolo Earthquake Fault Zone Maps, and cannabis cultivation registration data and manufacturing data collected to inform the Program in 2016/2017 by the County. For issues related to surface runoff and groundwater resources, please refer to Section 3.9, *Hydrology and Water Quality*.

Program Impact Analysis
At a Glance

Commercial cannabis cultivation and manufacturing under the Program could have adverse effects on the environment due to exposure to unstable earth conditions, such as landslides, erosion, earthquakes, liquefaction, expansive soils, ground failure, or other geologic hazards. Compliance with the County's Geologic Hazards Ordinance, Grading Ordinance, and Erosion Control Ordinance would provide adequate engineering design to address or avoid unstable earth conditions. Unregulated cannabis activities would not be subject to County regulations and may have significant and unavoidable adverse effects.

3.6.2 Environmental Setting

Regional Geology

The County of Santa Cruz (County) encompasses diverse topography, geologic features and soils, including coastal terraces and alluvial valleys, steep foothills and mountains, known and potential earthquake faults and seismic hazards, and a wide range of soil types with varying constraints (e.g., expansion, liquefaction). The County is in the Coast Range physiographic province of California, which was formed by plate tectonic forces associated with the San Andreas Fault system. The northwest-southeast structural grain of the Coast Ranges is controlled by a

The Santa Cruz Mountains comprise approximately 75 percent of the County and are characterized by steep forested slopes and deep valleys.

complex of active faults within the San Andreas fault system (City of Santa Cruz 2011). This province is characterized by low mountain ranges, generally parallel to the coast, with elevations of 1,500 to 3,000 feet (County of Santa Cruz RDA/DPW 2006). The Santa Cruz Mountains are mostly underlain by a large, elongated prism of granite and metamorphic basement rock types, bordered to the northeast by the San Andreas strike-slip fault system and to the southwest by the San Gregorio-Nacimiento strike-slip fault system (RBF Consulting 2009).

Along the coast, the ongoing tectonic activity is most evident in the gradual uplift of the coastline, as indicated by the series of uplifted marine terraces that sculpt the coastline (City of Santa Cruz 2011). Coastal areas in the County are characterized by step-like marine terraces. The terrace deposits consist of sediments deposited below sea level, however, the terraces are above sea level now due to a combination of changing sea levels and uplift of the coastal land mass (County of Santa Cruz RDA/DPW 2006).

Topography

Elevation of the County ranges from sea level to approximately 3,000 feet (USDA 1980). Approximately 75 percent of the County lies within the Santa Cruz Mountains, which supports area of very steep slopes exceeding 30 percent. The Mountain Region, including the unincorporated towns of Ben Lomond, Felton, and Boulder Creek, includes the Santa Cruz Mountain Range and is characterized by deep valleys such as the San Lorenzo Valley and intervening ridges such as those along Skyline Boulevard. The North Coast Region, including the unincorporated towns of Davenport and Bonny Doon, is characterized by broad, gently sloping marine terraces that extend along the Pacific Ocean as well as steep foothills that rise into the Santa Cruz Mountains via County roads such as Bonny Doon Road and Empire Grade. The Urban Region includes the incorporated cities of Santa Cruz, Scotts Valley, Soquel, Live Oak, Aptos, and Capitola, and consists of developed marine terraces, hills, and valleys with open forested hillsides. The South County Region, including the incorporated city of Watsonville, consists of valley lowlands such as within Pajaro Valley, terraces, rolling hills, sloughs, and floodplains that are intensively used for irrigated and dry-farm crops, as well as the more arid, chaparral dominated mountain range above Watsonville.

Soils

Soils within the County include a mixture of loams, sands, silts, and/or clay soils that vary from area to area, depending on local geology (also see Section 3.2, *Agricultural Resources*). There are 33 types of soil series that occur within the County (USDA 1980). Soil stability and related hazards depend on soil characteristics and slope (Table 3.6-1).

Table 3.6-1 Soil Characteristics in Santa Cruz County

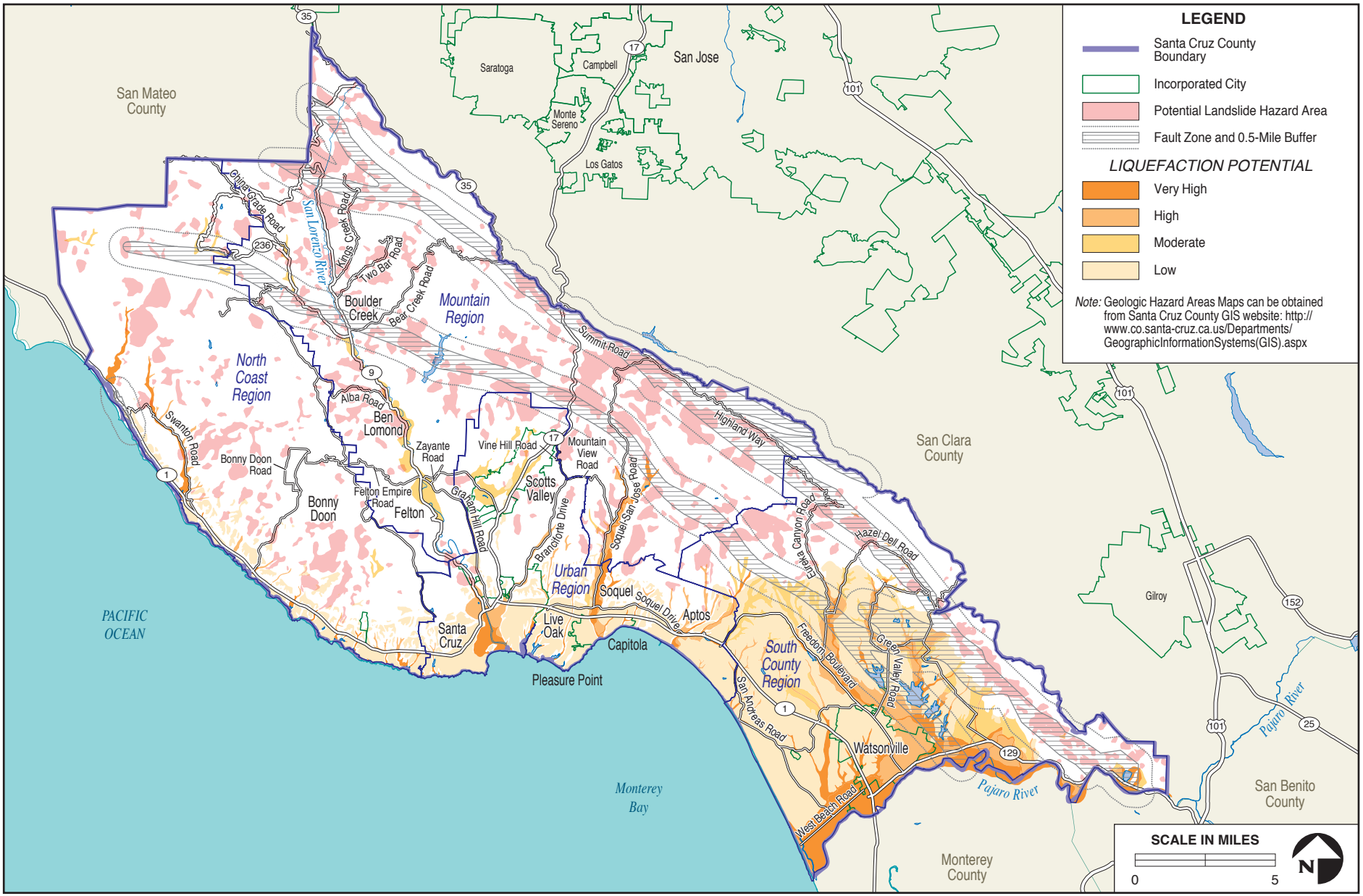
Soil Types	Slope Range	Representative Characteristics and Known Hazards	Countywide Region(s)
Sandy loam, loam, clay loam, and clay Example: Watsonville series	Level to moderately steep	These soils are characteristic of lowlands, valleys, and floodplain areas within the County; mainly used for crops and sometimes housing developments; clay minerals that are subject to water seepage may be expansive; these soils are susceptible to liquefaction and generally lack strength for the support of structures; clay minerals are subject to water seepage may be expansive.	Urban and South County
Coarse sand, loamy sand, or gravelly sandy loam Example: Zayante series	Gently sloping to moderately steep	These soils are characteristic of sand dunes, hills, and mountains within the County; slope tends to make these soils susceptible to erosion and landslides.	North Coast, Mountain, Urban, and South County
Loam, sandy loam, or stony sandy loam Example: Ben Lomond series	Moderately sloping to very steep	These soils are characteristic of mountains and hills dominantly under forest vegetation within the County; a few areas where these soils occur are used for housing developments, however slope tends to make these soils susceptible to erosion and landslides.	North Coast, Mountain, Urban, and South County
Loam, stony loam, gravelly sandy loam, or shaly clay loam Example: Bonny Doon series	Moderately sloping to extremely steep	These soils are characteristic of mountains and hills dominantly underbrush vegetation within the County; a few areas where these soils occur are used for rangeland, timber production, and for housing developments; these soils are susceptible to erosion and landslides.	North Coast, Mountain, and Urban

Source: USDA (1980).

Geologic Hazards

Landslides and Slope Stability

Slope stability is a function of the height and steepness, the inherent strength of underlying soil and rock, moisture levels, and the presence and orientation of geologic planes of weakness such as bedding, joints, and faults. Mountainous areas of the County with characteristically steep slopes are generally classified as having moderate to high potential for slope stability problems (Figure 3.6-1) (Santa Cruz County GIS 2009a). Potential landslide areas within the County encompass approximately 36,680 acres within the County. The North Coast and Mountain Regions have the largest distribution of potential landslide areas; however, there are also more limited landslide hazard areas within the South County and Urban Regions. Hazards due to landslides and slope instability include both



amec foster wheeler

Geologic Hazard Areas in Santa Cruz County

FIGURE 3.6-1

naturally occurring features and slope failures that could result from site development. As of 2016, up to 760 locations support cannabis cultivation in the County, where 58 percent are either outdoor or greenhouse cultivators (see Chapter 2, *Project Description*). Based on enforcement data, some cannabis cultivation sites include substantial land clearing, vegetation clearance and other soil disturbance in areas prone to landslide and slope stability hazards in mountainous areas of the County. Such existing cultivation activities incrementally contribute to ongoing soil erosion and potential for landslides.

Outdoor cannabis cultivation has in some cases required hillside grading and terracing and land clearing, which results in accelerated erosion caused by increased surface runoff.

Soil Erosion

Soil erosion is the removal of soil by water and wind. Soil erosion potential is related to texture, organic matter content, soil structure, and permeability. Other factors that influence erosion potential include the amount of rainfall and wind, the length and steepness of the slope, and the density and type of vegetative cover. Coastal erosion is influenced by wave action, tidal currents, wave currents, surface runoff, drainage, and high winds. Soil erosion has the potential to occur from natural and human-induced activities in all four countywide regions. Existing unregulated outdoor and greenhouse cannabis cultivation contributes to ongoing soil erosion in the County, especially in areas where many growers are located in close proximity to one another. Approximately 62 percent of known cannabis cultivators currently operate in either the Mountain or South Coast Region, which both have areas of steep slopes and erodible soils that are prone to erosion when soil is disturbed.

Expansive Soils

Expansive soils swell when the moisture content increases and shrink when the moisture decreases. Such soils are usually described as “adobe,” and form ground cracks when they dry out. The volume changes resulting from variable moisture conditions can cause movement and cracking of structures built on expansive soils. Soils beneath concrete floor slabs tend to increase in moisture content, thus causing heave. Soils under raised floors tend to dry out and shrink, causing settlement of the structure. Expansive soils are present in areas of south and southeastern areas of the County, as well as along the coastline (Santa Cruz County GIS 2009b).

Subsidence

Subsidence refers to deep-seated settlement due to the withdrawal of fluids (i.e., water, oil, natural gas). It is most commonly caused by the lowering of the water table and tends to cover broad areas. Less than one inch of subsidence has been observed at two GPS ground stations in Santa Cruz County and the coastal plain of the County is estimated to have a low potential for future land subsidence (California State Water Board 2014).

Regional Faulting and Ground Shaking

The San Andreas, Zayante-Vergeles, and San Gregorio faults and the Monterey Bay-Tularcitos fault zone generate seismic hazards in the County. These faults are associated with Holocene activity (movement in the last 11,000 years) and are therefore considered to be active. The most severe historical earthquakes to affect the region are the 1906 San Francisco earthquake and the 1989 Loma Prieta earthquake, with Richter magnitudes of about 8.3 and 7.1, respectively (City of Santa Cruz 2011).

Seismically induced ground acceleration is the shaking motion that results from earthquakes. Earthquake-generated ground shaking is the greatest cause of widespread damage in an earthquake. The intensity of ground shaking resulting from an earthquake depends on the magnitude and failure mechanics of the earthquake; the distance from the focus; and the nature of the bedrock, alluvium, and soil through which the shock waves travel. Generally, seismic waves attenuate with distance from the focus of the earthquake.

Fault rupture potential and seismic activity is generally prevalent throughout the County (see Figure 3.6-1). Fault rupture occurs when movement on a fault within the earth breaks through to the surface. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep, which is the slow rupture of the earth's crust. County General Plan Policy 6.1.1 requires review of geologic hazards for all discretionary development projects that are located in a designated fault zone. Fault zone hazard areas that are County-designated for review include the Butano, Sargent, Zayante, and Corralitos complexes. State-designated seismic review is required for Alquist-Priolo Zones, earthquake fault zones established by the State Geologist to establish zones to regulate development (dwellings of less than four units and up to two stories are exempted) from surface fault ruptures. In the County, such regulations would apply to habitable development in the San Andreas Fault Zone and portions of the Zayante and Butano complexes. The Monterey Bay-Tularcitos fault is not designated for seismic review by the state or County; however, seismic-related hazards in the County can result from underwater seismic activity associated with this fault, as described in the following section on tsunamis. In these regions, the County requires a preliminary and/or full geologic report and a County-designated registered geologist performs a site visit and evaluation for proposed development, including single family residences, which also serves to implement State seismic review requirements.

Liquefaction

Liquefaction is the loss of strength of saturated sandy soil accompanying ground shaking during an earthquake. On relatively level ground this may cause water to rise to the ground surface, while on slopes liquefaction may result in slope failure. Liquefaction potential is largely based on the probable depth to groundwater, soil characteristics (i.e., classification, grain size, density), and earthquake intensity and duration. Most of the valley bottoms in the southern regions of the County are underlain by alluvium and are considered at very high, high, or moderate risk for liquefaction potential based on the Santa Cruz County Liquefaction Hazard Areas map (Santa Cruz County GIS 2009c). Coastline regions also have low to very high liquefaction potential.

Tsunamis

Tsunamis are giant ocean waves generated when uplift or down-dropping movement occurs over a broad area of the ocean floor associated with movement on submarine faults during large

earthquakes, submarine landslides, or volcanic eruptions (City of Santa Cruz 2011). The California Emergency Management Agency Tsunami Inundation Map for Santa Cruz County indicates that coastal areas, particularly within the City of Santa Cruz and Pajaro Dunes regions have a tsunami risk (Cal EMA 2009; Santa Cruz County GIS 2009d). The Monterey Bay-Tularcitos submarine fault spans Monterey Bay in a northeast-southwest direction and is a potential source of tsunami risk. Submarine landslides in the Monterey submarine canyon are another potential local source of tsunamis. Many large landslides have been mapped along the flanks of the canyon (City of Santa Cruz 2011). Minimal damage in Santa Cruz County has occurred during recorded tsunamis. However, a tsunami generated by a 9.0 magnitude earthquake in Japan in March 2011 caused substantial damage to the City of Santa Cruz Small Craft Harbor when swells inundated the inner harbor areas, including broken docks and moorings (City of Santa Cruz 2011).

3.6.3 Regulatory Setting

Geologic resources and geotechnical hazards are governed primarily by local jurisdictions, although federal and state laws would apply to future cannabis cultivation development under the Project and More Permissive Project. Appendix A contains the federal and state regulations that pertain to geologic resources and geotechnical hazards. State and local regulations that are directly relevant to future commercial cannabis cultivation and manufacturing under the Program are discussed below. The Public Safety and Noise Element of the Santa Cruz County General Plan and the SCCC both contain policies and regulations for avoidance of geologic hazards.

3.6.3.1 State

California Building Code (2016)

The State of California provides minimum standards for building design through the California Building Code (CBC), which is adopted by and in effect in the County. In accordance with the CBC and SCCC Chapters 12.10, *Building Regulations* and 16.20, *Grading Regulations*, a grading permit is required if more than 100 cubic yards of soil are moved during implementation of a proposed project. Chapter 16 of the CBC contains definitions of seismic sources and the procedure used to calculate seismic forces on structures. Chapter 18 of the CBC contains standards and regulations relating to soil stability, design standards for seismic safety, and construction standards for building foundations. Specific regulations in Section 1803 require geotechnical investigations or preliminary soil reports as a condition of building permit approval. Section 1804 provides regulations on the siting of structures and site grading based on the soils and slope stability of a site. Section 1808 establishes regulations for the design and construction of building foundations, with emphasis on stability (i.e., issues pertaining to shifting soils, seismic overturning, and expansive soils) and design loads. The CBC has been adopted into the SCCC pursuant to Chapter 12.10, *Building Regulations*. For further information on the County Building Code and Grading Regulations and relevant requirements for avoidance of geologic hazards, please see Section 3.6.3.2, *Local* below.

3.6.3.2 Local

County of Santa Cruz General Plan and Local Coastal Program

Public Safety and Noise Element

The Public Safety and Noise Element, Chapter 6 of the County of Santa Cruz General Plan and Local Coastal Program, guides land use planning by providing information regarding geologic, soil, seismic, fire, and flood hazards. The following objectives and policies of the Public Safety and Noise Element pertain to the Project. For a comprehensive list of all objectives and policies, see Chapter 6 of the General Plan.

Objective 6.1: Seismic Hazards. To reduce the potential for loss of life, injury, and property damage resulting from earthquakes by: regulating the siting and design of development in seismic hazard areas; encouraging open space, agricultural or low density land use in the fault zones; and increasing public information and awareness of seismic hazards.

Seismic Hazards Policy 6.1.1: Geologic Review for Development in Designated Fault Zones. Require a review of geologic hazards for all discretionary development projects, including the creation of new lots, in designated fault zones. Fault zones designated for review include the Butano, Sargent, Zayante, and Corralitos complexes, as well as the State designated Seismic Review Zones. Required geologic reviews shall examine all potential seismic hazards, and may consist of a Geologic Hazards Assessment and a more complete investigation where required.

Objective 6.2: Slope Stability. To reduce safety hazards and property damage caused by landslides and other ground movements affecting land use activities in areas of unstable geologic formations, potentially unstable slopes and coastal bluff retreat.

Slope Stability Policy 6.2.1: Geologic Hazards Assessment for Development on and Near Slopes. Require a geologic hazards assessment of all development, including grading permits, that is potentially affected by slope instability, regardless of the slope gradient on which the development takes place.

Slope Stability Policy 6.2.2: Engineering Geology Report. Require an engineering geology report by a certified engineering geologist and/or a soils engineering report when the hazards assessment identifies potentially unsafe geologic conditions in an area of proposed development.

Slope Stability Policy 6.2.4: Mitigation of Geologic Hazards and Density Considerations. Deny the location of a proposed development or permit for a grading project if it is found that geologic hazards cannot be mitigated to within acceptable risk levels; and approve development proposals only if the project's density reflects consideration of the degree of hazard on the site, as determined by technical information.

Coastal Bluffs and Beaches Policy 6.2.17: Prohibit New Building Sites in Coastal Hazard Areas. Do not allow the creation of new building sites, lots, or parcels in areas subject to coastal hazards, or in the area necessary to ensure a stable building site for the minimum 100-year lifetime.

Objective 6.3: Erosion. To control erosion and siltation originating from existing conditions, current land-use activities, and from new developments, to reduce damage to soil, water, and biotic resources.

Erosion Policy 6.3.1: Slope Restrictions. Prohibit structures in discretionary projects on slopes in excess of 30 percent. A single-family dwelling on an existing lot may be exempted from the prohibition where siting on greater slopes would result in less land disturbance or siting on lesser slopes is infeasible.

Erosion Policy 6.3.2: Grading Projects to Address Mitigation Measures. Deny any grading project where a potential danger to soil or water resources has been identified and adequate mitigation measures cannot be undertaken.

Erosion Policy 6.3.3: Abatement of Grading and Drainage Problems. Require, as a condition of development approval, abatement of any grading or drainage condition on the property which gives rise to existing or potential erosion problems.

Erosion Policy 6.3.8: On-Site Sediment Containment. Require containment of all sediment on the site during construction and require drainage improvements for the completed development that will provide runoff control, including onsite retention or detention where downstream drainage facilities have limited capacity. Runoff control systems or Best Management Practices shall be adequate to prevent any significant increase in site runoff over pre-existing volumes and velocities and to maximize on-site collection of non-point source pollutants.

Future cannabis cultivation and manufacturing licenses and associated development would be subject to the following sections of the SCCC with associated permit and report preparation requirements.

County of Santa Cruz Geologic Hazards Ordinance

The County Geologic Hazards Ordinance, adopted as Chapter 16.10 of the SCCC, provides policy implementation, public health and safety, development standards, and notice of geologic hazards. This chapter sets forth regulations and review procedures for development and construction activities, including grading, septic systems installation, development permits, building permits, minor land divisions, and subdivisions throughout the County and particularly within mapped geologic hazards areas and special flood hazard areas (SFHAs). These regulations and procedures are administered through a system of geologic hazard assessment, geologic reports, technical review, and development and building permits.

County of Santa Cruz Grading Ordinance

The County Grading Ordinance, adopted as Chapter 16.20 of the SCCC, sets forth rules and regulations to control all grading, including excavations, earthwork, road construction, dredging, diking, fills and embankments. It also establishes administrative procedures for issuance of permits and provides for approval of grading plans and inspections. Grading permits require Planning Commission approval for grading in excess of 8,000 cubic yards, or for which an environmental impact report was prepared, or for grading in excess of 1,000 cubic yards which is visible from a scenic corridor roadway. All other grading permits, including those for agricultural grading, must be approved by the Planning Director, pursuant to Section 16.20.040 and Section 16.20.195 of the SCCC, through a staff-level administrative process. Agricultural grading is defined as any grading which takes place on land designated for commercial agricultural use as specified in Section 16.50.040; provided, however, that agricultural grading does not include any grading on such lands connected with the construction of access roads or building sites, except greenhouse sites. Specialized agricultural activities also require a regular grading permit rather than a less-specific agricultural grading permit. A proposed grading plan must

be accompanied by an erosion control plan and erosion preventative measures, in accordance with the requirements of the County Erosion Control Ordinance of SCCC Chapter 16.22.

County of Santa Cruz Erosion Control Ordinance

The County Erosion Control Ordinance, adopted as Chapter 16.22 of the SCCC, provides regulations intended to eliminate and prevent conditions of accelerated erosion that have led to, or could lead to, degradation of water quality, damage to property, loss of topsoil and vegetation cover, disruption of water supply, and increased danger from flooding. An erosion control plan indicating proposed methods for the control of runoff, erosion, and sediment movement must be submitted and approved with a grading plan prior to issuance of a building permit or development permit. All winter-grading erosion control plans require a Winter Grading Permit approved administratively, pursuant to Section 16.22.040. Chapter 16.22 also requires approval of a Land Clearing Permit for any vegetation removal or land clearing in excess of one acre, or of any amount if located within a sensitive habitat area. Erosion control plans are designed to minimize erosion during construction and throughout the life of the project.

County of Santa Cruz Building Code

The County Building Code, adopted as Chapter 12.10 of the SCCC, implements the 2016 CBC, subject to amendments, changes, and exceptions where it finds that there are certain conditions and situations in the County that require modification of California codes for buildings and related construction. The County Building Code contains standards and regulations relating to soil stability, design standards for seismic safety, and construction standards for building foundations. The County Building Code addresses grading, excavations, cuts, fills, setbacks, drainages, terracing, erosion control, seismic shaking, and the minimum standards to safeguard and protect life, buildings, and structures within the County.

3.6.4 Methodology and Assumptions

This analysis determines whether the Program has the potential to create exposure to geologic hazards in the County, considering both the Project scenario and the More Permissive Project scenario identified in Chapter 2, *Project Description*. As stated in Chapter 2, *Project Description*, the County is divided into four general regions for planning purposes: North Coast, Mountain, Urban, and South County regions. Geologic resources differ widely throughout the County and are sometimes characterized in this analysis by the region in which they occur. Refer to Section 3.0, *Introduction and Approach to Analysis*, for a detailed discussion of projected cannabis activities in the County due to Program implementation.

This analysis of potential impacts related to geology and soils reviews the existing geological/soil hazards identified in Section 3.6.2, *Environmental Setting*, and determines whether the Program has the potential to create impacts due to such geology/soil hazards, including both the Project scenario and the More Permissive Project scenario. The analysis takes into consideration the existing General Plan policies that require avoiding geologic hazards and health, safety, and welfare regulatory requirements of the SCCC. The analysis also accounts for provision of the Program's draft ordinance that require: "All licenses issued under this Chapter must be consistent with the County's policies,

objectives, laws, regulations, and programs related to land use, including those related to the County's General Plan and Local Coastal Program" (Appendix A).

3.6.5 Significance Criteria

CEQA Guidelines Thresholds

Appendix G of the State CEQA Guidelines states that a project would be considered to have a direct, indirect or secondary significant impact related to geology and soils if it would result in any of the following:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the following.
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42.
    - Strong seismic ground shaking.
    - Seismic-related ground failure, including liquefaction.
    - Landslides.
- Result in substantial soil erosion or the loss of topsoil.
- 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 an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.

3.6.6 Environmental Impact Analysis and Mitigation

This section discusses the potential geologic and soils impacts associated with the Program. A detailed discussion of each impact follows. Where there are potentially significant or significant and unavoidable impacts, mitigation measures are proposed and the residual impact is determined.

3.6.6.1 Program Impacts

Impact GEO-1. Commercial cannabis cultivation under the Program could have adverse effects due to exposure of persons and structures to unstable earth conditions, such as landslides, erosion, earthquakes, liquefaction, expansive soils, ground failure, or other geologic hazards. This impact would be less than significant with mitigation.

Impact GEO-1.1. **Direct Cultivation.** Commercial cannabis cultivation could occur on lands subject to geologic hazards, including landslides, steep slopes or soils prone to erosion, liquefaction, expansion or contraction, or ground failure. Further, the installation and maintenance of cannabis in outdoor settings may exacerbate geologic hazards if not properly implemented, particularly related to erosion and landslides. Direct impacts from cannabis cultivation proposed by Program license registrants could result in an increase from the 36 acres currently cultivated by registrants, up to 8.3 acres, then up to 34.8 acres of canopy in the future, for a total of 44.3 to 79.1 acres of licensed canopy cover by registrants. Additionally, farmers who farmed on commercial agricultural lands for at least three years prior are also eligible for licenses but were not required to register. It is estimated that 147 acres of such lands, mostly in greenhouses in South County, would seek licensing for cannabis cultivation. Cultivation by registrants over the additional 8.3 to 34.8 acres would require additional areas of ground disturbance associated with support uses (e.g., roads/paths, water facilities, storage, drying sheds, etc.) Greenhouses and indoor grows may require clearing and grading to create level pads, though use of existing greenhouses would not involve these activities. Operational activities associated with soil tilling, watering, weed control, road maintenance, and other activities may contribute to drainage erosion impacts.

Cannabis cultivation sites could be distributed throughout the County, but based on County registration data, proposed grows by registrants are concentrated in the Mountain Region (37 percent), where vegetation clearing on steep slopes with erodible soils could lead to slope stability and erosion hazards. Approximately 62 percent of cultivation proposed by Program license registrants would be outdoor (46 percent) or greenhouse (16 percent) with potential for soil disturbance and concentrated runoff that could create slope stability and erosion impacts. Approximately 27 percent of proposed grows by registrants are within the South County Region, with areas prone to earthquake related liquefaction and ground surface failure which could damage greenhouse or other cannabis related structures (see Figure 3.6-1). It is expected that most cultivation by existing farmers who were not required to register would occur on 147 acres, mostly in South County and in existing greenhouses.

Site preparation activities for outdoor grows, such as vegetation clearing and grading, cut and fill, and building support facilities (e.g., roads, water supply facilities), could increase the potential for erosion or landslides.

Potential geologic hazard impacts associated with cultivation activities under the Program would be

addressed by existing County policies and regulations. Licenses for cultivation involving grading or structures would not be approved unless all other required permits and/or entitlements are in place for a proposed cannabis operation. All existing cultivation (approximately 36 acres) and future cultivation (up to 190.1 acres) would be required to adhere to SCCC and County General Plan requirements, including best practices to manage any building of structures, grading, erosion and stormwater runoff. Under existing regulation, all related development, grading and building permits would be reviewed by the County to ensure compliance with the County's Building Regulations, Geologic Hazards Ordinance, Grading Ordinance, and Erosion Control Ordinance (Chapters 12.10, 16.10, 16.20, and 16.22 of the SCCC, respectively), and would be required to provide adequate engineering design to address or avoid unstable earth conditions.

Further, while past site disturbance caused by unpermitted cannabis activities (e.g., grading) is known as part of the existing setting and is not an impact of the Program under CEQA, the Program would have a beneficial effect of requiring existing cannabis sites to clean up and/or restore past geologic damage prior to licensing to ensure stable conditions for slope and drainage conditions. Application of the CBC standards would address potential impacts to structures related to seismic events and soil-related hazards. Considering that new cannabis cultivation under the Program by registrants would be limited to approximately up to 79.1 acres, and up to 147 acres of cultivation on commercial agricultural farmland in the CA zoning district, which is projected to be mostly in existing greenhouses in South County, and with application of existing regulations, direct Program impacts associated with geologic hazards would be considered *less than significant* for both the Project and the More Permissive Project.

Impact GEO-1.2. **Indirect Cultivation.** The Program could create indirect impacts through requirements that eligible registrants within A, RA, TP, and SU zone districts construct an onsite principal residence in order to receive a cannabis cultivation license under the Project scenario. Indirect impacts could include exposure of up to 228 new homes and associated roads, utilities, and accessory buildings to geologic hazards such as erosion, landslides, soil failure, earthquakes and liquefaction. Grading for building pads, roads and driveways, and trenching for infrastructure could occur on areas subject to such geologic hazards. Development of impervious surfaces could also increase water runoff, accelerate soil erosion, and increase runoff and siltation into surface waters (see also, Section 3.9, *Hydrology and Water Quality*). Compliance with the County Fire Code for cannabis-related activities within structures in rural areas would require significant site improvements to provide onsite fire water storage tanks (up to 568 tanks of up to 120,000 gallons each) with related site pad clearing, improvement or installation of a 20-foot-wide road with turnaround, and defensible space vegetation management around a cannabis-related structure of up to 100 feet. Potential acreage of such future development is unknown, but may involve roughly 0.5 to one acre per home, including roads, driveways, utilities, and outbuildings, which is typical for rural home development, with additional disturbance for County Fire Code improvements. However, proposed homes be small structures to minimize disturbance. A small home can meet County Building Code requirements at about 300 square feet.

These impacts could occur in areas eligible for cannabis activities Countywide; however, development supporting uses to cannabis cultivation could result in impacts from landslides and erosion more frequently on the steep slopes in the Mountain and North Coast Regions (e.g., timberlands), particularly related to road widening, extension, or construction. Impacts to new structures and support facilities from liquefaction, ground failure, and expansive soils would be more prevalent in

the South County Region. Liquefaction hazards are generally confined to historic wetlands or sloughs within the South County and Urban Regions (Figure 3.6-1).

The development of up to 228 new homes and ancillary uses to cannabis cultivation would occur incrementally over years, and be distributed throughout the County on developable parcels. Further, pursuant to the County's Building Code (SCCC Chapter 12.10), along with the County's Geologic Hazard Code (SCCC Chapter 16.10), Grading Ordinance (SCCC Chapter 16.20), and Erosion Control Ordinance (SCCC Chapter 16.22), development related to cannabis cultivation would be required to avoid exposure to unstable earth and unsuitable soil conditions. All supporting development would be subject to the SCCC and General Plan policies, which would enforce County development standards that require a geological study and/or soils engineering report, in addition to erosion control measures, which would substantially reduce geologic hazard impacts.

While the application of existing regulations to avoid siting cannabis cultivation related development on or near geologic hazards would substantially reduce indirect impacts from unstable earth conditions, such development in the Mountain and North Coast Regions (e.g., timberland), particularly related to road and driveway widening, utility extension, or residential construction may be difficult to fully mitigate with existing regulations, particularly if multiple cultivation sites are located proximate to one another (e.g., within the same sub-watershed). This is particularly true in mountainous areas subject to landslides and erosion hazards where high rainfall may strain even well-designed drainage, erosion, or landslide protection measures. Therefore, indirect impacts associated with geological hazards under the Program would be considered *potentially significant*, including for the Project and the More Permissive Project.

Mitigation Measures

Implement MM LU-1.1.4. Master Planned Cannabis Facilities. As appropriate, use of a Master Plan to coordinate multiple adjoining properties to meet site development requirements on a case-by-case basis would apply to Impact GEO-1.

Implement MM LU-1.1.5. Reduction of Excessive Grading. Implementation of County Grading Ordinance amendments to prevent excessive grading would apply to Impact GEO-1.

Post-Mitigation Level of Impacts

With implementation of MM LU-1.1.4 and MM LU-1.1.5, area of disturbance for site development with homes and infrastructure would be minimized and residual indirect geologic impacts would be *less than significant with mitigation.* The County would ensure that excessive grading is minimized on a case-by-case basis.

Impact GEO-2. Cannabis product manufacturing under the Program could have adverse effects from exposure of persons and structures to unstable earth conditions such as landslides, soil erosion, earthquakes, liquefaction, expansive soils, ground failure, or other geologic hazards. This impact would be less than significant.

Impact GEO-2.1. **Direct Manufacturing.** Cannabis product manufacturing under the Program in agricultural, residential, timber production, special use, commercial, and industrial districts could be exposed to or create geologic hazards. Direct geologic impacts could occur where manufacturing facilities are constructed, expanded, or operated subject to geologic hazards, including landslides,

steep slopes, erosion prone soils, liquefaction, or ground failure. Cannabis manufacturing buildings in the Mountain Region may be subject to potential erosion and landslide hazards, while manufacturing buildings located in the South County Region would be potentially prone to liquefaction and ground failure during seismic events and landslides. Cannabis manufacturing would be licensed under the Program as limited ancillary cannabis home occupation uses in residential zoning districts (associated with a detached single family home), or in commercial or manufacturing spaces in industrial/commercial and agricultural zoning districts, predominantly within the Urban, Mountain, and South County Regions. Within the North Coast Region, potential manufacturing on sites with industrial zoning, such as quarries, may also be exposed to geologic hazards. However, through application of the County's Building Code (SCCC Chapter 12.10), Geologic Hazard Code (SCCC Chapter 16.10), Grading Ordinance (SCCC Chapter 16.20), and Erosion Control Ordinance (SCCC Chapter 16.22), development related to cannabis manufacturing cultivation would be required to avoid and mitigate exposure to unstable earth and unsuitable soil conditions. Therefore, Program impacts would be *less than significant*.

Impact GEO-2.2. **Indirect Manufacturing.** Indirect impacts of cannabis product manufacturing would occur when new buildings and related infrastructure are constructed for the manufacturing operation. There are 1,074 acres of industrially zoned land in the County that is mostly built out with existing warehouse and commercial buildings (except for quarries, which comprise 887 acres of these zoning districts). Service commercial (C-4) zoning districts would also provide opportunity for new development for use in cannabis product manufacturing. As described in Impact GEO-1.2, site preparation activities for manufacturing buildings and support facilities could increase the potential for erosion or slope failure and construction could destabilize soil surfaces and increase erosion. As the Program would allow for development of cannabis manufacturing uses in geologically hazardous areas, there is a potential for grading, clearing, and soil disturbance in areas with steep slopes (up to 30 percent slope) and with varying degrees of landslide, erosion, and soil stability hazards. Potential impacts could expand under the Program, though it is likely that economic and physical barriers would prevent this maximized scenario from occurring.

Cannabis manufacturing development, including potential greenhouses, warehouses, commercial buildings, and residential structures, would be subject to the same County policies and regulations that address geologic hazards as those previously described in Impact GEO-1.2 for cannabis cultivation. Manufacturing licenses and associated permits would be reviewed by the County to ensure compliance with the County's Building Regulations, Geologic Hazards Ordinance, Grading Ordinance, and Erosion Control Ordinance (Sections 12.10, 16.10, 16.20, and 16.22 of the SCCC, respectively) and application of the CBC standards would address potential impacts to structures related to seismic events and soil-related hazards. Therefore, indirect impacts of cannabis product manufacturing associated with geological hazards under the Program would be considered *less than significant*.

3.6.6.2 Summary of Project Impacts and Proposed Mitigation Measures

Table 3.6-2 below provides a summary of the Program impacts related to geology and soils.

Table 3.6-2 Summary of Geology and Soils Impacts

Geology and Soils Impact Statement	Impact Level	Mitigation Measures	Project Residual Impacts	More Permissive Project Residual Impact
Impacts from Commercial Cannabis Cultivation				
Impact GEO-1. Commercial cannabis cultivation under the Program could have adverse effects due to exposure to unstable earth conditions, such as landslides, erosion, earthquakes, liquefaction, expansive soils, ground failure, or other geologic hazards. This impact would be less than significant with mitigation.				
Direct	Less than Significant	None required	Less than Significant	Less than Significant
Indirect	Less than Significant	MM LU-1.1.4. Master Planned Cannabis Facilities MM LU-1.1.5. Reduction of Excessive Grading	Less than Significant with Mitigation	Less than Significant with Mitigation
Impacts from Cannabis Product Manufacturing				
Impact GEO-2. Cannabis product manufacturing under the Program could have adverse effects from exposure to unstable earth conditions such as landslides, soil erosion, earthquakes, liquefaction, expansive soils, ground failure, or other geologic hazards. This impact would be less than significant.				
Direct	Less than Significant	None required	Less than Significant	Less than Significant
Indirect	Less than Significant	None required	Less than Significant	Less than Significant

3.6.6.3 Secondary Impacts

Impact GEO-3. Unregulated commercial cannabis cultivation and cannabis product manufacturing under the Program could potentially have adverse effects from exposure of persons and structures to unstable earth conditions such as landslides, erosion, earthquakes, liquefaction, expansive soils, ground failure, or other geologic hazards. This impact would be significant and unavoidable.

Impact GEO-3. Secondary Cultivation/Manufacturing. The secondary impacts of the Program relate to future Program-induced unregulated cannabis cultivation and manufacturing. These unregulated sites could be located anywhere in the County, including areas with known geological hazards. Most of the sites would likely be located in unpopulated areas hidden from public view, such as remote mountainous properties and residential properties. Due to the secretive nature of these unregulated sites, cannabis cultivators/manufacturers would be unlikely to follow the appropriate guidelines and regulations pertaining to siting, building, grading, and erosion control set forth by the County. Therefore, these sites could potentially have an adverse effect on persons and structures from exposure to unstable earth conditions, including uncontrolled grading with associated soil disturbance and runoff. This is similar to the impact that any non-permitted development could have,

since it is outside the County's permit review system that identifies geologic hazards and compliance with regulations. Therefore, this impact is *potentially significant.*

Mitigation Measures

Implement MM AT-1.3a. Sustained Enforcement Program. To reduce secondary impacts to geologic resources associated with unregulated cannabis cultivation/manufacturing and related development activities, MM AT-1.3a, addressing County implementation of the "Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program", shall apply to Impact GEO-3.

Implement MM AT-1.3b. Annual Survey and Monitoring Report. To reduce secondary impacts related to geologic hazards, on persons and structures associated with unregulated cannabis cultivation/manufacturing and related development activities, MM AT-1.3b, addressing County criteria for an Annual Survey and Monitoring Report of licensed activities and unlicensed activities, including recommendations regarding enforcement staffing and resources, shall apply to Impact GEO-3.

Post-Mitigation Level of Impacts

With implementation of MMs AT-1.3a and AT-1.3b, unregulated cannabis cultivation and/or manufacturing would be reduced over time either through enforcement/closure of the grow sites or the permitting and licensing of new grow sites. Therefore, unregulated cannabis activity in areas susceptible to geological hazards or causing extensive erosion would be reduced. However, since unregulated cultivators/manufacturers are unlikely to alert the County if their activities cause erosion or are adversely affected by geological hazards, residual impacts associated with Impact GEO-3 would remain *significant and unavoidable*.

3.6.6.4 Cumulative Impacts

Program approval would contribute to cumulative geologic and soils impacts associated with ongoing land use planning and regional growth. Cumulative impacts could include landslides, steep slopes, or soils prone to erosion, liquefaction, soils expansion or contraction, or ground failure. As described in Section 3.0, cumulative development and growth in population and employment is projected to be gradual toward 2040 with some change in agricultural uses and crop types and a changing regulatory landscape for commercial cannabis activities both regionally and statewide. Concurrent development of residential, commercial, and agricultural land uses with commercial cannabis cultivation and manufacturing could potentially result in cumulatively considerable grading, soil disturbance, and geologic and seismic hazards.

Cumulative direct and indirect impacts associated with the Program would include potential exposure to geologic hazards associated with the combined cannabis canopy of up to an additional 190.1 acres, with additional acreage of ground disturbance for support development, as well as development of structures to support cannabis cultivation and manufacturing activities. This allowable cultivation in combination with proposed development under other County plans and projects would potentially exacerbate geologic hazards. Development could be sited on lands subject to geologic hazards, creating a potentially significant cumulative effect. The Program requires that cannabis cultivation and manufacturing activities comply with existing County policies and regulations. Licenses and development permits for future development and cannabis activities would be reviewed by the

County to ensure compliance with the County's Building Regulations, Geologic Hazards Ordinance, Grading Ordinance, and Erosion Control Ordinance (Sections 16.10, 16.20, and 16.22 of the County Code). Application of the CBC standards would address potential impacts to structures related to seismic events and soil-related hazards. Further, the Program's indirect impacts are mitigated, which would avoid a cumulatively considerable contribution to geologic impacts from ongoing development in the County. Therefore, the Program's contribution to cumulative exposure to geologic hazards would be minor and cumulative direct and indirect impacts associated with the Program would be *less than significant*.

Section 3.7

Greenhouse Gas Emissions and Climate Change

3.7.1 Introduction

Program Impact Analysis
At a Glance
The Program could adversely affect GHG emissions and climate change due to the energy demand of the Program. Mitigation to increase energy efficiency and carbon-free energy sources would ensure direct and indirect impacts are less than significant. However, Program-induced additional or expanded unlicensed cannabis activities could have significant and unavoidable secondary impacts.

This section identifies and evaluates issues related to greenhouse gas (GHG) emissions and climate change that could result from cannabis cultivation and manufacturing licensed under the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program), including analysis of both the Project scenario and the More Permissive Project scenario. Existing GHG emission conditions in Santa Cruz County (County) are described, as well as applicable regulations. Potential impacts to GHG emissions and climate change in the County that could result from the Program are evaluated, along with effectiveness of relevant Program restrictions and regulations. Where potentially significant impacts are identified, mitigation measures are recommended. This section is based on information from the County's Climate Action Strategy (CAS), Monterey Bay Unified Air Pollution Control District (MBUAPCD), County General Plan, the California Air Resources Board (CARB), and use of the California Emissions Estimator Model Version 2016.3.1 (CalEEMod).

Analysis of GHG emissions involves assessing the primary sources of GHG emissions, such as energy demands for building lighting, heating, cooling, and power, vehicle trips, and construction of new buildings and infrastructure. There are several unique challenges to analyzing GHG emissions and climate change under the California Environmental Quality Act (CEQA), largely because of climate change's "global" nature. Typical CEQA analyses address local actions that have impacts that are geographically limited, whereas climate change presents the considerable challenge of analyzing the relationship between local activities and the resulting potential, if any, for global environmental impacts. Most environmental analyses examine the "project-specific" impacts that a particular project is likely to generate. Regarding global warming, however, it is generally accepted that while the magnitude of global warming effects is substantial, the contribution of an individual project is so small that direct project-specific significant impacts (albeit not cumulative significant impacts) are highly unlikely. However, if a project causes a cumulatively significant impact to GHG emissions and climate change, it could be considered to have a global environmental impact. Analysis of air quality, including criteria pollutants and odors, is addressed in Section 3.3, *Air Quality*.

3.7.2 Environmental Setting

This section discusses the existing GHG emissions and climate change conditions related to the County, including current GHG levels and emissions. The County is located in the North Central Coast Air Basin (NCCAB), and is within the jurisdiction of the MBUAPCD.

As described in Section 3.3, *Air Quality*, the Pacific High pressure cell is the basic controlling factor in the climate of the NCCAB. The main pollutant of concern for the NCCAB related to GHG emissions and climate change is ozone (O_3), which is made up of reactive organic gases (ROG) [1] and nitrogen oxides (NOx).

3.7.2.1 Global Climate Change

Overview of Climate Change

The U.S. Environmental Protection Agency (U.S. EPA) defines climate change as "any significant change in the measures of climate lasting for an extended period of time." In other words, climate change includes major changes in temperature, precipitation, or wind patterns, among others, that occur over several decades or longer. These changes are caused by a number of natural factors, including oceanic processes, variations in solar radiation received by Earth, plate tectonics and volcanic eruptions as well as anthropogenic (i.e., human-related) activities. The primary anthropogenic driver of climate change is the release of GHGs into the atmosphere.

The Earth's natural warming process is known as the "greenhouse effect." The Earth's atmosphere consists of a variety of gasses that regulate the Earth's temperature by trapping solar energy; these gases are cumulatively referred to as GHGs because they trap heat like glass of a greenhouse. Relying on decades of research, the overwhelming majority of the scientific community agree that human activities, such as deforestation and the burning of fossil fuels to produce energy, contribute to elevated concentration of GHGs in the atmosphere beginning with the Industrial Revolution. The human production and release of GHGs to the atmosphere have caused an increase in the average global temperature. While the increase in global temperature is known as "global warming," the resulting change in weather patterns is known as "global climate change."

Potential Effects of Global Climate Change

Global climate change could result in a number of potential adverse physical and environmental effects including sea level rise, flooding, increased weather variability and intensified storm events, reduced reliability of water supplies, reduced quality of water supplies, and increased stress on ecosystems that would reduce biodiversity. Additionally, climate change may impact human health due to heat waves and extreme weather events, reduced air quality, and increased climate-sensitive diseases, including food-borne, water-borne, and animal-borne diseases.

Adverse effects from climate change could occur all across the globe. Sensitive communities, such as low-lying nations that are more susceptible to impacts from sea level rise, may be more heavily impacted than communities in other regions. The effects of climate change could have significant global consequences.

Greenhouse Gases

GHGs consist of a variety of gases that have the potential to trap heat in the earth's atmosphere; mainly water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), and chlorofluorocarbons (CFCs). Water vapor and ozone and their relationship to climate change are not clearly understood and defined, so these GHGs are not currently regulated. Therefore, methodologies

[1] ROG and volatile organic compounds (VOCs) are considered equivalent in this analysis.

and regulations approved by the Intergovernmental Panel on Climate Change (IPCC), U.S. EPA, and CARB focus on CO_2, CH_4, N_2O, and CFCs. CFCs have been banned and have no natural source, so these GHGs are not included in this analysis. The following provides a brief description of each of the remaining GHGs and their sources:

CO_2 The natural production and absorption of CO_2 occurs through the burning of fossil fuels (e.g., oil, natural gas, and coal), solid waste, trees and wood products, and as a result of other chemical reactions, such as those required to manufacture cement. CO_2 is constantly being exchanged among the atmosphere, ocean, and land surface as it is both produced and absorbed by many microorganisms, plants, and animals. However, emissions and removal of CO_2 by these natural processes tend to balance. Since the Industrial Revolution began around 1750, human-related activities are responsible for the increase in CO_2 that has occurred in the atmosphere since the Industrial Revolution (IPCC 2013). CO_2 is the primary GHG emitted through human activities. Globally, the largest source of human-related CO_2 emissions is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, and industrial facilities. CO_2 is removed from the atmosphere (or sequestered) when it is absorbed by plants as part of the biological carbon cycle. When in balance, total CO_2 emissions and removals from the entire carbon cycle are roughly equal.

CH_4 CH_4 is emitted from a variety of both human-related and natural sources. Anthropogenic sources of CH_4 include the production and transport of coal, natural gas, and oil, from livestock and other agricultural practices, and from the decay of organic waste in municipal solid waste landfills. It is estimated that 60 percent of global CH_4 emissions are related to human activities. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and wildfires.

N_2O Concentrations of N_2O also began to rise at the beginning of the Industrial Revolution, reaching 314 parts per billion (ppb) by 1998. Microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen, produce nitrous oxide. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to the atmospheric load of N_2O.

Global warming potentials are one type of simplified index based upon radiative properties that can be used to estimate the potential future impacts of emissions of different gases upon the climate system in a relative sense. Because the global warming potential that each GHG has on climate change varies, the common metric of Carbon Dioxide Equivalents (CO_2e) is used to report a combined impact from all of the GHGs. This metric scales the global warming potential of each GHG to that of CO_2. GHG emissions are typically expressed in metric tons (MT CO_2e), millions of metric tons (MMT CO_2e), or gigatons (Gt CO_2e).

3.7.2.2 Existing GHG Emissions from Human Activity

The burning of fossil fuels, such as coal and oil, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO_2 emissions (and thus substantial increases in atmospheric concentrations). In 2011, global atmospheric CO_2 concentrations were 390.5 parts per million (ppm), which represented an increase of about 40 percent above the pre-industrial concentrations that were present prior to 1750 (IPCC 2013).

State of California GHG Emissions

In 2014, California generated approximately 441.5 MMT CO_2e, a decrease of 2.8 MMT CO_2e compared to 2013. This represents an overall decrease of 9.4 percent since peak levels in 2004. Gross per capita emissions were 11.4 MT CO_2e per person in 2014, constituting an 18 percent decrease from the 2001 peak of 13.9 MT CO_2e per person. Overall trends in the state's GHG emission inventory demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product [GDP]) is declining, representing a 28 percent decline since the 2001 peak, while the state's GDP has grown 28 percent during this period.

Transportation is the source of approximately 36 percent of the state's GHG emissions, followed by electricity generation (both in-state and out-of-state) at 20 percent, and industrial sources at 21 percent. Residential and commercial sources account for 9 percent, agriculture accounts for 8 percent, High Global Warming Potential Gases (high-GWP) comprise 4 percent, and recycling and waste accounts for 2 percent (CARB 2016).

County of Santa Cruz Emissions

GHG emissions inventories from government operations and from community activities in unincorporated areas of the County were originally prepared for 2005, which is a commonly accepted baseline year in California. An update of these inventories was prepared for 2009, the latest year in which a complete data set for the County is available. In 2005, total GHG emissions for government operations were 38,901 MT CO_2e, falling 12 percent to 34,267 MT CO_2e in 2009. Government operations include solid waste facilities, employee commute, buildings and facilities, vehicle fleet, wastewater treatment facilities, public lighting, and water delivery. Solid waste facilities contribute the largest amount of GHG emissions, followed by employee commute, buildings and facilities, and vehicle fleet. In 2005, total GHG emissions for community activities were 1,907,037 MT CO_2e, falling 59 percent to 791, 279 MT CO_2e in 2009. This dramatic reduction reflects the closure of the Davenport Cement Plant (CEMEX), which accounted for about half the GHG emissions generated in the County in 2005. Community activities include the sectors of transportation, residential, commercial and industrial, and solid waste. The transportation sector contributed 60 percent of community emissions in 2009, with the residential sector contributing the second largest amount of GHG emissions (County of Santa Cruz 2013).

Forestry and agriculture also contribute to the County's net GHG emissions. California's forests remove approximately 5 MMT CO_2e from the atmosphere annually. This sequestration, or "carbon sink" is a valuable ecosystem service provided by forests; the 143,000 acres of redwood and redwood-Douglas fir forests and 19,900 acres of oak woodland in the County contribute to this service. Forest lands in the County currently store around 56 MMT CO_2e. The County ranks in the top third of California counties for agricultural production, and the agricultural sector (not including timberland) occupies 8.5 percent of the County's land area, or 24,324 acres. Rough estimates of emissions from agricultural fuel and fertilizer use were 20,456 MT CO_2e in 2005, falling 21 percent to 16,791 MT CO_2e in 2009. Agricultural emissions account for at most 2 percent of County CO_2e emissions (County of Santa Cruz 2013).

For this analysis, the baseline is the level of GHG emissions associated with cannabis cultivation and manufacturing that was occurring in the County in November, 2016 when the Notice of Preparation (NOP) for this EIR was published. The potential environmental impacts of the Program are those associated with any new activity, or expansion of existing activity, beyond that baseline level that is

attributable to the Program. It is that additional increment of cultivation and manufacturing that is the subject of this environmental analysis, pursuant to CEQA.

3.7.3 Regulatory Setting

Global climate change is addressed through the efforts of various federal, state, regional, and local government agencies as well as national and international scientific and governmental conventions and programs. These agencies work jointly and individually to understand and regulate the effects of GHG emissions and resulting climate change through legislation, regulations, planning, policymaking, education, and a variety of programs. The significant agencies, conventions, and programs focused on global climate change are discussed below and in Appendix A.

3.7.3.1 State

California Air Resources Board

CARB, a part of the California EPA (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts. CARB has also recently adopted a statewide GHG emissions limit for 2020 (427 MMT CO_2e), an emissions inventory, and requirements to measure, track, and report GHG emissions by major industries.

Executive Order S-30-15

California Governor Jerry Brown announced on April 29, 2015 through Executive Order B-30-15 a new statewide policy goal to reduce GHG emissions 40 percent below their 1990 levels by 2030. This order acts as an intermediate goal to achieving 80 percent reductions by 2050 as outlined in Executive Order S-3-05 below.

Executive Order S-3-05

California Governor Arnold Schwarzenegger created on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels
- By 2020, California shall reduce GHG emissions to 1990 levels
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels

The Secretary of CalEPA has been charged with coordination of efforts to meet these targets and formed the Climate Action Team (CAT) to implement the Order. The CAT also provided strategies and input to CARB's Climate Change Scoping Plan discussed below.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

The California Global Warming Solutions Act of 2006 (AB 32) recognizes that California is a major contributor to U.S. GHG emissions. AB 32 acknowledges that such emissions cause significant adverse impacts to human health and the environment, and therefore must be identified and mitigated where appropriate. AB 32 also establishes a state goal of reducing GHG emissions to 1990 levels by 2020 – a reduction of approximately 30 percent from projected state emission levels and 15 percent from current state levels, with even more substantial reductions required in the future.[2]

CARB has adopted the Climate Change Scoping Plan, which outlines the state's strategy to achieve the 2020 GHG limit set by AB 32. This Scoping Plan proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify energy sources, save energy, create new jobs, and enhance public health.

Senate Bill 375

The passage of Senate Bill (SB) 375 on September 30, 2008 created a process whereby local governments and other stakeholders must work together within their region to achieve the GHG reductions specified in AB 32 through integrated development patterns, improved transportation planning, and other transportation measures and policies. Additionally, SB 375 required that those targets be incorporated within a Sustainable Communities Strategy (SCS), a newly required element within the Metropolitan Planning Organization's (MPO's) Regional Transportation Plan.

On September 23, 2010, CARB adopted the vehicular GHG emissions reduction targets that require a 7 percent to 8 percent reduction by 2020 and between 13 percent and 16 percent reduction by 2035 relative to emissions in 2005 for each MPO. Southern California Association of Governments (SCAG) is the MPO for the Southern California region and is required to work with local jurisdictions. CARB has determined SCAG's reduction target for per capital vehicular emissions to be 8 percent by 2020 and 13 percent by 2035.

Senate Bill 97

SB 97, passed in 2007, amends CEQA to establish that GHG emissions and their effects are appropriate subjects for CEQA analysis, and directs the Office of Planning and Research (OPR) to develop draft CEQA Guidelines for evaluating and mitigating GHG emissions and global climate change effects. In March 2010, the California Office of Administrative Law codified into law CEQA amendments that provide regulatory guidance with respect to the analysis and mitigation of the potential effects of GHG emissions, as found in CEQA Guidelines Section 15183.5. The California Resources Agency adopted the GHG regulatory guidance into the CEQA Guidelines in January 2009.

However, neither a threshold of significance nor any specific mitigation measures are included or provided in these CEQA Guidelines Amendments. The CEQA Guidelines require a lead agency to make a good-faith effort based on the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. The Guidelines give discretion to the Lead Agency whether to: 1) use a model or methodology to quantify GHG emissions resulting from a project, and which model or methodology to use; and/or 2) rely on a quantitative analysis or performance-based standards. Further, the Guidelines identify three factors that should be considered in the evaluation of the significance of GHG emissions:

[2] CARB has determined the statewide levels of GHG emissions in 1990 to be 427 MMT CO_2e.

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; and
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.

Executive Order S-13-08

Executive Order S-13-08, the Climate Adaptation and Sea Level Rise Planning Directive, provides clear direction for how the state should plan for future climate impacts. The first result is the 2009 California Adaptation Strategy report which summarizes the best known science on climate change impacts in the state to assess vulnerability and outlines possible solutions that can be implemented within and across state agencies to promote resiliency.

California Building Code (Title 24 of the California Code of Regulations)

Title 24 of the California Code of Regulations is known as the California Building Code (CBC). The CBC was updated in 2016 and includes the following:

California Code of Regulations Title 24, Part 6 comprises the California Energy Code, which was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to increase the baseline energy efficiency requirements. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

California Code of Regulations Title 24, Part 11 comprises the California's Green Building Standard Code (CALGreen), which establishes mandatory green building code requirements as well as voluntary measures (Tier 1 and Tier 2) for new buildings in California. The mandatory provisions in CALGreen will reduce the use of VOC-emitting materials, strengthen water efficiency conservation, increase construction waste recycling, and increase energy efficiency. Tier 1 and Tier 2 are intended to further encourage building practices that minimize the building's impact on the environment and promote a more sustainable design.

3.7.3.2 Regional

Monterey Bay Unified Air Pollution Control District

MBUAPCD shares responsibility with CARB for ensuring that state and national ambient air quality standards (AAQS) are achieved and maintained within the NCCAB. State law assigns local air districts the primary responsibility for control of air pollution from stationary sources while reserving to CARB an oversight function. MBUAPCD is responsible for developing regulations governing emissions of air pollution, permitting and inspecting stationary sources of air pollution, monitoring of ambient air quality, and air quality planning activities, including implementation of transportation control measures (MBUAPCD 2008).

MBUAPCD monitors air quality and regulates stationary emission sources in the County. As a responsible agency under CEQA, MBUAPCD reviews and approves environmental documents prepared by other lead agencies or jurisdictions to reduce or avoid impacts on air quality and to ensure that the lead agency's environmental document is adequate to fulfill CEQA requirements. As a concerned agency, the MBUAPCD comments on environmental documents and suggests mitigation measures to reduce air quality impacts.

MBUAPCD Air Quality Management Plan (2012-2015)

The California Clean Air Act (CCAA) requires attainment of state AAQS by the earliest practicable date. For air districts in violation of the state ozone, carbon monoxide, sulfur dioxide, or nitrogen dioxide standards, attainment plans were required by July 1991. The MBUAPCD was required to develop an attainment plan to address ozone violations. The CCAA requires the MBUAPCD to periodically prepare and submit a report to CARB that assesses its progress toward attainment of the state AAQS. This report is the seventh update to the 1991 Air Quality Management Plan (AQMP), and updates elements included in the 2012 AQMP based on a review of the period from 2012-2015. It shows that the region continues to make progress toward meeting the state ozone standard.

This AQMP only addresses attainment of the state ozone standard. It is an assessment and update to the 2012 Triennial Plan. In 2012, the U.S. EPA designated the NCCAB as attainment with the national 8-hour ozone standard of 0.075 ppm. In 2015, the national standard was revised to 0.070 ppm. The NCCAB continues to be in attainment with the stricter national standard (MBUAPCD 2017).

Association of Monterey Bay Area Governments

The Association of Monterey Bay Area Governments (AMBAG) is the MPO/Regional Transportation Planning Agency (RTPA) for the Monterey Bay Area, which is responsible for coordinating with all the RTPAs, such as San Benito County Council of Governments, the Santa Cruz County Regional Transportation Commission, and the Transportation Agency of Monterey County. The MBUAPCD will work closely with AMBAG and its constituents to include appropriate air quality components in the Sustainable Communities Strategy Implementation Project (SCSIP), the 2040 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS), and other local and regional projects to ensure the most comprehensive regional best management practices possible.

Population forecasts adopted by AMBAG are used to forecast population-related emissions. Through the planning process, emission growth is offset by basin-wide controls on stationary, area, and transportation sources of air pollution.

3.7.3.3 Local

County of Santa Cruz General Plan and Local Coastal Program (LCP)

Circulation Element

Objective 3.1 – Vehicle Miles. To limit the increase in Vehicle Miles Traveled (VMT) to achieve as a minimum, compliance with the current Air Quality Management Plan.

Vehicle Miles Policy 3.1.1 – Land Use Patterns (Jobs/Housing Balance). Encourage concentrated commercial centers, mixed residential and commercial uses, and overall land use

patterns which reduce urban sprawl and encourage the reduction of vehicle miles traveled per person.

Objective 3.2 – Vehicle Occupancy. To increase the average number of persons per commute vehicle to 1.35 persons per vehicle while pursuing a goal of reducing automobile trips to a maximum of 60 percent of all trips through encouragement of alternative transportation by transit, bicycles, and walking.

Vehicle Occupancy Policy 3.2.1 – Trip Reduction. Require all existing and proposed development to comply with all provisions of the Trip Reduction ordinance.

Vehicle Occupancy Policy 3.2.2 – Mode Split. Encourage large employers to provide incentives to carpoolers, bicyclists, pedestrians, and transit riders such as priority parking, company car use, bicycle lockers, bus passes etc. in conjunction with the Trip Reduction ordinance.

Vehicle Occupancy Policy 3.2.3 – Employee Carpool Program. Encourage large new developments to establish pool programs for car, van or bus pools.

Vehicle Occupancy Policy 3.2.4 – Park and Ride. Encourage the use of parking areas in new and existing large developments for Park and Ride purposes.

Objective 3.6 – Transit Promotion. To promote opportunities for regular transit use to commute to school, shopping, employment, and recreational resources.

Transit Promotion Policy 3.6.1 – Transit-Friendly Design. Locate and design public facilities and new developments to facilitate transit access, both within the development and outside it.

Conservation and Open Space Element

Objective 5.17 – Energy Conservation (LCP). In accordance with Measure C, The Decade of the Environment Referendum, adopted by the people of Santa Cruz County in June 1990, to maximize conservation and efficient use of energy in the private and public sectors and encourage the development and use of locally available renewable energy resources in order to reduce dependence on imported and nonrenewable energy supplies.

Energy Conservation Policy 5.17.1 – Promote Alternative Energy Sources. Promote the use of energy sources which are renewable, recyclable, and less environmentally degrading than non-renewable fossil fuels.

Energy Conservation Policy 5.17.2 – Design Structures for Solar Gain (LCP). Require the incorporation of environmentally sound active and passive heating and cooling and/or natural daylighting design principles in the location and construction of all new buildings and in the renovation and remodeling of existing buildings.

Energy Conservation Policy 5.17.3 – Solar Access (LCP). Encourage maximum solar access orientation in siting development, and require protection of solar access in existing development.

Energy Conservation Policy 5.17.4 – Retrofit Programs. Encourage and stimulate energy conservation and the use of renewable energy through retrofit programs for residential, agricultural, commercial, public facilities, and industrial land uses.

Energy Conservation Policy 5.17.5 – Weatherization Improvements (LCP). Require energy efficiency and weatherization improvements in existing and new development including

insulation, water conservation techniques, and encourage the installation of solar heating systems. Require a retrofit to meet energy efficiency standards upon sale or transfer of ownership.

Objective 5.18 – Air Resources. To improve the air quality of Santa Cruz County by meeting or exceeding state and federal ambient air quality standards, protect County residents from the health hazards of air pollution, protect agriculture from air pollution induced crop losses and prevent degradation of the scenic character of the area.

Air Resources Policy 5.18.1 – New Development. Ensure new development projects are consistent at a minimum with the Monterey Bay Unified Air Pollution Control District Air Quality Management Plan and review such projects for potential impact on air quality.

Air Resources Policy 5.18.2 – Non-Attainment Pollutants. Prohibit any net increase in emissions of non-attainment pollutants or their precursors from new or modified stationary sources which emit 25 tons per year or more of such pollutants.

Air Resources Policy 5.18.3. – Air Quality Mitigations. Require land use projects generating high levels of air pollutants (i.e., manufacturing facilities, hazardous waste handling operations) to incorporate air quality mitigations in their design.

Air Resources Policy 5.18.5 – Sensitive Land Uses. Locate air pollution sensitive land uses, including hospitals, schools, and care facilities, away from major sources of air pollution such as manufacturing, extracting facilities.

Air Resources Policy 5.18.6 – Plan for Transit Use. Encourage commercial development and higher density residential development to be located in designated centers or other areas that can be easily served by transit.

Air Resources Policy 5.18.7 – Alternatives to the Automobile. Emphasize transit, bicycles, and pedestrian modes of transportation rather than automobiles.

Air Resources Policy 5.18.8 – Encouraging Landscaping. Maintain vegetated and forested areas, and encourage cultivation of street trees and yard trees for their contributions to improved air quality.

Air Resources Policy 5.18.9 – Greenhouse Gas Reduction. Implement state and federal legislation promoting the national goal of 35 percent reduction of carbon dioxide and other greenhouse gases by 2000.

Air Resources Policy 5.18.10 – Elimination of Ozone Depleting Chemicals. Support and implement local actions to achieve the most rapid possible international, national, state, and local elimination of the emission of ozone-depleting chemicals.

Santa Cruz County Code (SCCC)

Chapter 7.110 – Ozone-Depleting Compounds

The purpose of this chapter is to protect the environment, and the health, safety and welfare of the County's citizens by prohibiting the manufacture, sale and distribution of certain products made of or with CFCs involved in the manufacturing process, and by significantly reducing the release of halons into the earth's atmosphere.

County of Santa Cruz Climate Action Strategy

The County's Climate Action Strategy (CAS) outlines a course of action to reduce GHG emissions produced by governmental operations and community activities within the unincorporated County. Implementation of the CAS builds on the fact that the County has already met the 2020 emissions reduction target recommended by the state, and sets the County on a path toward reducing emissions to 59 percent below 2009 levels by 2050.

The CAS articulates a broad strategy for reaching emission reduction goals, identifies individual programs, policies, and initiatives to work toward these goals, and includes strategies to reduce emissions in the major focus areas of transportation, energy, and solid waste. The CAS also describes the particular ways in which the County may be vulnerable to impacts of climate change, and suggests adaptation strategies for further consideration and implementation.

An implementation plan is included in the CAS (Chapter 4). Annual reports on implementation of the CAS track and evaluate activities that are being relied upon to reduce GHGs and prepare for impacts of climate change. The annual reports to the Board of Supervisors provide information on the ongoing programs and projects each department is pursuing, and new initiatives each department intends to pursue to implement the CAS each fiscal year (County of Santa Cruz 2013).

Sustainable Santa Cruz County Plan

Accepted in 2014 as a planning and feasibility study, the Sustainable Santa Cruz County Plan articulates a community-based vision for a more sustainable way of life in the urban areas of the unincorporated County, specifically Live Oak, Soquel, and Aptos. The Plan integrates the County's land use and transportation policies in a way that protects existing single family neighborhoods and environmental resources, supports economic growth, and increases access to opportunity for all County residents.

The Plan is intended to help implement the County's CAS, and a primary goal of the Plan is to reduce production of GHG emissions, which in the County are generated principally by the use of cars. The Plan identifies that coordination of land use and transportation policies to decrease reliance on the single-occupancy vehicle, increase the use of transit, and support walking and biking is key to reducing emissions. Recommendations in the Sustainable Santa Cruz County Plan are in the process of being incorporated into the County's General Plan, and would implement three of the top five strategies in the CAS.

3.7.4 Methodology and Assumptions

This analysis of potential GHG impacts reviews the existing GHG emissions described in Section 3.7.2, *Environmental Setting*, and determines the Program's potential impacts on GHG emissions, including the Project and the More Permissive Project scenarios. For analysis of air quality, please see Section 3.3, *Air Quality*. Refer to Section 3.0, *Introduction and Approach to Analysis*, for a detailed discussion of projected cannabis activities in the County due to Program implementation.

To address direct impacts from operational emissions, CalEEMod was run in August 2017 to provide a conservative estimate of operational GHG emissions potentially produced from the increase in cannabis cultivation above existing activities. Emissions from cultivation are generated from electricity demand from indoor and greenhouse cultivators, water demand from all cultivation types,

and vehicle trips/miles traveled from cannabis industry employment. Since cannabis cultivation is a unique land use type that does not have predetermined factors for CalEEMod, user-defined land uses for indoor, greenhouse, and outdoor cultivation were run through the model, with the following assumptions for cultivation demands:

Table 3.7-1 CalEEMod Assumptions by Cultivation Type

Emission Source	Indoor	Greenhouse	Outdoor
Water Demand	0.1 gallons of water per day per sf with a growing season of 365 days	0.1 gallons of water per day per sf with a growing season of 270 days	0.03 gallons of water per day per sf with a growing season of 180 days
Electricity	200,000 kWh/year of electricity per 1,000 sf of canopy	110,000 kWh/year of electricity per 1,000 sf of canopy	N/A
Vehicle Daily Trips (employees only)	An average daily traffic trip rate of 1.64/1,000 sf of canopy with employees commuting 6 days a week		

Sources: ODOE 2017; County of Santa Cruz 2017; RAND 2010.
Detailed CalEEMod assumptions and results can be found in Appendix F.

Electricity demand estimates used the Oregon Department of Energy's (ODOE) Indoor Cannabis Cultivator Energy Use Estimator. As a conservative estimate of energy demand of indoor cultivation, high energy usage was assumed, which includes high wattage high intensity discharge (HID) fixtures, unvented, high light density (less than 40 sf per light), significant supplemental cooling and/or heating to grow space, high volume ventilation and air circulation (high level of air changes) that operates the majority of the time, as well as multiple other energy using equipment, including dehumidification, pumping and water temperature control, and CO_2 production. The calculations assume a typical 12 to 18 hour per day light operation for vegetative and flowering phases and a continuous grow cycle. The model estimates the energy demand for indoor cultivators would be 200,000 kilowatt hours (kWh) per year per 1,000 sf of canopy. For estimated energy demand from greenhouse cultivators, it was assumed that approximately one half of these operations would be medium-high energy users and one half would be medium-low energy users reflecting the assumption these operations would include a mixture of cultivation types. Medium-high energy use includes high wattage HID fixtures with medium light density (40-60 sf per light), significant supplemental cooling and/or heating to grow space, high volume ventilation and air circulation that is frequently on, and minimal dehumidification, pumping, CO2 production, or additional energy usages. Medium-low energy usage includes high wattage HID fixtures at low light fixture density (greater than 60 sf per light), very minimal or no supplemental cooling or heating to grow space, minimal mechanical ventilation and air circulation (ventilation only used minimally and not continuously to control temperature), and no dehumidification, pumping, CO_2 production, or additional energy usages. The model estimates medium-high energy demand would be 140,000 kWh/year/1,000 sf, and medium low energy demand would be 80,000 kWh/year/1,000 sf. The average of these two numbers is 110,000 kWh/year/1,000 sf (ODOE 2017). See Section 3.14, *Utilities and Energy Conservation*, for more discussion on electricity rates.

Average cannabis water demand factors were determined based on literature review and observed conditions by the County Licensing Office staff (County of Santa Cruz 2017b). These factors assume that all operations would utilize new water (i.e., no water would be recycled and reused onsite) to project a reasonable worst case water demand from new cannabis cultivation. Total water demands were estimated based on estimated new cultivation/canopy area for outdoor, indoor, and greenhouse

operations, average water demand factors calculated for cannabis cultivation, and standard number of growing days based on type of operation. See Section 3.14, *Utilities and Energy Conservation*, for more discussion on water use rates.

Mobile emissions were estimated based on an average daily trip rate for cannabis cultivation derived from research conducted by the RAND Drug Policy Center and the ERA Economics study (RAND 2010) (ERA Economics, LLC for CA Department of Food and Agriculture 2017). See Section 3.13, *Transportation and Circulation* for analysis of average daily trip rates and transportation impacts.

This analysis programmatically addresses emissions from manufacturing operations and construction of cannabis-related structures, including any residential units, where the use of CalEEMod was unreliable or infeasible due to the speculative nature of these activities. Utility and energy demands resulting from new home occupation-scale cannabis product manufacturing are not assessed, as demands are largely represented as part of the existing Countywide conditions and would represent a negligible increase over existing demands. The construction of up to 228 new homes associated with cultivation sites would have to comply with established building codes including strict state-wide energy efficiency standards. It is assumed that manufacturing facilities would occur in existing buildings and any new commercial buildings, or improvements to existing buildings and greenhouses, would also have to comply with energy efficiency and renewable energy standards in the building code. Therefore, energy demand associated with manufacturing operations and construction of cannabis-related structures is considered to be minimal.

Impacts related to GHG emissions are assessed through the evaluation of existing GHG levels in the County, review of existing policy framework for GHG emissions, review of the Program's requirements, and comparison of the Program's potential emissions with recommended thresholds of significance. The Program is reviewed for the potential to result in a significant increase in GHG emissions, as well as potential inconsistencies of the Program with the County CAS. The analysis takes into consideration the existing General Plan policies that align with statewide goals for GHG reductions, such as trip reduction policies. The analysis also accounts for provisions of the Program, including the proposed requirement that: "All licenses issued under [the Program] must be consistent with the County's policies, objectives, laws, regulations, and programs related to land use, including those related to the County's General Plan and Local Coastal Program."

3.7.5 Significance Criteria

CEQA Guidelines Thresholds

Significance criteria for evaluating impacts on GHG emissions associated with the Program are based on Appendix G of the 2017 CEQA Guidelines. Implementation of the Program would have a significant impact related to GHG emissions if the Program would result in any of the following:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

Bay Area AQMD GHG Thresholds

The County's CAS is consistent with AB 32 goals and meets the standards for a Qualified GHG Reduction Plan. If the Program is consistent with the CAS, it can be presumed that the Program would not have significant GHG emission impacts. This approach is consistent with CEQA Guidelines Section 15183.5(b), which provides a programmatic GHG reduction plan to streamline project level analysis.

In addition, as the MBUAPCD has not adopted its own thresholds of significance for GHGs, Bay Area AQMD (BAAQMD) GHG thresholds were used in this analysis at the recommendation of MBUAPCD staff (BAAQMD 2017).

For plan-level projects, BAAQMD operational-related thresholds for GHGs are:

- Compliance with a Qualified GHG Reduction Strategy; or
- 4.6 MT CO_2e/Service Population/year[3].

If annual emissions of operational-related GHG emissions exceed these thresholds, the proposed Program would result in a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact to global climate change.

3.7.6 Environmental Impact Analysis and Mitigation

This section discusses the potential GHG emissions and climate change impacts associated with the Program. A detailed discussion of each impact follows. Where there are potentially significant or significant and unavoidable impacts, mitigation measures are proposed and the residual impact is determined. Impacts are summarized in Table 3.7-7.

3.7.6.1 Program Impacts

Impact GHG-1. Commercial cannabis cultivation and manufacturing under the Program could potentially generate significant levels of GHG emissions and be inconsistent with the County of Santa Cruz Climate Action Strategy. Impacts would be less than significant with mitigation.

Impact GHG-1.1 – Direct and Indirect Cultivation/Manufacturing. Direct impacts from the Program are related to GHG emissions caused by the direct cultivation and/or manufacturing of cannabis in the County. In order to determine if GHG emissions generated by the direct impacts of the Program are significant, the Program GHG emissions estimated using CalEEMod (see Appendix F) were compared to the CAS for consistency.

The CAS provides the GHG emissions inventories and emissions reduction targets for the County, and identifies GHG reduction strategies the County will use to achieve the 2035 and 2050 emissions reduction target (the County has already met the 2020 target). Based on this structure of the CAS, a project which is consistent with the CAS would simultaneously be consistent with AB 32 and EO S-3-05. In order to determine the impact significance of the proposed Program on GHG emissions, the Program was evaluated for its consistency with the CAS. The Program would apply to agricultural,

[3] Service population includes residents and employees.

commercial, and industrial land uses, which are accounted for in the CAS' GHG emissions inventory. In addition, the Program would apply to residential land uses, but only with allowances for cannabis home occupation uses, which would not differ from baseline conditions for residential uses, and, therefore, home occupations are not addressed further in this analysis.

The CAS' Community Inventory includes GHG emissions from the use of electricity and natural gas in residences and businesses, as well as from vehicles traveling on local roads and state highways in unincorporated portions of the County. The Agriculture Inventory includes GHG emissions from fuel for equipment and excess nitrogen from fertilizer. The electricity use for water pumps used for irrigating crops is included in the community inventory, so agricultural emissions are addressed using rough estimates of emissions from agricultural fuel and fertilizer use. These emissions inventories for the unincorporated areas of the County in 2009 are detailed in Table 3.7-2 below.

Table 3.7-2 County of Santa Cruz Climate Action Strategy GHG Emissions Inventories

Emissions Inventory	Inventory Sector/Type	MT CO_2e/year Emitted in 2009
Community	Transportation	481,787
	Residential	189,658
	Commercial & Industrial	101,588
	Solid Waste	18,245
	Total	**791,278**
Agriculture	Pasture	703
	Strawberries	4,576
	Miscellaneous Vegetables	4,388
	Raspberries	600
	Apples	1,388
	Lettuce, Leaf	1,813
	Lettuce, Head	1,777
	Brussels Sprouts	1,145
	Wine Grapes	223
	Miscellaneous Tree and Vine Fruit	177
	Total	**16,791**
TOTAL		**808,069**

Source: County of Santa Cruz 2013.

In the unincorporated County, the state's GHG emissions reduction goal for 2020 has already been met, as a result of the closure of the Davenport Cement Plant (CEMEX). However, in order to meet the 2035 and 2050 targets, total Community GHG emissions in the unincorporated areas of the County must be reduced by 300,000 MT CO_2e (38 percent below 2009 levels) and 470,000 MT CO_2e (59 percent below 2009 levels), respectively (see Table 3.7-2 for Community Inventory emissions). Under the "business as usual" scenario (BAU), which assumes no new actions are taken to reduce emissions, Community GHG emissions would reach 827,076 MT CO_2e in 2020, and 878,894 MT CO_2e in 2035. Therefore, under BAU projections, Community GHG emissions must be reduced by 380,000 MT CO_2e (43 percent below BAU forecast) to meet the 2035 target, and 590,000 MT CO_2e (64 percent below BAU forecast) to meet the 2050 target. Taking into account the emissions reductions potential of all

strategies, the CAS calculated a maximum potential reduction of 395,010 MT CO_2e by 2035, with 380,000 MT CO_2e needed by 2035 to make the County's emissions reduction target.

While cannabis cultivation is by its nature an agricultural land use, it is also unique in that it is often conducted in indoor and greenhouse spaces that require more energy and water than other crop types. Additionally, cannabis cultivation commonly requires daily tending with peaks of activity during harvests, which necessitates onsite employees similar to other crop types. Using typical rates for energy, water, and average daily employee trips, operation-generated GHG emissions from potential future cannabis cultivation were estimated using CalEEMod. Table 3.7-3 summarizes the annual GHG emissions from the potential future indoor, greenhouse, and outdoor cannabis cultivation combined, and represents a conservative estimate of annual GHG emissions under the Program. This represents the additional increment of new activity, or expansion of existing activity, beyond that baseline level that is attributable to the Program. It is that additional increment of cultivation and manufacturing that is measured for this analysis. The annual GHG emissions from full buildout of the Program would be 273,266 MT CO_2e/year. The majority of these emissions stem from the high electricity use in indoor and greenhouse cultivation facilities, which use a conservatively estimated 200,000 kWh/year for 1,000 sf of an indoor facility, and 110,000 kWh/year for 1,000 sf of a greenhouse facility. As discussed in Section 3.7.4, *Methodology and Assumptions*, this assumes the usage of high wattage HID fixtures and other common energy using equipment utilized in indoor and greenhouse grow facilities.

Table 3.7-3 Operational GHG Emissions from Full Buildout of Proposed Indoor, Greenhouse, and Outdoor Cannabis Cultivation (Unmitigated)

	CO_2e
Annual Operational Emissions (MT/yr)	
2019	273,266
TOTAL	273,266

Note: Emissions of CO_2e are estimated using CalEEMod for area, energy, and mobile source emissions (see Appendix F for detailed CalEEMod assumptions and reports).

The Program would potentially contribute 273,266 MT CO_2e/year in GHG emissions to the unincorporated areas of the County, which is an amount of GHG emissions not contemplated by the CAS. In order for the County to achieve its 2035 target of reducing GHG emissions by 380,000 MT CO_2e, additional measures would be needed by the CAS that are not currently programmed.

The Program includes the issuance of up to 80 manufacturing licenses per year including 8 home occupation licenses, 60 small to medium scale manufacturers, and 20 new larger, higher-yield manufacturers. Most of the activity associated with these licenses would occur in existing buildings and would not represent an increase in GHG emissions. Half of the non-home occupation businesses would be occurring at cultivation sites, with the other half at other eligible sites. New building construction for manufacturing cannabis products would be a minor contribution to the total Program GHG emissions.

While the County has a range of goals and policies addressing GHG emission reduction, including energy efficiency, water efficiency, and trip reduction, the Program does not require measures for future cannabis licensees. Therefore, the Program would not be consistent with the CAS, and direct GHG emissions impacts would be *potentially significant* for both the Project and the More Permissive Project.

In addition to being potentially inconsistent with the CAS, if the Program GHG emissions are compared to BAAQMD's recommended GHG threshold of 4.6 MT CO_2e per service population (SP) per year, GHG emissions from future potential cannabis cultivation under the Program are found to be considerably over the 4.6 MT CO_2e/SP/year threshold, as calculated in Table 3.7-4 below.

Table 3.7-4 Unmitigated Program Emissions Compared to Operational GHG Emissions Thresholds

GHG Emissions Factors	Program
Residential Population[1]	0
Jobs[2]	7,116
Service Population (Population + Jobs)	7,116
Annual GHG Threshold in MT CO_2e/yr (SP * 4.6 MT CO_2e/yr)	32,733.6
Annual GHG Emissions (MT CO_2e/yr)[3]	273,266
Annual GHG Emissions/Service Population (MT CO_2e/SP/yr)	8.3
Threshold (MT CO_2e/SP/year)	4.6
Above Threshold?	YES

[1] Residential population is 0 since CalEEMod only calculated GHG emissions from the direct impacts of cannabis cultivation under the Program, and did not assess the indirect impacts of additional houses that would be developed under the Project, which are the only reason for an increase in residential population in the unincorporated areas of the County. Therefore, the service population only includes employees created by the Program.

[2] See Section 3.12, *Population, Employment, and Housing*, for details on number of employees generated by the Program.

[3] Emissions of CO_2e are estimated using CalEEMod for area, energy, and mobile source emissions (see Appendix F for detailed CalEEMod assumptions and reports).

Source: BAAQMD 2017.

The Program would result in GHG emissions totaling 8.3 MT CO_2e/SP/year, which would exceed the 4.6 MT CO_2e/SP/year threshold. The Program's prohibition of generator use would have a nominal decrease in existing GHG emissions, but would not reduce GHG emissions below the threshold. Therefore, GHG emissions would still be considered a *potentially significant* impact for both the Project and the More Permissive Project.

Indoor cannabis cultivation can involve high-intensity lights, heating, cooling, dehumidification, and water demands that require high levels of energy with commensurate levels of GHG generation. However, measures to ensure energy efficiency would help to reduce GHG generation.

In addition, indirect impacts of the Program would result from GHG emissions due to the construction of up to 228 new onsite residential units required to cultivate, along with any associated roads, utility infrastructure, and site improvements to support onsite cannabis cultivation operations. Residences would be required for eligible parcels within A, RA, TP, and SU zone districts. Additionally, fire code requirements would require onsite water tanks, roadways, and vegetation clearing as described in Section 3.0, *Introduction and Approach to Analysis*.

GHG emissions produced by the operation of these new houses and associated infrastructure under the Project would be characteristic of a typical rural single family home's emissions, and would constitute an incremental increase in GHG emissions in the County by itself; however, as emissions from indirect impacts are considered in addition to direct impact emissions, they would add onto the already potentially significant levels of GHG emissions (see Table 3.7-3 above). Therefore, indirect impacts related to GHG emissions would be *potentially significant* for both the Project and the More Permissive Project.

Mitigation Measures

Implement MM LU-1.1.6. Cannabis Best Management Practices. Implementation of best management practices related to energy efficiency for indoor and greenhouse cultivation would apply to Impact GHG-1.

MM GHG-1.1. Alternative Energy Sources. To reduce direct and indirect impacts related to GHG emissions from cannabis activities, proposed SCCC Chapter 7.128 and 7.132 shall be revised prior to adoption of Program regulations, to include the following provisions:

Electrical power for indoor cultivation operations including but not limited to illumination, heating, cooling, and ventilation shall be provided by alternative energy sources according to the following priority: 1) on-grid power with 100-percent renewable or carbon-free source (a planned product of Monterey Bay Community Power in 2018), or 2) a combination of grid power and on site renewable generation to achieve annual zero net electrical energy usage, or 3) purchase of carbon offsets of any portion of power not from renewable or carbon-free sources. As a first priority, carbon offsets shall be purchased through a qualified local entity such as The Offset Project.

For new buildings, onsite solar photovoltaic systems shall be required, and retrofitted buildings shall be encouraged to install onsite solar photovoltaic systems to offset energy demand.

All indoor cannabis cultivation and manufacturing facilities shall exceed the minimum standards of Title 24, Part 11 (CalGreen) by adopting all or some elements of CalGreen Tier 1 and 2 voluntary elective measures to increase energy efficiency in new buildings, remodels and additions. These measures shall prioritize upgrading lighting (e.g., using light-emitting diode [LED] lights) in indoor and greenhouse grow rooms, heating and cooling systems, appliances, equipment and control systems to be more energy efficient.

> **Plan Requirements and Timing.** SCCC Chapter 7.128 and 7.132 shall be revised prior to adoption of the Program. The Licensee shall submit building plans to the County Cannabis Licensing Office and the County Planning Department Building Division for review and approval to ensure compliance and exceedance of the minimum energy efficiency standards of CalGreen and renewable or carbon-free power supply requirements prior to cultivation and/or manufacturing activities and issuance of a license. The Licensee shall demonstrate compliance to the County Cannabis Licensing Office and the Building Division through a site visit or documentation.
>
> **Monitoring.** The Board of Supervisors shall revise SCCC Chapter 7.128 and 7.132 prior to adoption. The Licensing Official shall determine that a site adheres to MM GHG-1.1 before issuance of a license.

Post-Mitigation Level of Impacts

With implementation of MM GHG-1.1, emissions due to direct and indirect impacts of cannabis cultivation and/or manufacturing would be reduced over time through the increase of energy efficiency and the use of renewable and carbon-free energy in newly improved and licensed cultivation and/or manufacturing facilities. The requirements of MM GHG-1.1 would effectively eliminate nearly all of the GHG emissions associated with projected cultivation operations under the Program. As shown in Table 3.7-5, with the application of 100-percent renewable energy to CalEEMod's mitigation scenario, GHG emissions would be reduced from 273,266 MT CO_2e/year to 26,782 MT CO_2e/year. Compared to BAAQMD thresholds, the mitigated annual GHG emissions/Service Population would be reduced from 8.3 MT CO_2e/SP/year to 0.8 MT CO_2e/SP/year, which is well below the threshold of 4.6 MT CO_2e/SP/year (see Table 3.7-6). This would reduce GHG emissions below the threshold established by the BAAQMD and would ensure consistency with the CAS and the County's and state's goals for GHG reduction. Therefore, direct impacts would be *less than significant with mitigation*.

Table 3.7-5 Operational GHG Emissions from Full Buildout of Proposed Indoor, Greenhouse, and Outdoor Cannabis Cultivation (Mitigated)

	CO_2e
Annual Mitigated Operational Emissions (MT/yr)	
2019	26,782
TOTAL	26,782

Note: Emissions of CO_2e are estimated using CalEEMod for area, energy, and mobile source emissions (see Appendix F for detailed CalEEMod assumptions and reports).

Table 3.7-6 Mitigated Program Emissions Compared to Operational GHG Emissions Thresholds

GHG Emissions Factors	Mitigated Program Emissions
Residential Population[1]	0
Jobs[2]	7,116
Service Population (Population + Jobs)	7,116
Annual GHG Threshold in MT CO_2e/yr (SP * 4.6 MT CO_2e/yr)	32,733.6
Annual GHG Emissions (MT CO_2e/yr)[3]	26,782
Annual Mitigated GHG Emissions/Service Population (MT CO2e/SP/yr)	0.8
Threshold (MT CO_2e/SP/year)	4.6
Above Threshold?	NO

1 Residential population is 0 since CalEEMod only calculated GHG emissions from the direct impacts of cannabis cultivation under the Program, and did not assess the indirect impacts of additional houses that would be developed under the Project, which are the only reason for an increase in residential population in the unincorporated areas of the County. Therefore, the service population only includes employees created by the Program.

2 See Section 3.12, *Population, Employment, and Housing*, for details on number of employees generated by the Program.

3 Emissions of CO_2e are estimated using CalEEMod for area, energy, and mobile source emissions (see Appendix F for detailed CalEEMod assumptions and reports).

Source: BAAQMD 2017.

3.7.6.2 Summary of Program Impacts and Proposed Mitigation Measures

Table 3.7-7 below provides a summary of the GHG emissions and climate change impacts resulting from the Program and proposed mitigation measures.

Table 3.7-7 Summary of GHG Emissions and Climate Change Impacts

GHG Impacts	Level of Significance	Mitigation Measures	Post-Mitigation Level of Significance	
			Project	More Permissive Project
Impacts from Commercial Cannabis Cultivation and Cannabis Product Manufacturing				
Impact GHG-1.1. Commercial cannabis cultivation and manufacturing under the Program could potentially generate significant levels of GHG emissions and be inconsistent with the County of Santa Cruz Climate Action Strategy. Impacts would be less than significant with mitigation.				
Direct and Indirect	Potentially Significant	MM LU-1.1.6. Cannabis Best Management Practices MM GHG-1.1. Alternative Energy Sources	Less than significant with Mitigation	Less than significant with Mitigation

3.7.6.3 Secondary Impacts

Impact GHG-2. New or increased unregulated commercial cannabis cultivation and cannabis product manufacturing under the Program could potentially generate significant levels of GHG emissions and be inconsistent with the County of Santa Cruz Climate Action Strategy. Impacts would be significant and unavoidable.

Impact GHG-2 – Secondary Cultivation/Manufacturing. Currently, there is a substantial but unquantified amount of illegal cannabis cultivation and manufacturing occurring in the County (see Section 3.0, *Introduction and Approach to Analysis*). There is potential for expansion of the existing, baseline illegal activity as a result of the Program in that any licensing program may create the perception that, regardless of any restrictions and limitations of the program, there is opportunity for new cultivation and manufacturing businesses to become established and ultimately licensed within the County. This perception could lead to new cultivation and/or manufacturing activity that would not be licensed or permitted.

In addition, the Program would rescind SCCC 7.126, which offers limited immunity from prosecution to current cultivators as long as the cultivation is occurring in compliance with County regulations. When limited immunity is rescinded it is foreseeable that some portion of the cultivators who are receiving limited immunity, and who may not be eligible for a license, would continue to cultivate and may expand cultivation beyond the 99 plant limit given in SCCC 7.126. The new cultivation would not necessarily conform to County regulations after limited immunity is rescinded and would represent an expansion of illegal activity in the County.

Secondary impacts of the Program are related to GHG emissions produced by the construction and operation of future unregulated cannabis cultivation and/or manufacturing sites, and their associated

infrastructure. Many potential cannabis cultivators would be excluded from licensing by the proposed Program standards, and would likely continue to contribute to increased GHG emissions outside of the Program, such as the use of portable diesel and gasoline generators on a stationary basis for extended periods of time as the site's main energy source. Therefore, secondary impacts related to GHG emissions would be *potentially significant* for both the Project and the More Permissive Project.

Mitigation Measures

Implement MM AT-1.3a. Sustained Enforcement Program. To reduce secondary impacts related to considerable GHG emissions associated with unregulated cannabis cultivation/manufacturing and related development activities, MM AG-1.3a, addressing County implementation of the Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program, shall apply to Impact GHG-2.

Implement MM AT-1.3b. Annual Survey and Monitoring Report. To reduce secondary impacts related to considerable GHG emissions associated with unregulated cannabis cultivation/manufacturing and related development activities, MM AG-1.3b, addressing County criteria for an Annual Survey and Monitoring Report of licensed activities as well as illegal activities, including recommendations regarding enforcement staffing and resources, shall apply to Impact GHG-2.

Post-Mitigation Level of Impacts

With implementation of MMs AG-1.3a and AG-1.3b, unregulated cannabis cultivation and/or manufacturing would be reduced over time either through enforcement/closure of the grow sites or the permitting and licensing of new grow sites. However, due to the high likelihood for continued unregulated cannabis cultivation and manufacturing activities regardless of the enforcement and annual survey programs, and the inability to completely and effectively ensure compliance with the Program's regulations since the locations and nature of these unregulated activities throughout the County are unknown, secondary residual GHG emissions impacts associated with Impact GHG-2 would be *significant and unavoidable*.

3.7.6.4 Cumulative Impacts

The analysis of GHG emissions is cumulative in nature because climate change impacts are related to cumulative global GHG emissions. Additionally, climate change impacts related to GHG emissions do not necessarily occur in the same area as the project is located. The thresholds recommended by the BAAQMD were chosen based on the substantial evidence that such thresholds represent quantitative levels of GHG emissions, compliance with which means that the environmental impact of the GHG emissions will normally not be cumulatively considerable under CEQA. Therefore, the preceding analysis is related to cumulative impacts of GHG emissions, and in this analysis of the Program's contribution to cumulative GHG impacts is determined to be *less than significant with mitigation f*or the Program's direct and indirect impacts from cultivation.

Section 3.8
Hazards and Hazardous Materials

3.8.1 Introduction

Program Impact Analysis
At a Glance
The Program could result in adverse effects related to hazards and hazardous materials from the use of pesticides, flammable extraction processes, and risk of fire. Existing regulations for hazardous materials and mitigation would ensure direct and indirect impacts are less than significant. However, unlicensed cannabis activities could have significant and unavoidable impacts.

This section evaluates issues related to hazards from the Project and More Permissive Project scenarios of the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program). It identifies existing hazards in the County including known hazardous materials locations and applicable regulations. Potential Program impacts are evaluated, and where applicable, mitigation measures are proposed for both the Project and More Permissive Project. Cannabis cultivation and manufacturing may result in environmental impacts related to hazards and hazardous materials, including human and wildlife exposure to hazardous substances and potential for wildfires. Hazards can arise from both manmade and natural conditions, including potential for natural disasters. Hazardous materials involve chemicals, such as petroleum products, solvents, pesticides, herbicides, paints, metals, asbestos, and other regulated materials, that can cause death, serious injury, long-lasting health effects, and damage to buildings, homes, and other property. Areas where historical releases of hazardous materials have occurred could pose a risk to public health and the environment.

Hazards and hazardous materials information in this section is based primarily on information from Santa Cruz County Fire Department (SCCFD) in conjunction with the California Department of Forestry and Fire Prevention (CalFire), California Environmental Protection Agency (CalEPA) Department of Toxic Substances Control (DTSC) EnviroStor Database (EnviroStor), State Water Resources Control Board (SWRCB) GeoTracker Database (GeoTracker), U.S. Environmental Protection Agency (U.S. EPA) EnviroFacts Database (EnviroFacts), and the list of Resource Conservation and Recovery Act (RCRA) hazardous waste generators.

A range of other types of hazards are addressed in other sections of this EIR as follows: geologic hazards, such as earthquakes, landslides and bluff stability are addressed in Section 3.6, *Geology and Soils*; air pollution hazards, such as toxic air contaminants (TACs) and particulate matter (PM), are addressed in Section 3.3, *Air Quality*; water pollution hazards, such as groundwater contamination and surface runoff, are addressed in Section 3.9, *Hydrology and Water Quality*; urban fire hazards and response/suppression systems are discussed in Section 3.12, *Public Services*; and hazardous solid waste disposal is addressed in Section 3.14, *Utilities and Energy Conservation*.

3.8.2 Environmental Setting

The County of Santa Cruz (County) comprises a variety of agricultural, commercial, and industrial uses that involve the handling and storage of potentially hazardous materials. In addition, California State

Routes (Highways) 1, 9, and 17 are primary transportation routes through the coastal and mountainous regions of the County and present risk from possible spills of hazardous materials. Hazardous materials are also transported via Highway 129 and Highway 152, which are main routes through the southern region of the County.

The County's extensive forests, woodlands, chaparral, scrub, and grassland habitats present significant wildfire risk and have been designated as Wildfire Hazard Severity Zones, including the Wildland-Urban Interface Zones, by the SCCFD and CalFire (see Figure 3.8-1). In addition, the County includes the Watsonville Municipal Airport and the private Bonny Doon Village Airport, which both present potential for hazards associated with aviation incidents.

Based on the 2016 License Registration and 2016 Growers Survey data, existing cannabis cultivation operations are concentrated in the Mountain Region and the South County Region, primarily within the San Lorenzo Valley in the Mountain Region and the Pajaro River Valley in the South County Region. Data on the location of existing cannabis manufacturing operations is less robust, but based on Sheriff's Office records and communications with CalFire personnel, these have historically been concentrated in the more remote, mountainous or forested regions of the County. Cannabis manufacturing and processing often occurs on cannabis cultivation sites. Sheriff records and other enforcement data show that existing cannabis operations are associated with fires, use of hazardous materials such as pesticides and highly flammable materials, and on occasion, explosions. Between January 2015 and December 2016, the Sheriff's Office and County code enforcement staff recorded a total of 200 cannabis site related enforcement cases within the County, 32 sites of which were engaging in potentially hazardous or volatile butane honey oil (BHO) extraction processes, which involve the use of flammable or explosive substances (Appendix D). Based on interviews conducted in February and March 2017 with the County Sheriff's Office and the representatives from the local cannabis industry, it is possible that the total number of hazardous cannabis manufacturing sites is much higher; this EIR assumes an existing 400 cannabis manufacturing operations including smaller, medium and larger sized businesses, and that one-half of the operations are located on cultivation sites with the other half distributed throughout the community, as described further in Section 3.0, *Introduction and Approach to Analysis*.

3.8.2.1 Hazardous Sites

The County contains current and former uses involving hazardous materials, resulting in the potential for past and/or ongoing site contamination, and the type of potential contamination varies across the County. For example, the Mountain Region has a long history of timber harvesting and processing, including mills and wood product processing facilities. The Mountain Region includes the three towns of Felton, Ben Lomond, and Boulder Creek, all with existing and past historic commercial uses such as auto repair and gasoline stations. The North Coast Region is primarily rural with agricultural uses and low density residential uses, but this Region includes the former Davenport Cement Plant (CEMEX), which closed in 2010 and is undergoing remediation, as well as the Big Creek Lumber Company sawmill. The Urban Region has a wide range of commercial uses such as gasoline stations, auto repair and paint shops, electronics businesses, and dry cleaners. The South County Region supports scattered commercial uses and extensive agricultural operations. These regions all have some potential for past contamination from historic land uses or current use of hazardous materials.

Existing and historical land uses in the County have varying degrees of hazards risk. Hazardous materials may be found in the materials of older buildings or may have been used routinely for the operation of certain land uses, such as auto repair shops, agricultural fields, medical offices, dry

cleaners, and photo processing centers. Potentially hazardous materials that currently occur throughout the County are typical of those commonly found in smaller urban areas and in agricultural or timber production zones, and generally include gasoline, diesel, propane, pesticides/herbicides, paints, oils, lubricants, and anhydrous ammonia used as a refrigerant in large commercial coolers. In addition, some properties in the County have experienced historical releases of hazardous materials, resulting in potentially contaminated soils and/or groundwater. Land uses that are particularly sensitive to the release of hazards or hazardous materials include residential, educational, assisted living, and daycare, which are located throughout the County.

A review of the U.S. EPA's RCRA 2015 Biennial Report, DTSC's EnviroStor, and SWRCB's GeoTracker indicates that unincorporated areas of Santa Cruz County support over 1,139 known, past, or existing regulated hazardous sites, which have required regulatory oversight to address site contamination issues. These include nine hazardous waste generating sites, 63 hazardous waste cleanup sites, over 580 permitted Irrigated Lands Regulatory Program (ILRP) sites, with historic pollutant runoff, primarily located within the South County Region, and six Leaking Underground Storage Tank (LUST) sites (Table 3.8-1; Appendix L). These databases also identify four hazardous waste generators regulated under the RCRA, one hazardous waste and substances site ('Cortese List' Site), and one superfund site (see Appendix L). However, all sites apart from the North Coast Region Lockheed Martin Space System property, which is designated as a hazardous waste generator and regulated under the RCRA, are located within the incorporated area of Scotts Valley.

Table 3.8-1 Known Regulated Hazardous Sites within the County

Site/Facility Type	Number of Sites
Hazardous Waste Generating Site	9
Superfund Sites	1
Cleanup Program Sites	63
ILRP Sites	586
LUST Cleanup Sites	6
Military Bases	364
Permitted USTs	110
Total	**1,139**

3.8.2.2 Hazardous Materials and Cultivation

As of 2015, the County supports agriculture and timber production on approximately 105,841 acres (County of Santa Cruz 2015; refer also to Section 3.2, *Agricultural and Timber Resources*). Agricultural production activities, including both conventional and organic agriculture, occur throughout the County, but are concentrated primarily in the South County Region. Timber harvesting activities are largely concentrated on the 71,306 acres of TP zoned lands located primarily in the Mountain Region and North Coast Region. Refer to Section 3.2, *Agricultural and Timber Resources,* for detailed discussion of agricultural and timber production land within the County.

Agricultural activities also use regulated hazardous materials, particularly commercial pesticides. Pesticide use is regulated by the County Agricultural Commissioner's Office, with permits required for pesticide application. Such pesticide use is carefully regulated under state law and consistent with guidelines issued by the California Department of Pesticide Regulation (DPR). DPR has published legal pest management practices for cannabis growers in California, which include a list of active ingredients that may be used on cannabis and the pests that these active ingredients target (DPR 2017). Such regulations generally govern the type of pesticide applied, the location, timing and rules of applications. Special consideration is given to application near schools. Agricultural support businesses in the South County Region include those that provide pesticides for commercial agricultural operations. Agricultural activities also often have fuels and oils, such as diesel and

gasoline for equipment and vehicles, which are regulated by the County Environmental Health Department (EHD).

Pesticides – including rodenticides, insecticides, herbicides, fungicides, and other pest controlling substances – are applied in various locations throughout the County to support commercial cultivation of agricultural crops and timber. Consequently, pesticides, fertilizers, and associated contaminants may be present in near-surface soils in residual concentrations at these locations. Many irrigated lands within A, CA, and RA zoned districts are currently required to operate under the ILRP to regulate runoff of pesticides, fertilizers, and sediments from irrigated lands through Waste Discharge Requirements (WDRs or "Orders") issued by the SWRCB.

Pesticide use on timber production lands varies, with herbicides sometimes being applied in the first 2 to 3 years after a harvest to suppress weeds and facilitate seedling growth. Some landowners see herbicides as the most cost-effective means of achieving reforestation goals after logging or fire, and for converting brushy land to forested land; other landowners choose to meet their goals without using herbicides. Other tools available to control unwanted vegetation include cutting brush by hand or with power tools, grubbing grass sod from around individual trees, mowing, and placing mulch mats around individual trees. Targeted grazing by goats or other grazers can also be used to control undergrowth once trees have matured beyond browsing height.

Unpermitted cannabis cultivation and manufacturing operations occur in both agricultural and timber production areas. Although many cultivators state that organic practices are common, as discussed above, the California Department of Fish and Wildlife (CDFW) and Bonny Doon area homeowners have noted concerns over use of acutely hazardous rodenticides which have resulted in known cases of secondary poisoning of predators and other non-target wildlife. Refer to Section 3.4, *Biological Resources,* for more detailed discussion of the existing use of rodenticides and potential impacts to wildlife species.

Because it is currently unregulated, existing cannabis cultivation and manufacturing involves the use of unknown amounts and varieties of pesticides and hazardous materials. However, it is known that pesticides are often used to control rodents, including rats and gophers, and insects, including gnats, mites, and aphids. While discussions with members of the cannabis industry in the County through interviews in January and February 2017 indicate that much of the industry relies on organic techniques rather than chemical pesticides/rodenticides, reports from CDFW and concerned residents indicate that use of rodenticides to control rodent populations is leading to indirect poisoning of wildlife, particularly predators. See Section 3.4, *Biological Resources*, for impacts to wildlife related to pesticides.

3.8.2.3 Hazardous Materials and Manufacturing

The County supports relatively limited amounts of manufacturing and heavy commercial uses, which may be associated with the storage, use, and disposal of hazardous wastes and materials. Existing land designated for manufacturing uses totals 1,074 acres under the M-1, M-2, and M-3 manufacturing zone districts. An additional 132 acres of land are designated C-4, a heavy commercial zone district. Existing M-1 and M-2 designated lands are concentrated in two locations: The former Davenport CEMEX, consisting of 103 acres, occupies the majority of M-2 designated land, while the remainder is located within the Urban Region along Soquel Drive in the Live Oak and Soquel areas. The majority of C-4 designated land is also in this area. There are regulated hazardous waste generators and 35 known contamination sites within the Live Oak and Soquel areas (Appendix L).

Most of the manufacturing designated land (approximately 886 acres) is occupied by eight existing operational and multiple historic stone and mineral quarries designated as M-3, which have limited potential for use or storage given past hazardous materials contamination. As such, uses located within these allowed zoning districts may have engaged or continue to engage in hazardous operations, contain aboveground and underground storage tanks containing fuel, utilize flammable or explosive substances and other hazardous compounds, and/or may expose workers and nearby uses to known hazards associated with mineral extraction processes.

Cannabis manufacturing involves both non-volatile and volatile extraction processes. Non-volatile processes typically involve the use of lower risk solvents, such as water (non-reactive) or alcohol (non-explosive, but flammable), to dissolve tetrahydrocannabinol (THC) from the cannabis plant to produce an extract. Volatile processes typically include or require equipment or substances that are volatile in nature, that is, flammable and/or explosive, such as compressed butane gas and other hydrocarbon compounds, to produce THC extracts typically in the form of BHO or carbon dioxide (CO_2) cannabinoid concentrates and oils. See Chapter 2, *Project Description*, and Appendix D for additional information about cannabis manufacturing processes.

Types of Cannabis Product Manufacturing

Non-flammable Extraction
- Cold water wash, heat press, and non-chemical extraction
- Supercritical fluid CO_2 extraction

Flammable Extraction
- Compressed and uncompressed liquid solvent extractions
- Post-extraction refinement

Infused Products
- Raw cannabis flower/leaf infusion to make edible and topical products

Non-volatile cannabis manufacturing includes low risk preparation of tinctures, extraction of hash using cold water washing, blenders, and crock pots. More hazardous or volatile processes involve hydrocarbon solvents such as pressurized liquefied butane and propane. Although volatile cannabis manufacturing can be performed safely, known problems and reported incidents associated with existing unlicensed and sometimes poorly executed manufacturing operations range from fires and explosions to hazardous materials spills. Such cannabis product manufacturing industry accidents can result in substantial harm to property and persons, both those involved in the process of cannabinoid extraction and unknowing people within the area. Recent incidents include an explosion of a hash oil production operation in a City of Watsonville apartment in October of 2016 and the more recent BHO explosion at the Pasatiempo Inn in Santa Cruz, resulting in fire damage to three hotel rooms when a makeshift lab exploded in January 2017.

A common hazardous practice conducted by some existing unlicensed cannabis sites is the unsafe storage of toxic, flammable, and explosive materials and equipment.

Based on County interviews with existing cannabis manufacturers and suppliers in March and June 2017, there may be 100 or more larger, higher-yield manufacturers operating within the County. Of the survey results received by the County on existing cannabis manufacturing operations, a total of 38 responses were received. Of these results, approximately 25 percent of respondents currently engage in volatile extraction processes. One manufacturer interviewed assumes that for each extraction machine, 100 gallons of butane is stored onsite, with one gallon of butane used per machine per day (Appendix D).

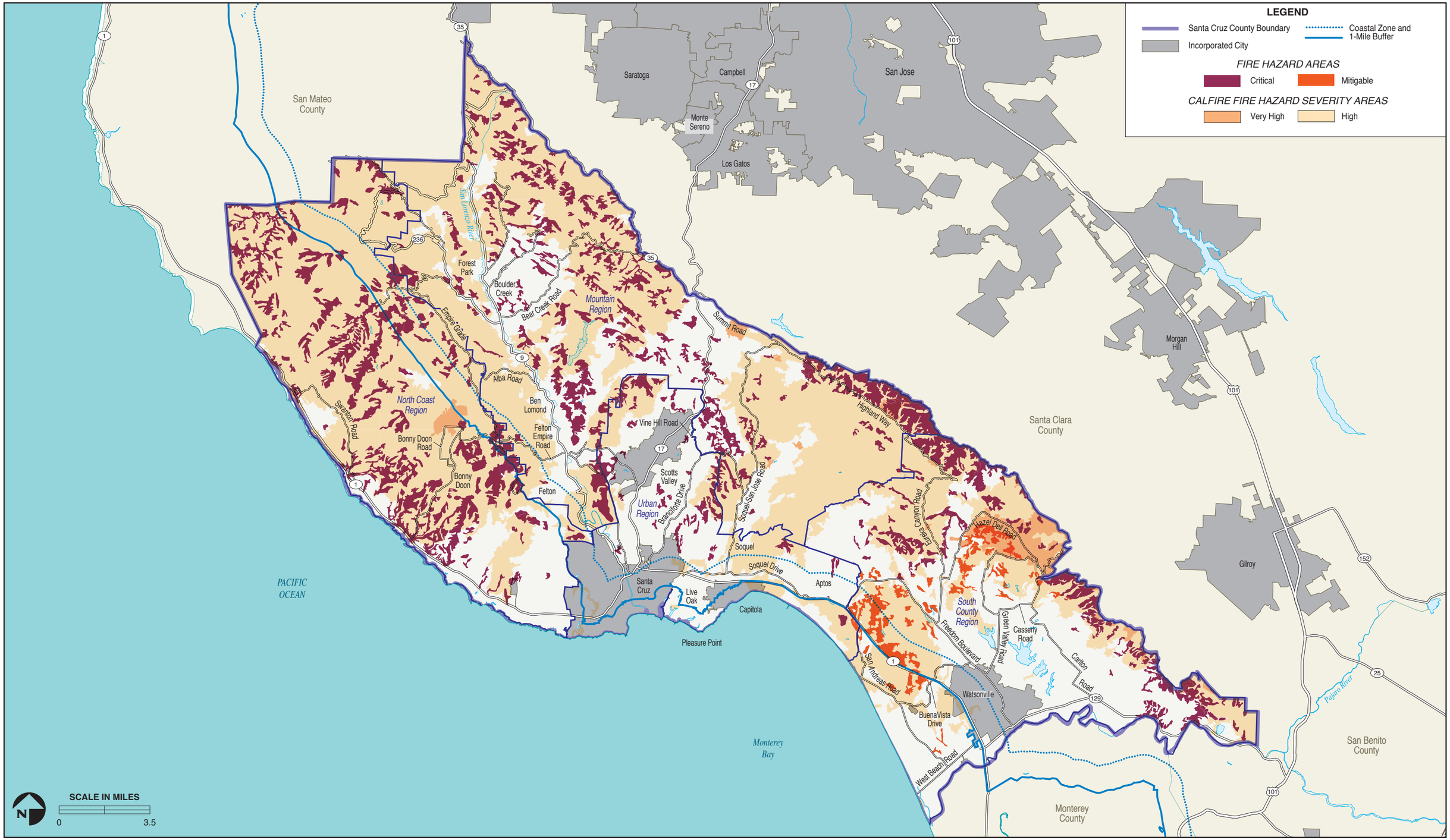
3.8.2.4 Wildfire Hazards

The County experiences annual cycles of elevated fire danger, with the wildfire season typically extending from roughly May into late October or early November. Widespread densely forested areas with high fuel loading, chaparral, and grasslands contribute to danger from wildfire. The County is served by many local fire protection agencies (Fire Protection Districts), while the larger unincorporated areas of the County are served by the SCCFD in conjunction with CalFire. Refer to Section 3.12, *Public Services,* for detailed discussion of City and County agencies, services, resources, and jurisdictions. CalFire requires counties to develop fire protection management plans that address potential threats of wildland fires. The CalFire San Mateo – Santa Cruz Unit, which is the County Fire Department for both San Mateo County and Santa Cruz County, recently developed and adopted the 2016 Strategic Fire Plan for the San Mateo County and Santa Cruz County unit (CalFire 2016). Fire Hazard Severity Zones are identified as "moderate", "high", and "very high" using a science-based and field-tested computer model that accounts for factors that influence fire likelihood and fire behavior; these include the wildland-urban interface zone, fire history, existing and potential fuel (natural vegetation), flame length, blowing embers, terrain, and typical weather for the area (CalFire 2007). According to Fire Hazard Severity Maps, most of the County is designated as moderate to high fire hazard severity, while a small area of Bonny Doon and areas along the eastern boundary of the County are designated as being Very High Fire Hazard Severity Zones (refer to Figure 3.8-1).

Fire hazards are greatest in the North Coast and Mountain regions of the County, with more "moderate" fire hazard areas in the Urban and South County regions (Figure 3.8-1). However, the greatest concentration of lands designated as "very high" fire hazard severity exists within the Eureka Canyon planning area of the South County Region. The County Local Hazard Mitigation Plan also designates critical hazard areas of the County, as areas subject to greater threat from wildfire, and identifies these areas based on slope, vegetation, ability to respond to fire threats, and localized weather conditions in order to assist with preparation of County hazard mitigation and response planning (Figure 3.8-1; Santa Cruz County Geographic Information Services [GIS] 2009).[1]

Because data indicates that existing cannabis operations are concentrated within the remote forested areas of the County that are subject to greater threats of wildfire, such as the Mountain Region and foothill areas of the South County Region, there is concern that cannabis activity could spark wildfire. Registration data confirms significant overlap between current grow sites and high fire severity zones. Some cultivation sites may also include manufacturing activities using higher fire risk methods, such as open blast BHO production. These areas also have challenging access for firefighting. On August 10, 2017, CalFire officials announced that use of a portable generator at a cannabis farm was the cause of the Loma Fire in the Santa Cruz Mountains in September 2016, which destroyed 12 homes and burned a total of 4,474 acres over a period of 16 days before fire authorities could contain and extinguish the fire. It was also reported that the Loma Fire was the County's most destructive wildfire linked to unregulated cannabis cultivation since the 2002 Croy Fire on the Santa Clara County eastern side of the Santa Cruz Mountains, which burned over 3,100 acres, destroyed 31 homes, and which officials blamed on unpermitted solar panels powering an illegal cannabis grow (CalFire 2016b; Santa Cruz Sentinel, Robert Salonga 2017).

[1] For mapped data and information regarding County fire hazards, refer to the County Geographic Information Services (GIS) page: http://www.co.santa-cruz.ca.us/Departments/GeographicInformationSystems(GIS).aspx



amec foster wheeler

Countywide Fire Hazard Severity Areas

FIGURE 3.8-1

This page intentionally left blank.

3.8.3 Regulatory Setting

This analysis was conducted in conformance with the goals and policies of federal, state and local regulations. The following list summarizes the most applicable policies and regulations which would relate directly to future cannabis cultivation and cannabis product manufacturing under the Project and More Permissive Project and their associated impacts. Additional federal, state, and local policies and regulations are provided in Appendix A.

3.8.3.1 Local

Santa Cruz County Fire Code

The Santa Cruz County Fire Code (SCCC Chapter 7.92), which adopts the 2016 California Fire Code, regulates the safeguarding of life, property, and public welfare from the hazards of fire, hazardous materials release, and explosion arising from the storage, use and handling of hazardous materials, substances and devices, conditions hazardous to life or property including construction, occupancy and use of buildings and premises, equipment, and provision of adequate safe access.

County of Santa Cruz Building Code

Chapter 12 of the County Code is the Santa Cruz County Building Code, which incorporates the 2016 California Building Code (Chapter 12.10), as amended to reflect conditions in Santa Cruz County. The Building Code contains standards and regulations relating to construction materials, fire protection measures, exterior design standards, and access requirements for fire-fighting purposes. The Code addresses installation of fire protection equipment, building setbacks, fire retardant building materials, and the minimum standards to safeguard and protect life, buildings, and structures from fire hazards within the County.

Santa Cruz County Hazardous Materials Area Plan

Pursuant to Section 25503 of the California Health & Safety Code, the Santa Cruz County Hazardous Materials Area Plan outlines procedures for the preparation and response to incidents from hazardous materials throughout the County.

Santa Cruz County Local Hazard Mitigation Plan

The Santa Cruz County Local Hazard Mitigation Plan developed by the County Planning Department and Office of Emergency Services focuses on the assessment of identified risks and implementation of loss reduction measures to ensure critical County services and facilities survive a disaster. Topics covered in the plan include flood, wildfire, earthquake, coastal storm, surge/tsunami, landslide/coastal erosion, and dam failure in the unincorporated areas of the County.

Operational Area Emergency Management Plan

The County Office of Emergency Services is currently in the process of drafting the Operational Area Emergency Management Plan (EMP), which addresses the planned response to emergencies and incidents affecting the unincorporated areas of the County. The purpose of the EMP is to establish a comprehensive approach to emergency management and provide guidance to agencies within the

operational area in the protection of public health and safety and preparing for or responding to incidents.

Santa Cruz County General Plan and Local Coastal Program

The Santa Cruz County General Plan and Local Coastal Program address public safety, hazardous materials, and fire hazards. Inclusion of "LCP" in the policy title indicates the policies apply to both inland and coastal areas of the County addressed by the Local Coastal Program (LCP).

Public Safety Element

The Public Safety and Noise Element, included in Chapter 6 of the County General Plan (adopted in 1994) is intended to guide land use planning by providing pertinent data regarding seismic hazards, flood hazards, fire hazards, hazardous and toxic materials, hazardous waste management, electric and magnetic fields, and noise. The County Planning Department is currently working on a proposed update of the Safety Element, and one of the objectives is to ensure that the policies are amended as needed for consistency with the current California Fire Code and any local amendments. The following sections of the Element outline the current goals and polices that are applicable to the proposed Program:

Objective 6.5 – Fire Hazards. To protect the public from the hazards of fire through citizen awareness, mitigating the risks of fire, responsible fire protection planning and built-in systems for fire detection and suppression.

Policy 6.5.1 – Access Standards. Require all new structures, including additions of more than 500 square feet to single-family dwellings on existing parcels of record, to provide an adequate road for fire protection in conformance with the following standards:

(a) Access roads shall be a minimum of 18 feet wide for all access roads or driveways serving more than two habitable structures, and 12 feet for an access road or driveway serving two or fewer habitable structures. Where it is environmentally inadvisable to meet these criteria (due to excessive grading, tree removal or other environmental impacts), a 12-foot-wide, all-weather surface access road with 12-foot-wide by 35-foot-long turnouts located approximately every 500 feet may be provided with the approval of the Fire Chief. Exceptions: Title 19 of the California Administrative Code requires that access roads from every state governed building to a public street shall be all-weather hard-surface (suitable for use by fire apparatus) roadway not less than 20 feet in width. Such roadway shall be unobstructed and maintained only as access to the public street.

(c) The access road surface shall be "all weather", which means a minimum of six inches of compacted aggregate base rock, Class 2 or equivalent, certified by a licensed engineer to 95 percent compaction and shall be maintained. Where the grade of the access road exceeds 15 percent, the base rock shall be overlain by 2 inches of asphaltic concrete, Type B or equivalent, and shall be maintained.

(d) The maximum grade of the access road shall not exceed 20 percent, with grades greater than 15 percent not permitted for distances of more than 200 feet at a time.

(e) The access road shall have a vertical clearance of 14 feet for its entire width and length, including turnouts.

(g) An access road or driveway shall not end farther than 150 feet from any portion of a structure.

(h) A turn-around area which meets the requirements of the fire department shall be provided for access roads and driveways in excess of 150 feet in length.

(i) No roadway shall have an inside turning radius of less than 50 feet. Roadways with a radius curvature of 50 to 100 feet shall require an additional 4 feet of road width. Roadways with radius curvatures of 100 to 200 feet shall require an additional 2 feet of road width.

(j) Drainage details for the road or driveway shall conform to current engineering practices, including erosion control measures.

(k) Bridges shall be as wide as the road being serviced, meet a minimum load bearing capacity of 25 tons, and have guard rails. Guard rails shall not reduce the required minimum road width. Width requirements may be modified only with written approval from the Fire Chief. Bridge capacity shall be posted and shall be certified every five years by a licensed engineer. For bridges served by 12-foot access roads, approved turnouts shall be provided at each bridge approach.

(n) All access road and bridge improvements required under this section shall be made prior to permit approval, or as a condition of permit approval.

(o) Access for any new dwelling unit or other structure used for human occupancy, including a single-family dwelling on an existing parcel of record, shall be in the duly recorded form of a deeded access or an access recognized by court order.

Policy 6.5.2 – Exceptions to Access Road Standards. Exceptions to these standards may be granted at the discretion of the Fire Chief for single-family dwellings on existing parcels of record as follows:

(a) When the existing access road is acceptable to the Fire Department having jurisdiction.

(b) In addition, any of the following mitigation methods may be required:

(1) Participation in any existing or formation of a new road maintenance group or association.

(2) Completion of certain road improvements such as pot hole repair, resurface access road, provide turnouts, cut back brush, etc. are made, as determined by the fire officials, and provided that the fire department determines that adequate fire protection can still be provided.

(3) Provision of approved fire protection systems as determined by the Fire Chief.

(c) The level of road improvements required shall bear a reasonable relationship to the magnitude of development proposed.

Policy 6.5.3 – Conditions for Project Approval. Condition approval of all new structures and additions larger than 500 square feet, and to single family dwellings on existing parcels of record, to meet the following fire protection standards:

(b) Provide adequate water availability. This may be provided from an approved water system within 500 feet of a structure, or by an individual storage facility (water tank, swimming pool, etc.) on the property itself. The Fire department shall determine the adequacy and location of individual water storage to be provided. Built-in fire protection features (i.e., sprinkler systems) may allow for some exemptions of other fire protection standards when incorporated into the project.

(c) Maintain around all structures a [defensible space] clearance of not less than 30 feet or to the property line (whichever is a shorter distance) of all flammable vegetation or other combustible materials; or for a greater distance as may be prescribed by the fire department.

(d) Provide adequate disposal of refuse. All development outside refuse collection boundaries shall be required to include a suitable plan for the disposal of flammable refuse. Refuse disposal shall be in accordance with state, County, or local plans or ordinances. Where practical, refuse disposal should be by methods other than open burning.

Policy 6.5.9 – Consistency with Adopted Codes Required for New Development (LCP). Require all new development to be consistent with the Uniform Fire Code, California Building Code, and other adopted County and local fire agency ordinance.

Objective 6.6 – Hazards and Toxic Materials. To eliminate, to the greatest degree possible, the use of hazardous and toxic materials, and where it is not feasible completely to eliminate the use of such materials, then to minimize the reduction in the use of such materials, so as to ensure that such materials will not contaminate any portion of the County's environment, including the land, water, and air resources of the County.

3.8.4 Methodology and Assumptions

This analysis describes how the Program could result in increased hazards to the human and physical environment from the use, storage, transport, and discharge of hazardous materials, as well as siting of new development and cannabis activities in areas of the County subject to existing hazards. This analysis also integrates current information for contaminated sites and wildfire hazards. Refer to Section 3.0, *Introduction and Approach to Analysis*, for a detailed discussion of projected cannabis activities in the County due to Program implementation.

The analysis is based on a review of the existing hazards in the County identified in Section 3.8.2, *Environmental Setting*, what regulations under the Program would limit higher risk cannabis activities in certain areas, and where there would be a potential overlap of hazardous areas with cannabis cultivation and/or manufacturing sites in order to determine impacts. This analysis focuses on the potential impacts of typical cannabis product manufacturing activities that involve hazards or hazardous materials, particularly volatile or flammable manufacturing practices. While many of the manufacturing licensees would occupy existing buildings, and closed quarries are also a possible location, the limited availability of land zoned for manufacturing and limited vacant commercial and manufacturing building space could drive development of new buildings. New buildings would be subject to SCCC zoning and building regulations, and to environmental review. Cannabis manufacturing and processing is also an allowable use in agricultural zoning districts. Also, about one-half of all cannabis manufacturing activities is associated with cultivation and occurs on cultivation sites.

3.8.5 Significance Criteria

CEQA Guidelines Thresholds

The following thresholds of significance are based on Appendix G of the 2017 California Environmental Quality Act (CEQA) Guidelines. For purposes of this EIR, implementation of the Program may have a significant adverse impact from hazards or hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or involve handling 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 create a significant hazard to the public or the environment.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Thresholds (e) and (f) (*Private Airstrip or Public Airport)* are not applicable to the Program. Four airports are located within the County (one public airport and three private airports): the public Watsonville Municipal Airport; the private Bonny Doon Village Airport; the private Las Trancas Airport; and the private Monterey Bay Academy Airport. Under the Program, commercial cannabis cultivation and/or manufacturing could be permitted within a two-mile radius of airports and airstrips. However, siting of licensed cultivation and manufacturing facilities within close proximity to these uses is not anticipated to result in greater chance of harm to the human or physical environment, as commercial cultivation and/or manufacturing facilities would not introduce a concentrated workforce to areas within airport approach or operation zones. These requirements would ensure that cannabis cultivation, manufacturing, and related residential uses are not exposed to airport related hazards. Under current state law, development near the Watsonville Municipal Airport is required to be in conformance with the California Airport Land Use Planning Handbook. SCCC Chapter 13.12, *Airport Approach Zones*, regulates the use of the Watsonville Municipal Airport

to prevent the creation or establishment of airport hazards.[2] Cannabis related development located near the private airstrips would be subject to lesser potential impact due to the very low frequency of air traffic. The General Plan restricts the use of private airports in the County to the owners' planes only, with guests only allowed access with federal/state approval to land their planes. Due to existing California regulations and restrictions for airport operations, the County General Plan, and the nature of proposed cannabis uses, impacts associated with airport hazards are considered insignificant and are not discussed further in this EIR.

3.8.6 Environmental Impact Analysis and Mitigation

This section discusses the potential hazardous impacts associated with the Program. A detailed discussion of each impact follows. Where there are potentially significant or significant and unavoidable impacts, mitigation measures are proposed and the residual impact is determined.

3.8.6.1 Program Impacts

Impact HAZ-1. Construction and operation of commercial cannabis cultivation sites could create impacts through the routine transport, use, or disposal of hazardous materials and the accidental release of such materials with potential for exposure of the public. Impacts would be less than significant.

Impact HAZ-1.1 – Direct Cultivation. Construction and operation of future cannabis cultivation facilities under the Program could involve the routine transport, use, and disposal of hazardous materials such as fuel, solvents, paints, oils and grease. These materials could be used on cannabis grow sites during construction and operation. Impacts from exposure of wildlife to hazardous materials are addressed in Section 3.4, *Biological Resources*.

Commercial cannabis cultivation under the Program could result in direct impacts from the use, storage, transport, or discharge of potential hazardous materials, particularly with respect to the use of pesticides such as rodenticides, fungicides, herbicides, insecticides, and fertilizers. However, cannabis cultivation would be subject to existing laws and regulations governing the cultivation of commercial food products and associated hazardous activities, including the ILRP regulated under the RCRA, and pesticide use regulations under CalEPA. For instance, U.S. EPA and CalEPA regulate the use of pesticides, fertilizers, and other hazardous materials used in the cultivation of food and non-food agricultural products to ensure the safety of employees, consumers, adjacent uses, and the environment, while the Occupational Safety and Health Administration (OSHA) regulates permitted businesses to ensure the health and safety of employees from occupational hazards. Licensees would be subject to local safety and hazard plans as well, including the Hazardous Materials Area Plan and Local Hazard Mitigation Plan. Such operation would also be subject to Program requirements, including minimum setbacks of 600 feet from existing or proposed schools and 200 feet from a habitable structure on a neighboring parcel (refer to Chapter 2, *Project Description)*. Although the More Permissive Project would include less stringent setback requirements for a range of sensitive uses, such as parks and creeks, and would incrementally increase the potential exposure of sensitive populations to hazardous materials, buffers would still be retained to prevent adverse exposure.

[2] The County is currently preparing the required amendments for consideration by the Planning Commission and Board of Supervisors.

Therefore, regulatory and licensing requirements would reduce impacts related to use and handling of hazardous materials associated with ongoing, licensed cannabis cultivation.

Cultivation could also occur on parcels with permitted use or past release of hazardous materials, such as sites regulated under ILRP and RCRA regulations or included on a list compiled pursuant to Government Code 65962.5. Commercial cultivation in areas of known hazardous contamination could result in the potential release of hazardous materials from ground disturbance of contaminated surface soils or the extraction of groundwater within an area of known groundwater contamination which could subject workers, neighboring land uses, and future cannabis users to exposure to hazardous substances. However, as required under existing federal, state, and local regulations, sites of known hazardous contamination are required to ensure safety of the future uses, surrounding public, and the environment through investigation and remediation. Further, future cultivation sites would undergo licensing and review to ensure future uses are compatible with the history of the site and do not pose a substantial threat to humans or the environment from the risk of release of hazardous materials. This review would include the application of best management practices (BMPs), as described in MM LU-1.1-6. While BMPs are not required to mitigate this impact, their application would further reduce the risk of exposure or upset of hazardous material from use, transport, and/or storage. Demolition or substantial retrofitting of existing structures may be required to support indoor and greenhouse cultivation or to provide support facilities. However, cultivation sites under the Program would be subject to existing policies and regulations and review by the Licensing Officer, Building Official and Environmental Health Officer. Therefore, application of existing hazardous materials regulations and licensing review would reduce direct Program impacts. Through the license review and existing permitting process at the County along with application of existing hazardous materials regulation, impacts of the Project and the More Permissive Project related to use, transport, and storage/disposal of hazardous materials would be *less than significant*.

Impact HAZ-1.2 – Indirect Cultivation. Indirect impacts of the Program would result from handling or release of hazardous materials during construction and operation of up to 228 residential units and associated roads, driveways and infrastructure, as well as onsite fire water storage tanks and associated improvements as described in Section 3.0, *Introduction and Approach to Analysis*. In addition, the County Fire Code for cannabis related activities within structures would require significant site improvements to provide onsite fire water tanks (up to 568 tanks of up to 120,000 gallons each) with related site pad clearing and grading, installation of up to 20-foot wide roads with turnaround, and defensible space vegetation management around a cannabis-related structure of up to 100 feet. Site grading and construction of the required paved roads and water storage tank structures could result in the use of hazardous materials as well. The Program may also increase potential for construction of new residences on or near sites with known history of the use or contamination of hazardous materials. However, the permit process for new construction, review by the Licensing Officer, Building Official, and Environmental Health Officer, and required compliance with existing laws and policies, would ensure the safety of future and adjacent uses. Overall, application of existing federal, state, and local regulatory requirements through existing permit processes for these site improvements would ensure indirect impacts associated with release of hazardous materials associated with construction of residential structures and ancillary improvements would be *less than significant.*

Construction of new homes in active agricultural or timber production areas could expose future residents to hazards associated with such operations, including pesticide use. In addition, cannabis cultivation may also expose residents and family members to pesticides or other potentially hazardous materials. However, these residences are located on A, RA, and TP zoned lands where

agricultural and timber operations occur. Further, the permit review process for such homes and application of existing federal, state, and local regulations governing the use of hazardous agricultural chemicals and activities, as well as required setbacks between cannabis sites and sensitive uses, would reduce any potential indirect impacts to *less than significant.*

Impact HAZ-2. Construction and operation of commercial cannabis product manufacturing could increase the risk of release and exposure to hazards and hazardous materials. Impacts would be less than significant.

Impact HAZ-2.1 – Direct Manufacturing. Cannabis product manufacturing would be permitted in all agricultural, commercial, and manufacturing zoning districts, as well as on eligible parcels in the TP and SU zone districts, and as a home occupation as a limited ancillary operation in certain residential zones when the residence is a detached single family home. The Program prohibits manufacturing licenses which permit more hazardous manufacturing processes, such as flammable extraction and non-flammable extraction involving pressures of 2,000 pounds per square inch (psi) or greater, in all residential zoning districts. It is anticipated that most manufacturing licenses would be issued within existing buildings, including warehouses, commercial buildings, and greenhouses, since much of commercial and industrial land in the County is fully developed with commercial real estate and underutilized greenhouses and agricultural structures are generally available. However, it is possible that some licensees would propose to operate in new buildings constructed for the purpose of cannabis product manufacturing.

Direct impacts associated with cannabis product manufacturing would result from construction and operation of manufacturing facilities. Construction and operation of facilities under the Program could involve the routine transport, use, and disposal of hazardous materials such as butane, fuel, solvents, paints, oils and grease. Varying amounts of these materials could be utilized on manufacturing sites during construction and operation. Program implementation may require demolition or substantial retrofitting of existing structures to support manufacturing or construction of new buildings. The operation of cannabis product manufacturing can involve volatile processes that include the use and storage of highly flammable materials. Volatile processes such as production of BHO and high-pressure CO_2 extract can involve the use of hazardous materials and some risk of explosion. Additional activities involving the use, storage, transport, and discharge of hazardous materials would typically be associated with low-risk manufacturing activities subject to standard laws and policies regulating the use, transport, storage, and discharge of hazardous materials. However, manufacturing activities under the Program would be subject to review by the Licensing Office, compliance with federal and state regulations relating to employee health and safety, and existing County policies and regulations related to site design, setback requirements, site location, construction and operation of manufacturing facilities, types of allowed operations, and the general operation of each manufacturing activity.

Potential future manufacturing could also occur on parcels with permitted use or past release of hazardous materials. Manufacturing in areas of known hazardous contamination could result in the potential release of hazardous materials from ground disturbance during construction which could subject workers and neighboring land uses to exposure to hazardous substances. However, as required under existing federal, state, and local regulations, sites of known hazardous contamination are required to ensure safety of the future uses, surrounding public, and the environment through investigation and remediation. Therefore, any new development at these sites would not be allowed to proceed prior to sufficient clean-up of the site. Further, future manufacturing operations would

undergo licensing, development permit processing, and decision maker review to ensure future uses are compatible with the history of the site and do not pose a substantial threat to humans or the environment due to the risk of release of hazardous materials.

Therefore, the application of Program licensing standards and associated review of hazards and hazardous materials would reduce potential direct impacts related to release or exposure to hazardous materials to *less than significant*.

Impact HAZ-2.2 – Indirect Manufacturing. Indirect impacts of the Program would result from handling or release of hazardous materials during construction and operation of manufacturing support structures. While there is no requirement under the Program for a residence on a site where manufacturing occurs, as there is for cultivation, indirect impacts may still result from development of new ancillary structures and infrastructure improvements to support a manufacturing facility in response to County Fire Code and other regulatory requirements for site design. In that circumstance, impacts would be similar to those associated with cannabis cultivation as discussed under Impact HAZ-1.2, and may be less since there is no requirement for this support. Therefore, application of existing federal, state, and local regulatory requirements would ensure indirect impacts associated with release of hazardous materials associated with construction and operation of manufacturing ancillary improvements would be *less than significant.*

Impact HAZ-3. Cannabis cultivation and manufacturing may be located within high fire hazard areas, exposing people or structures to significant risks involving wildland fires, along the wildland-urban interface (WUI), where uses are located in wildlands or through interference with emergency evacuations. Impacts would be less than significant with mitigation.

Impact HAZ-3.1 – Direct Cultivation/Manufacturing. Direct Program impacts could result from new cannabis cultivation and/or manufacturing located in rural high fire hazards and wildland-urban interface areas, particularly where there are heavy fuel loads in areas that have not historically or recently burned. Under the proposed Program, cannabis cultivation and manufacturing activities would be eligible for a license on tens of thousands of acres of eligible parcels subject to various levels of fire hazard. Licensees would be required to locate with the area of Program eligibility for cultivation and manufacturing, as described in Chapter 2, *Project Description*, which would overlap substantially with areas subject to high fire hazards (Figure 3.8-1). Fires in these areas could expose cannabis cultivators, manufacturers and employees, neighboring populations, as well as wildlife and wildlife habitat to the hazard of fire. Location of cannabis-related activities in more remote areas could increase difficulty with emergency evacuations, particularly along narrow rural roads (see also, Section 3.13, *Transportation and Circulation*). Further, cannabis cultivation and manufacturing operations could introduce new ignition sources to rural areas, including electrical power, machinery, and operators and employees, incrementally increasing the potential for accidental wildfire ignition.

Cannabis cultivation and manufacturing facilities would be subject to existing policies and regulations pertaining to fire protection, including road standards, vegetation defensible space management, and required fire protection water supply. Development plans would be required to be designed and operated to avoid interference with implementation of County emergency and evacuation plans. Programs such as the Local Hazard Mitigation Plan and the EMP would facilitate emergency response and preparedness in affected areas, especially in critical fire hazard areas. Further, licensed cannabis operations would be required to comply with CalFire defensible space requirements, County Building

Code, and County Fire Code regulations to ensure protection of proposed facilities from wildfire hazards. Therefore, direct impacts to the siting of new facilities and operations would be *less than significant.*

Impact HAZ-3.2 – Indirect Cultivation/Manufacturing. Indirect impacts of cannabis cultivation and manufacturing would result from the development of residential structures and improvements required under the Program for cultivation sites, as well as other development supporting cannabis cultivation and manufacturing operations, particularly in areas subject to increased threat from wildland fire hazards. Residences would be required for eligible parcels within A, RA, TP, and SU zone districts. While there is no requirement under the Program for a residence on a site where manufacturing occurs, as there is for cultivation, indirect impacts may still result from development of new ancillary structures and infrastructure improvements to support a manufacturing facility, such as required Fire Code improvements. In that circumstance, impacts would be similar to those associated with cannabis cultivation as discussed under Impact HAZ-1.2.

County Fire Code requirements for cannabis related activities within structures would require significant site improvements to provide onsite fire water storage tanks (up to 568 tanks of up to 120,000 gallons each) with related site pad clearing and grading, installation of a 20-foot wide road with turnaround, and defensible space vegetation management around a cannabis-related structure of up to 100 feet (see Section 3.0, *Introduction and Approach to Analysis*). Fire sprinklers may also be required. These water storage tanks and associated improvements would reduce the risk of structure fires by granting access to sites, limiting potential for flames to spread through vegetation, and ensuring adequate fire water flow onsite to fight a structure fire. By ensuring structure fire risk is minimized in high fire hazard areas, the risk of wildfire is reduced as well.

The County Fire Code requirements are the same for all commercial enterprises in the rural area, although the Code does allow the Fire Marshal to determine appropriate water storage and whether fire sprinklers are required based upon the nature and extent of the use on site. The County Fire Code does not apply these requirements to outdoor cultivation. Therefore, depending on its size, nature of electrical and mechanical improvement, and whether the structure is occupied by employees, a cannabis structure such as a drying or trimming shed, or greenhouse or other building used for cultivation, may be required to provide a 120,000-gallon water tank, a 20-foot wide road, and 100 feet of defensible space vegetation management around the structure, as well as fire sprinklers. These requirements related to the fact that commercial cannabis-related structures are considered by the County to be Factory (F-1) occupation types under the Fire Code. However, some forms of cannabis cultivation can be considered an agricultural use that does not trigger some of these requirements (see also, Section 3.2, *Agricultural and Timber Resources*). For comparison, a rural single family home, which can also be a source of structure fire risk due to electric outlets, cooking facilities, fireplaces/pits, candles, and general habitation, would be subject to lesser site improvement requirements than are typically applied to commercial cannabis-related activities which involve high levels of electrical use and accommodate employees. A rural single-family home would typically be allowed with a 10,000-gallon water tank, and an 18-foot (or possibly 12-foot) road with turnouts along the road.

Indoor cultivation and manufacturing also presents risks for fire, as indoor cultivation and manufacturing require electricity/wiring and commonly store flammable/explosive materials onsite. The electrical infrastructure that is required for indoor cultivation and manufacturing, such as to support grow light fixtures in indoor grow rooms and fans for drying harvested cannabis plants in drying sheds, creates additional risk of ignition of structure fires or wildfires, which is especially

important where indoor cultivation and/or manufacturing is located in wildland urban interface where fire risk is elevated. However, indoor cultivation and manufacturing operations under the Program would occur within permitted structures subject to building codes, electrical codes, and review by the County Building Official and Fire Department. Potential impacts would therefore be addressed or avoided through proper implementation of existing codes and standards, and would not interfere with County emergency response or evacuation plans. The proposed Project and the More Permissive Project both require the Licensing Official to ensure that operations comply with the Fire Code prior to issuance of a license, therefore impacts are considered *less than significant.*

Indirect impacts related to site improvement to comply with the Program and Building and Fire Code requirements would be subject to existing regulations that would address risk of structure fire and wildfire in rural areas of the County. Therefore, indirect impacts related to hazards are considered *less than significant*. See also, Section 3.6, *Geology and Soils*, Section 3.4, *Biological Resources*, Section 3.9, *Hydrology and Water Quality*, and Section 3.14, *Utilities and Energy Conservation*.

3.8.6.2 Summary of Project Impacts and Proposed Mitigation Measures

Table 3.8-2 below provides a summary of the Program impacts related to hazards and hazardous materials. Because cannabis activities and structures would be subject to review and permitting under the County Building and Fire Code, compliance with those codes will address potential impacts and no further mitigation measures are required beyond code compliance.

Table 3.8-2 Summary of Hazards and Hazardous Materials Impacts

Hazards and Hazardous Materials Impacts	Level of Significance	Mitigation Measures	Post-Mitigation Level of Significance	
			Project	More Permissive Project
Impacts from Commercial Cannabis Cultivation				
Impact HAZ-1. Construction and operation of commercial cannabis cultivation sites could create impacts through the routine transport, use, or disposal of hazardous materials and the accidental release of such materials with potential for exposure of the public. Impacts would be less than significant.				
Direct	Less than significant	None required	Less than significant	Less than significant
Indirect	Less than significant	None required	Less than significant	Less than significant
Impacts from Commercial Cannabis Product Manufacturing				
Impact HAZ-2. Construction and operation of commercial cannabis product manufacturing could increase the risk of release and exposure to hazards and hazardous materials. Impacts would be less than significant.				
Direct	Less than Significant	None required	Less than Significant	Less than Significant
Indirect	Less than Significant	None required	Less than Significant	Less than Significant
Impacts from Commercial Cannabis Cultivation and Cannabis Product Manufacturing				
Impact HAZ-3. Cannabis cultivation and manufacturing may be located within high fire hazard areas, exposing people or structures to significant risks involving wildland fires, along the wildland-urban interface, where uses are located in wildlands or through interference with emergency evacuations. Impacts would be less than significant with mitigation.				
Direct	Less than Significant	None required	Less than Significant	Less than Significant
Indirect	Less than Significant	None required	Less than Significant	Less than Significant

3.8.6.3 Secondary Impacts

Impact HAZ-4. Unregulated cannabis cultivation and manufacturing may use, transport, or store hazardous materials, expose or release hazards, or be located within high fire hazard areas, exposing people or structures to significant risks involving wildland fires. Impacts would be significant and unavoidable.

Impact HAZ-4 – Secondary Cultivation/Manufacturing. Currently, there is a significant but unquantified amount of illegal cannabis cultivation and manufacturing occurring in the County (see Section 3.0, *Introduction and Approach to Analysis*). There is potential for expansion of the existing, baseline illegal activity as a result of the Program in that any licensing program may create the perception that, regardless of any restrictions and limitations of the program, there is opportunity for new cultivation and manufacturing businesses to become established and ultimately licensed within

the County. This perception could lead to new cultivation and/or manufacturing activity that may not be licensed.

Exclusion of a substantial number of known interested growers/manufacturers along with future projected growth in unregulated cannabis activities could create a substantial potential for ongoing or increased unlicensed cultivation and/or manufacturing with associated potential for misuse of unregulated hazardous materials, including pesticides, rodenticides, diesel fuel, and butane, as well as the potential for activities that increase fire hazards, including use of machinery, electric power and increased human presence onsite. Use of flammable or explosive materials in fire sensitive regions could create increased fire hazards and risk to nearby land uses and residents. Potentially hazardous manufacturing activities such as production of BHO through open loop extraction processes have potential to cause explosions. Some types of cannabis product manufacturing involve storage and use of flammable and explosive materials (e.g., compressed liquefied petroleum gases). BHO extraction labs are known to exist throughout the County, particularly within the rural mountainous regions where operations are less prone to discovery, and tend to be located on or within close vicinity to cannabis cultivation operations. These sites may be concentrated in areas where adequate emergency response services or evacuation plans may not be available. As such, these sites may continue to pose increased risk to workers and residents of these sites in the event an emergency may occur. With the lack of enforcement and regulation of these operations, there is a greater chance that these sites may not comply with policies or regulations designed to reduce fire hazards, and may pose risk to fire hazards from poor maintenance or management of electrical equipment, improper use and storage of volatile or combustible materials used in cannabis extraction processes such as BHO extraction, burning of cannabis waste products, site clearing activities, or hazardous operation of generators. As previously discussed in Section 3.8.2, *Environmental Setting*, the hazardous and volatile nature of some types of cannabinoid extraction processes have resulted in several recorded incidents involving harm to manufacturers, individuals indirectly related to cannabis manufacturing such as family members, or nearby populations unrelated to cannabis activities. In addition, volatile processes have also resulted in structural fires and wildfires.

In addition, such unregulated facilities could operate in close proximity to sensitive receptors, such as within neighborhoods or near schools, with potential for exposure of sensitive populations to hazards or hazardous materials.

Given the uncertainty of the locations and nature of unlicensed cultivation/manufacturing, the ability to effectively ensure compliance with existing safety related policies and regulations is non-existent. Therefore, associated secondary impacts of the Project and More Permissive Project related to hazards and hazardous materials are considered *potentially significant*.

Mitigation Measures

Implement MM AT-1.3a. Sustained Enforcement Program. To reduce secondary impacts associated with cannabis cultivation/manufacturing and associated hazardous activities, MM AT-1.3a, addressing County implementation of the Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program, shall apply to Impact HAZ-4.

Implement MM AT-1.3b. Annual Survey and Monitoring Report. To reduce secondary impacts associated with cannabis cultivation/manufacturing and associated hazardous activities, MM AT-1.3b, addressing County criteria for an Annual Survey and Monitoring Report of licensed activities

as well as illegal activities, including recommendations regarding enforcement staffing and resources, shall apply to Impact HAZ-4.

Post-Mitigation Level of Impacts

With implementation of Mitigation Measures AT-1.3a and AT-1.3b, secondary impacts resulting from unregulated cannabis cultivation and/or manufacturing would be reduced to the maximum extent feasible by the County. With implementation of these measures, the County would ensure that illegal cannabis cultivation and manufacturing operations in all zone districts are minimized, and enforcement and annual surveys and monitoring of cannabis activities are conducted in a reliable manner addressing operations on a case-by-case basis, therefore reducing the potential for continued unlicensed cannabis cultivation/manufacturing operations and associated hazardous activities and risks over the life of the Program. However, due to the high likelihood for continued operation of unlicensed cultivation and manufacturing regardless of increased enforcement throughout the County, as well as the inability to enforce standard requirements and regulations relating to fire protection and emergency response and ensure the protection of unlicensed cultivation and manufacturing facilities, secondary impacts of the Program are considered *significant and unavoidable*.

3.8.6.4 Cumulative Impacts

As described in Section 3.0, cumulative development and growth in population and employment is projected to be gradual toward 2040 with some change in agricultural uses and crop types. Concurrent development of residential and commercial land uses with commercial cannabis cultivation and manufacturing could potentially result in conflicts related to hazards and hazardous materials. The potential for cumulative development in the County could lead to the use of hazardous materials or the release of hazardous substances into the environment or the introduction of new development in areas subject to existing hazards such as critical fire hazard areas and hazardous contamination sites. However, it is anticipated that the Program would be subject to similar policies, plans, and regulations pertaining to use of hazardous materials, remediation of hazardous contamination sites, engagement in hazardous activities, and reducing the overall threat of release or exposure to hazardous substances. Further, all development would be subject to departmental review and inspection by County fire agencies to ensure adequate protection from fire hazards. Thus, the Program would be fully subject to existing regulation and Program-specific mitigation, and therefore, impacts of use of hazardous materials and cumulative impacts would be *less than significant*.

Section 3.9
Hydrology and Water Quality

3.9.1 Introduction

Program Impact Analysis
At a Glance
The Program could adversely impact surface water and groundwater due to sedimentation, contamination, and increased water demand associated with cannabis cultivation. Mitigation measures would control use of pesticides and other chemicals, require clean up and restoration of cannabis activity sites, and ensure water use efficiency to address potential impacts to water resources.

This section evaluates issues related to hydrology and water quality with implementation of the proposed Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program). Hydrology and water quality issues include surface water quality and streamflow, runoff, groundwater withdrawal and recharge, groundwater pollution, and flood hazards. The existing environmental and regulatory setting for water resources is described, and potential impacts of the Program, including the Project and More Permissive Project, are identified separately. As described in Chapter 2, *Project Description*, to organize the analysis, the County has been divided into four general regions for planning purposes: North Coast, Mountain, Urban, and South County Regions. The information in this section is based on the 2016 Central Coast Regional Water Quality Control Board (RWQCB) Water Quality Control Plan for the Central Basin (Basin Plan), the 2014 Integrated Regional Water Management Plan, the 2016 Santa Cruz County Storm Water Resources Plan, the 2012 Federal Emergency Management Agency (FEMA) Flood Insurance Study of Santa Cruz County, and the status of groundwater management activities required under the Sustainable Groundwater Management Act (SGMA), among other sources.

Issues related to water resources are also addressed in other sections of this EIR, including Section 3.6, *Geology and Soils* (e.g., erosion and sedimentation), Section 3.4, *Biological Resources* (e.g., sensitive species) and in Section 3.14, *Utilities and Energy Conservation* (water use and wastewater disposal).

3.9.2 Environmental Setting

Surface Water

Eight major drainages (watersheds with a drainage area of more than 20 square miles) course through the County of Santa Cruz (County), including the Pajaro River, San Lorenzo River, Soquel Creek, Scott Creek, Waddell Creek, Aptos Creek, and Baldwin Wilder watersheds, as well as multiple smaller watersheds with drainage areas of 3 to 15 square miles, such as the San Andreas, Watsonville Slough and Laguna Creek watersheds (refer to Figure 3.9-1; see table 3.9-1 for major watersheds).

The largest of the watersheds, the Pajaro River Watershed, drains an area of approximately 1,300 square miles of land in Central California in Santa Cruz, San Benito, Santa Clara, and Monterey Counties. Approximately fifteen percent, or 200 square miles, of the lower Pajaro River Basin lies within the South County Region. Predominant land use practices in the Lower Pajaro and its tributaries include irrigated croplands, rangelands, timberlands, urbanization, and rural residential

development. The watershed is home to several special status species including the tidewater goby, steelhead trout, Santa Cruz long-toed salamander, and the California red-legged frog (County of Santa Cruz Health Services Agency 2016).

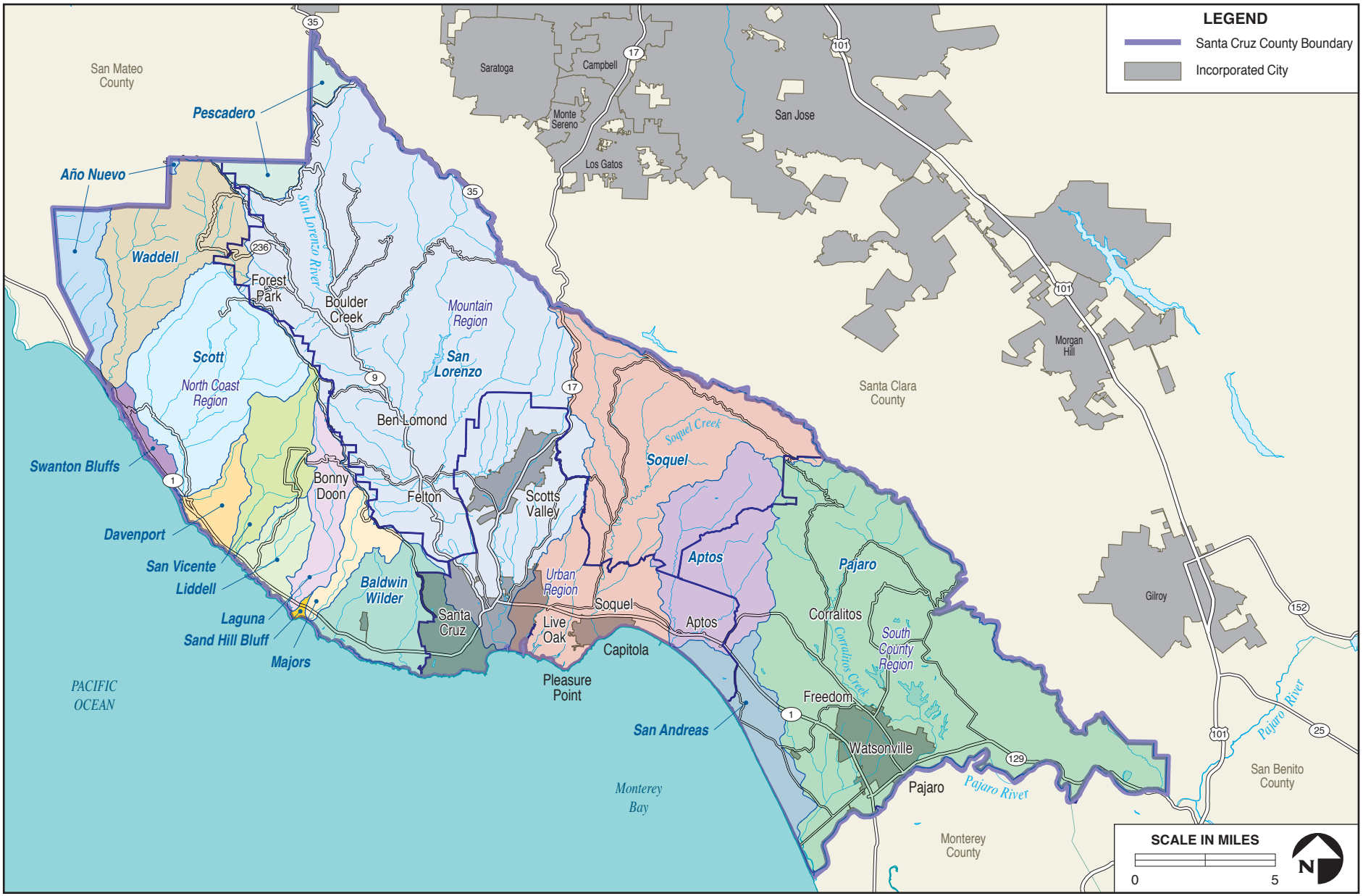
The County's watersheds support a variety of beneficial uses, including agriculture, wildlife, municipal, and recreation uses. The 138-square-mile San Lorenzo River Watershed, the largest in the County, extends 25 miles from its headwaters in the Mountain Region to the Pacific Ocean and supports many existing cannabis operations.

The San Lorenzo River drains a 138-square mile watershed located in northern Santa Cruz County and flows through the Mountain and Urban Regions. It is the largest watershed lying completely within Santa Cruz County. Originating in the Santa Cruz Mountains, the watershed consists of a 25-mile long main stem, 9 principal tributaries, and numerous smaller creeks and waterways, many of them unnamed. The San Lorenzo River and its tributaries provide habitat for Coho salmon and Steelhead. The watershed provides surface water supplies for the San Lorenzo Valley Water District and City of Santa Cruz Water Department. Surface water from the San Lorenzo River watershed provides 47 percent of the water supply for the City of Santa Cruz and 20 percent of the water supply for the San Lorenzo Valley Water District; water is stored at the 2.8-billion-gallon Loch Lomond Reservoir (City of Santa Cruz 2016; Water Systems Consulting, Inc. 2016). The Scotts Valley Water District is located within the watershed and obtains its water supply from groundwater sources. The watershed includes the cities and communities of Santa Cruz, Scotts Valley, Felton, Ben Lomond, and Boulder Creek. Much of the watershed is forested with the exception of these pockets of urban areas (County of Santa Cruz Health Services Agency 2016).

Located between the cities of Santa Cruz and Watsonville, the Soquel Creek watershed drains an area of approximately 42 square miles and flows through the South County, Mountain, and Urban Regions. The watershed has two major tributaries, four secondary tributaries. Principal land use in the watershed includes urban development, rural residential development, agriculture, parks and recreation, and mining and timber harvesting. The unincorporated town of Soquel and the City of Capitola are both located in the lower reaches of the watershed (County of Santa Cruz Health Services Agency 2016). Soquel Creek provides habitat for Coho salmon and Steelhead.

Scott Creek flows through a 39-square mile watershed in northern Santa Cruz County and flows through the North Coast Region. Scott Creek is fed by two major tributaries. Principal land uses in the watershed include agriculture and timber, industrial use (particularly near lands held by Lockheed-Martin), residential use, and recreation. The stream provides salmonid habitat for both spawning and rearing anadromous salmonids. Coho salmon spawn naturally in Scott Creek, making it the only major stream south of San Francisco where this occurs (County of Santa Cruz Health Services Agency 2016).

The Waddell Creek watershed drains an area of approximately 27 square miles and flows through the Mountain and North Coast Regions. The Waddell Creek watershed is comprised by Last Chance Creek, two major tributaries of Waddell Creek, and numerous unnamed tributaries. Big Basin State Park constitutes the majority of land cover in the watershed with small pockets of rural residential and agricultural use near the coast (County of Santa Cruz Health Services Agency 2016).



3.9-3

amec foster wheeler

Santa Cruz County Watersheds

FIGURE 3.9-1

The Aptos Creek watershed drains an area of approximately 25 square miles in southern Santa Cruz County and flows through the South County, Mountain, and Urban Regions. Aptos Creek and Valencia Creek are the principal tributaries in the watershed. Land use in this watershed is comprised of forested lands, state parks and some rural residential and urban areas. More than half of the Aptos Creek portion of the watershed is forested, with much of the creek running through the southern portion of the Nisene Marks State Park. There are logging sites in the watershed and the Aptos Creek watershed provides habitat to Steelhead (County of Santa Cruz Health Services Agency 2016).

The Baldwin Wilder watershed is located just south of and adjacent to Majors Creek watershed and the San Lorenzo River watershed. It drains an area of approximately 20 square miles, is comprised of numerous tributaries, and flows through the North Coast and Urban Regions. The majority of the watershed is comprised of Wilder Ranch State Park with some agriculture along the coast and a quarry along Old Dairy Gulch (County of Santa Cruz Health Services Agency 2016).

The Basin Plan establishes beneficial uses and water quality objectives for each of the water bodies (Central Coast Regional Water Control Board 2016). Beneficial uses for surface and ground water are to be protected and are divided into 20 standard categories. The beneficial uses of the major watersheds in Santa Cruz County are shown on Table 3.9-1. All the major watersheds in the County have the following designated beneficial uses: municipal; agricultural; groundwater recharge; contact water recreation; non-contact water recreation; wildlife habitat; cold fresh water habitat; migration of aquatic organisms; spawning and early production; and freshwater replenishment. Several watersheds are designated for beneficial industrial uses, while rare, threatened, and endangered species are beneficial uses for the San Lorenzo River, Scott Creek, and Waddell Creek watersheds. Estuarine habitat is a listed beneficial use for only the Aptos Creek watershed.

Water Quality

Multiple drainages in the County area are listed under the State Water Resources Control Board's (SWRCB) 303(d) Impaired Water Bodies List (see Table 3.9-2). The 303(d) Impaired Water Bodies List is required by the 1972 Amendments to the Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), and is established with the purpose of regulating water pollution in the United States. As the County includes many segments of water bodies that are on the California 303(d) Impaired Water Bodies List, only the four major drainages within the County are included in Table 3.9-1 below for informative purposes, along with their identified pollutants and earliest listing dates. The primary pollutants affecting waters in Santa Cruz County are the result of rural and agricultural land uses in the County, and the primary pollutants of concern are sediment, pathogens, and nutrients. The established Total Maximum Daily Load (TMDL) status for the four drainages are also detailed in Table 3.9-2. TMDLs are intended to bring receiving water bodies into compliance with water quality objectives for their designated beneficial use, and hence, delisting from the 303(d) Impaired Water Bodies List. TMDLs establish a maximum concentration of a particular pollutant which is permitted to occur in a receiving water body and include an implementation plan to bring the water body into compliance.

Table 3.9-1 Characteristics of Major Watersheds in Santa Cruz County

Watershed	Pajaro River	San Lorenzo River	Soquel Creek	Scott Creek	Waddell Creek	Aptos Creek	Baldwin-Wilder Creek
Drainage Area	1,300 sq. mi. (200 sq. mi. in County)	138 sq. mi.	42 sq. mi.	39 sq. mi.	27 sq. mi.	25 sq. mi.	20 sq. mi.
County-wide Region(s)	South County	Mountain Urban	Mountain South County Urban	North Coast	Mountain North Coast	Mountain South County Urban	North Coast Urban
Bordering Cities/ Towns	Watsonville	Scotts Valley Boulder Creek Felton Santa Cruz	Soquel Live Oak Capitola Santa Cruz	Swanton	N/A (rural)	Aptos	Santa Cruz (incl. Recovery Facility)
RWQCB Beneficial Uses	MUN AGR IND GWR REC1 REC2 WILD COLD WARM MIGR SPWN FRSH	MUN AGR IND GWR REC1 REC2 WILD COLD MIGR SPWN BIOL RARE FRSH COMM	MUN AGR IND GWR REC1 REC2 WILD COLD MIGR SPWN BIOL FRSH COMM	MUN AGR IND GWR REC1 REC2 WILD COLD MIGR SPWN RARE FRSH COMM	MUN AGR IND GWR REC1 REC2 WILD COLD MIGR SPWN BIOL RARE FRSH COMM	MUN AGR GWR REC1 REC2 WILD COLD MIGR SPWN BIOL RARE FRSH COMM	MUN AGR GWR REC1 REC2 WILD COLD MIGR SPWN BIOL FRSH COMM

Sources: RWQCB (2016); County of Santa Cruz County Environmental Health Services Agency (2016).
Key: MUN = Municipal; AGR = Agricultural; IND = Industrial; GWR = Groundwater Recharge; REC1 = Water Contact Recreation; REC2 = Non-Contact Water Recreation; WILD = Wildlife Habitat; COLD = Cold Fresh Water Habitat; WARM = Warm Fresh Water Habitat; MIGR = Migration of Aquatic Organisms; SPWN = Spawning, Reproduction, and/or Early Development; BIOL = Preservation of Biological Habitats of Special Significance; RARE = Rare, Threatened, or Endangered Species; EST = Estuarine Habitat; FRSH = Freshwater Replenishment; COMM = Commercial & Sport Fishing.

Table 3.9-2 Major Drainages in the County on the 2012 California 303(d) Impaired Water Bodies List

Water Body	Calwater / USGS Hydrologic Unit Code	Pollutant(s)	Listing Category[a]	Earliest Listing Date
Pajaro River[b]	30510030/ 18060002	Boron, Chlordane, Chloride, Chlorpyrifos, DDD, Dieldrin, E. coli, Fecal Coliform, Low Dissolved Oxygen, Nitrate, Nutrients, PCBs, Sedimentation/Siltation, Sodium, Turbidity, pH	5 (TMDL required)	1996
San Lorenzo River[c]	30412022/ 18060001	Chlordane, Chlorpyrifos, Nutrients, PCBs, Pathogens, Sedimentation/Siltation, Sodium	5 (TMDL required)	1996
Soquel Creek[d]	30413011/ 18060001	Enterococcus, E. coli, Fecal Coliform, Turbidity	5 (TMDL required)	2010
Aptos Creek	30413023/ 18060001	Pathogens, Sedimentation/Siltation	5 (TMDL required)	1990

[a] TMDL Category 5 indicates that water quality standards are not met and a TMDL is required, but not yet completed, for at least one of the listed pollutants.

[b] Although not yet approved by the EPA, the RWQCB adopted Resolution No. R3-2016-0053 approving the 2014 Clean Water Act Section 303(d) List, which proposes establishing TMDLs for chromium, DDE, DDT, diazinon, and toxicity for segments of the Pajaro River watershed.

[c] The 2014 303(d) proposes establishing TMDLs for chloride, enterococcus, E. coli, Fecal Coliform, sodium, and water temperature. The 2014 303(d) proposes removing the TMDL for pathogens.

[d] The 2014 303(d) proposes removing the TMDL for turbidity.

Source: State Water Resources Control Board 2015.

Groundwater

Santa Cruz County overlies three major groundwater basins: the Santa Margarita, Mid-County, and Pajaro Groundwater Basins, which are a primary source of water for urban uses and agricultural operations within the County (Figure 3.9-2).[1] None of the three major groundwater basins in Santa Cruz County are adjudicated and all three are in some level of overdraft, in that more water has been extracted from the aquifers than is naturally recharged through the soils and stream valleys (Table 3.9-3). The major water supply agencies do not have sufficient supplies to sustainably and reliably meet current and future demand (Santa Cruz County 2016a). The County designates the areas where major groundwater recharge or infiltration is known to occur as Primary Groundwater Recharge (PGR) zones. PGR zones are given special consideration and protection from development to allow the aquifers to maintain the quantity and quality of groundwater recharge.

[1] Data sources and the amount of available data, such as groundwater withdrawals, varies by basin; the best available information is presented here.

Table 3.9-3 Status of Groundwater Basins in Santa Cruz County

Groundwater Basin(s)	Status	Water Agencies Served By Basin
Santa Margarita	Overdraft	Scotts Valley Water District, San Lorenzo Valley Water District, , Mt. Hermon Association, Private Pumpers
Santa Cruz Mid-County[a]	Critical Overdraft[b]	City of Santa Cruz, Soquel Creek Water District, Central Water District, Private Pumpers
Pajaro Valley	Critical Overdraft[b]	Pajaro Valley Water Management Agency, City of Watsonville

Source: County of Santa Cruz Health Services Agency 2016.

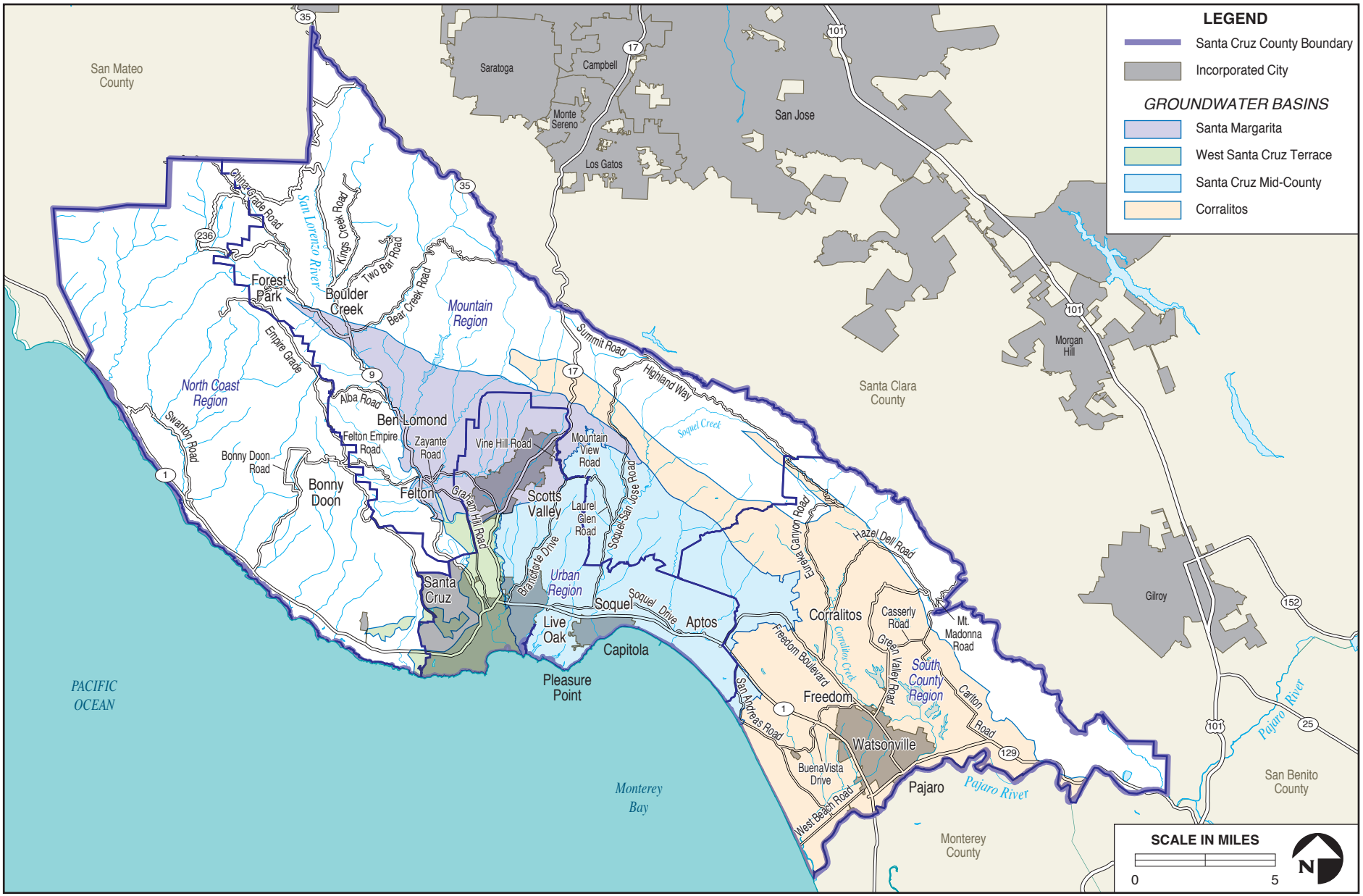
[a] Formerly referred to as the Soquel Valley Groundwater Basin or Soquel-Aptos Groundwater Basin

[b] In January 2016, the Department of Water Resources (DWR) released the final list of groundwater basins subject to critical conditions of overdraft. DWR Bulletin 118, Update 1980, defines a groundwater basin *subject to critical conditions of overdraft* as: "A basin is subject to critical conditions of overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts."

The Santa Margarita Groundwater Basin is located in the San Lorenzo River watershed within the San Lorenzo Valley. Management of the Santa Margarita Basin is being pursued by the Santa Margarita Groundwater Agency (SMGWA), a joint powers agency consisting of the County, the Scotts Valley Water District, and the San Lorenzo Valley Water District. The basin boundary was recently approved by DWR (and the SMGWA has been accepted as the groundwater service area [GSA]) for the basin. As it is currently characterized, this basin has experienced historical overdraft, with depletion of storage. Recently groundwater levels have stabilized.

Formerly referred to as the Soquel Valley Groundwater Basin or Soquel-Aptos Groundwater Basin, the Santa Cruz Mid-County Groundwater Basin consists of the Purisima Formation and the Aromas Formation, both of which extend under the Pajaro Valley.[2] The groundwater basin is managed by a joint powers agency known as the Santa Cruz Mid-County Groundwater Agency (MGA) and consisting of the County of Santa Cruz, the City of Santa Cruz, the Soquel Creek Water District, and the Central Water District,. In its final January 2016 list, DWR defined this basin as being subject to conditions of critical overdraft. The basin boundary was recently approved by DWR (and the MGA has been accepted as the GSA) for the basin. A groundwater model is currently being developed by the MGA to determine sustainable yield for the basin and inform the GSP. Historic over-pumping of the basin beyond the sustainable yield has created serious problems in the basin, particularly seawater intrusion. Because the Purisima and Aromas Formations extend offshore beneath Monterey Bay, overdraft of the basin has pulled seawater into the aquifer beneath the inland areas.

[2] As part of the MGA's 2016 GSA application, the former Soquel Valley Basin was expanded to include portions of three adjacent basins— West Santa Cruz Terrace Basin, the former Santa Cruz Purisima Formation Basin, and the original Pajaro Valley Basin. The Soquel Valley Basin was then was renamed to be the Santa Cruz Mid-County Basin.



3.9-8

amec foster wheeler

Santa Cruz County Groundwater Basins

FIGURE 3.9-2

The Pajaro Valley Groundwater Basin underlies parts of Santa Cruz, Monterey, and San Benito counties. All the water bearing units of the Pajaro Valley Groundwater Basin extend offshore and are in hydrologic connection with Monterey Bay. Groundwater demand in the basin is estimated at 55,000 acre feet per year (AFY). This has been estimated to represent a shortfall of 12,000 over what can be sustainably pumped from the basin (Pajaro Valley Water Management Agency [PVWMA] 2014). In its final January 2016 list, DWR defined this basin as being subject to conditions of critical overdraft. The PVWMA is the designated GSA for the Pajaro Valley Groundwater Basin within the PVWMA's current boundaries. Further, seawater intrusion has been an ongoing problem in the basin and was first documented in a 1953 DWR report. Constituents of seawater have been detected in wells up to three miles inland from the coast. Groundwater levels have been drawn down below sea level under 68 percent of the basin extending all the way to the eastern boundary of the basin at the San Andreas Fault.

Flood Hazards

Flood hazards vary throughout the County. The wet season in Santa Cruz County generally extends from October through May, but most flooding has occurred from December through March. In all streams except the Pajaro River, flood flow stages can rise from normal flow to extreme flood peaks in a few hours with high velocities in the main channels (Federal Emergency Management Agency 2012). Larger storm events, such as those occurring in December 1955, April 1958, January 1982, March 1995 and early 2017 have resulted in notable property damage and scouring. Because of the County's rugged topography, areas prone to flooding occur mainly at the coast and on valley floors. Outside of the coastline, localized areas within a 100-year floodplain occur along the San Lorenzo River south of Felton, along the San Lorenzo River in the City of Santa Cruz, and along the Pajaro River around the City of Watsonville and Pajaro Dunes. Flooding along the Pacific coast is typically associated with the simultaneous occurrence of very high tides, large waves, and storm swells during the winter. Flood protection measures implemented in the unincorporated areas of Santa Cruz County have included nonstructural and structural measures. The nonstructural measures include floodplain zoning ordinances that regulate building within the floodplain. Structural measures implemented in the county have been limited primarily to the Pajaro Valley. No major flood control projects have been constructed in the Aptos Creek, Soquel Creek, or the unincorporated portions of the San Lorenzo River basin.

Storm Water

Storm water runoff from lands modified by human activities can harm surface water resources and in turn, cause or contribute to an exceedance of water quality standards by changing natural hydrologic patterns, accelerating streamflows, degrading aquatic habitat, and elevating pollutant concentrations. Such runoff may contain or mobilize high levels of contaminants, such as sediment, suspended solids, nutrients (phosphorous and nitrogen), heavy metals and other toxic pollutants, pathogens, oxygen-demanding substances, and floatables. After a rain event, storm water runoff carries these pollutants into nearby streams, rivers, lakes, estuaries, and wetlands as well as the ocean. The highest concentrations of these contaminants often are contained in ''first flush'' discharges, which occur during the first major storm after an extended dry period. Individually and combined, these pollutants impair water quality, threatening designated beneficial uses and causing habitat alteration or degradation.

On lands used for agricultural purposes, including cannabis cultivation, storm water flows can carry pesticides, nutrients and can increase sedimentation through direct erosion or carrying sediment

laden runoff. When soil is disturbed by rain, it is transported through a watershed via storm runoff to natural drainages, or scouring of natural channels, due to increased flow from runoff of impervious surfaces. Storm water flow along creeks with natural banks may be susceptible to scour, bank collapse or deeper incising of portions of the channel with increased runoff. On cannabis cultivation sites, the introduction of sediment or pollutants to storm water flows could occur from the initial land clearing to prepare a site, tilling or grading of grow sites and resulting exposed soils, alteration of infiltration and runoff characteristics, tilling or other soil preparation activities for the planting of crops, and the use of spoil piles to temporarily store soils. Existing known cannabis cultivation is estimated to be 36 acres of canopy (based on license registrant data), with potential for tens or even hundreds of acres of additional unknown cultivation. The extent of site and drainage disturbance associated with such operations typically involves a much larger area, including access, spacing of plants, associated structures and defensible space, and in individual watersheds, particularly in steep mountainous areas, improperly managed cultivation operations could contribute substantial sediment loads to an individual stream.

The County and its partners adopted a Storm Water Resources Plan (SWRP) in December 2016. The SWRP identified land uses throughout the rural areas of the SWRP that disrupt the natural watershed processes and have the potential to result in increased or polluted water flows. Examples of land uses include agriculture, livestock, forestry, unpaved/private rural roads, and quarry operations.

Potable and Irrigation Water

The entirety of the County's water supply is derived from groundwater (80 percent) and local surface water (streams and reservoirs – 20 percent), which are fed entirely by precipitation; the County does not receive any imported water (County of Santa Cruz 2017). In addition to the private wells and stream diversions, water distribution is accomplished by seven public agencies: San Lorenzo Valley Water District, Scotts Valley Water District, City of Santa Cruz Water Department, Soquel Creek Water District, Central Water District, City of Watsonville Department of Public Works and Utilities, and the PVWMA. With the exception of a small volume obtained through surface diversions, the non-agency water users (agriculture and rural residences and businesses) rely entirely on groundwater. Both the PVWMA and the City of Scotts Valley have tertiary treatment facilities that provide recycled water that is sufficiently clean for irrigation of food crops.

Existing Water Demand for Cannabis Cultivation and Manufacture

The total existing cannabis cultivation water demand is unknown, as are withdrawals associated with cannabis from major groundwater basins, local hard rock, or shallow stream aquifers. However, known cannabis license registrant cultivation operations total 36 acres of canopy County-wide, with the potential for tens or perhaps hundreds of acres of unknown additional unpermitted cultivation. Water demand for cannabis activities may vary widely depending on location, cultivation method, and irrigation technology. As described further in Section 3.14, *Utilities and Energy Conservation*, the County estimates that general cannabis cultivation water demand is 0.03 gallons per square foot of canopy per day for outdoor operations, and 0.1 gallons per square foot of canopy per day for indoor and greenhouse operations. Given the types of existing cannabis cultivation reported by the 2016 License Registration data, the existing water demand for known cannabis cultivation is estimated to be approximately 106.75 AFY, with the potential for water demand associated with unregistered and

unknown cultivation to total in the low hundreds of AFY[3]. Such water demand appears to be widely dispersed among major groundwater basins, local hard rock or shallow stream aquifers, local stream diversions and public utilities drawing from various sources, but is concentrated in the Mountain Region, which lies within the San Lorenzo River watershed, the Urban Region, which relies on the Soquel Creek watershed, and the South County Region, which overlies the Pajaro Valley Groundwater Basin. Groundwater sources in these areas are currently highly constrained (Table 3.9-3). Cannabis operations that use wells within one of the three GSAs will likely need to eventually install meters, report water use and pay a water use fee to contribute to the cost of achieving basin sustainability.

According to the County's License Registration data and the 2016 Growers Survey, private and shared wells account for over half of the irrigation water supply, at 49 percent and 6 percent, respectively (Table 3.9-4). Municipal water is used for irrigation by 33 percent of growers. The remaining 11 percent of the irrigation supplies consist of spring/stream/pond water, imported water, or mixed-source water.

Regarding illegally procured water, the California Department of Fish and Wildlife (CDFW) has reported that during the 2015 inspection and enforcement period in northern California, 95 percent of the cultivators utilizing surface water had some level of water rights violation. CDFW, in response to increased cannabis cultivation, has begun enforcement actions against water rights violators through fines (State Water Resources Control Board 2016). Furthermore, Regional Water Resources Control Boards have begun issuing orders with regard to cannabis cultivation and remediation of illegal sites. Additionally, SB 837 addresses the diversion and use of water for cannabis cultivation in areas where cannabis cultivation may have the potential to substantially affect instream flows. Under the state's licensing program (CalCannabis), growers that propose to use wells that have direct connectivity to surface water or to divert surface water for cannabis cultivation must register and attain water rights prior to license authorization (see also, Section 3.9.3, *Regulatory Setting*).

Table 3.9-4 Irrigation Supplies for Cannabis Cultivators

Water Source	Number of Cultivators	Percentage of Cultivators
Private Well	394	49%
Shared Well	50	6%
Municipal Water	263	33%
Imported Water	26	3%
Mixed Source Water	25	3%
Spring/Stream/Pond Water	24	3%
Rain Water	3	0%
Other	1	0%
Undisclosed	10	1%
Total	**796**	**100%**

Source: County Registration Data & 2016 Growers Survey.

[3] Precise cannabis water demand is not known; however, 0.03 gallons per day per square foot of outdoor canopy (1.39 AFY per acre) and 0.1 gallons per day per square foot of indoor canopy (4.88 AFY per acre) are the estimated indoor/outdoor water estimates for Santa Cruz County, with 180 days/year irrigation outdoors, and 365 days/year for indoor cultivation. For comparison purposes, existing agricultural operations in the County may use roughly between 45,000 AYFAFY and 75,000 AFY and 0.5-3 AFY per acre.

3.9.3 Regulatory Setting

Hydrology and water quality are governed by a complex hierarchy of federal, state, and local laws that would also apply to future cannabis cultivation development under the Project and More Permissive Project. Appendix A contains the federal and state regulations that pertain to water resources. State and local regulations that are directly relevant to future cannabis cultivation development and regulate impacts under the Project and More Permissive Project are also summarized below.

3.9.3.1 State

Senate Bill 837

On June 27, 2016, Senate Bill (SB) 837 was enacted to require the State Water Resources Control Board, in consultation with the CDFW, to adopt interim and long-term principles and guidelines (requirements) for the diversion and use of water for cannabis cultivation in areas where cannabis cultivation may have the potential to substantially affect instream flows. Principles and guidelines will be incorporated into licenses issued by the California Department of Food and Agriculture under its CalCannabis Cultivation Licensing, and water right registrations will be issued under the State Water Board's Small Irrigation Use Registration Program, once available. The State Water Resources Control Board is developing a cannabis water rights registration program to provide appropriative water rights for smaller diversions (less than 20 AFY). This program is under development, including an online portal for registrants to submit their filings, make payments, and receive registration certificates, and is expected to be available in late 2017.

State General Permit for Storm Water Discharges Associated with Construction Activity (Construction General Permit)

On September 2, 2009, SWRCB adopted the National Pollutant Discharge Elimination System Permit (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit; Order 2009-0009-DWQ; NPDES No. CAS000002). The General Construction Permit requires any construction activity disturbing one acre or more of soil to comply with the requirements of the permit. Dischargers are required to identify and implement Best Management Practices (BMPs) meeting the technological standards of Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate storm water pollution. BMPs include programs, technologies, processes, practices, and devices that control, prevent, remove, or reduce pollution. Permittees must also maintain BMPs and conduct inspection and sampling programs as required by the permit. Dischargers are also required to comply with monitoring and reporting requirements to ensure that discharges comply with the numeric action levels and numeric effluent limitations specified in the permit.

California Food and Agriculture Code

Chapter 3, *Restricted Materials*, of the California Food and Agriculture Code identifies restricted materials as a class of pesticides deemed by California Department of Pesticide Regulation (DPR) to have a higher potential to cause harm to public health, farm workers, domestic animals, honeybees, the environment, wildlife, or other crops compared to other pesticides. Most pesticides used in agriculture are not considered to be restricted materials. With certain exceptions, Chapter 3.4, *Private*

Applicator Certification, states that restricted materials may be purchased and used only by or under the supervision of a certified commercial or private applicator under a permit issued by the County Agricultural Commissioner (CAC). Among other things, an application for permit must list the areas to be treated, their location and size, crops or commodities, pest problems, names of restricted pesticides that are being requested to be applied, and application method. The permit application must also include a map or description of the surrounding area showing any places that could be harmed by pesticides. These could include receiving water bodies and endangered species habitat. Applicants must let the CAC know each time they plan to use any of the restricted materials on their permit. This involves filing a Notice of Intent to Apply a Restricted Material with the CAC. Pursuant to Section 60303 of the California Code of Regulations, food crops where water comes into direct contact with the edible portion of the crop may be irrigated with disinfected tertiary recycled water; whereas, food crops where the edible portion is produced above ground and does not have contact with water may be irrigated with disinfected secondary-2.2 recycled water.

Sustainable Groundwater Management Act (SGMA)

SGMA went into effect on January 1, 2015 and requires local agencies to work cooperatively as GSAs to manage groundwater resources and is intended to increase local control and protection over groundwater basins. The intent of this legislation is to manage the use of groundwater in a manner that can be maintained long-term without causing chronic lowering of groundwater levels, overdraft, significant reduction in groundwater storage, saline water intrusion, depletion of streamflow, or subsidence. SMGA requires the GSAs to develop Groundwater Sustainability Plans (GSPs) by 2020 for basins in critical overdraft and by 2022 for other priority basins. The GSPs are required to set objectives and implement projects and programs to achieve sustainability within 20 years of plan implementation, report data to DWR, mitigate overdraft, and address groundwater dependent ecosystems. The designated GSAs for each of the County's three major groundwater basins are identified in the discussion of groundwater resources above.

3.9.3.2 Regional

Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands

Effective March 8, 2017, RWQCB Order No. R3-2017-0002 (Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands) regulates pollutants from irrigated lands to ensure that water discharges do not cause or contribute to the exceedance of water quality standards for surface water or groundwater. Certain wastes, such as hazardous waste and human waste, do not qualify for conditional discharge under the Order. The RWQCB has determined that the Order applies to irrigated lands used for the commercial crop production of cannabis. The terms of the Order require agricultural lands to submit a Notice of Intent to the RWQCB, comply with water quality standards, implement water quality protective management practices, minimize bare soil and implement erosion control, and submit a farm water quality management plan (Farm Plan) prior to any discharge or commencement of activities that may cause a discharge. The order establishes three tiers of irrigated lands, with each successive tier requiring additional monitoring and reporting requirements, based on the chemicals utilized, proximity to an impaired waterbody, and the type of crop grown. The Farm Plan, regardless of tier, is required to identify where runoff discharge locations enter receiving water bodies, the typical volume of discharge, description of chemicals applied, description and time schedule for any farm water quality management practices, and a description of the method and

schedule for assessing the effectiveness of each management practice, treatment, and control measure. The Order determines that irrigated lands that are consistent with the Order are also consistent with the Basin Plan. All tiers of irrigated lands are also required to submit a Surface Receiving Water Quality Monitoring Annual Report by July 1 of each year.

3.9.3.3 Local

County of Santa Cruz General Plan and Local Coastal Program

Conservation and Open Space Element

The Conservation and Open Space Element, Chapter 5 of the County of Santa Cruz General Plan, is intended to guide land use planning by providing pertinent information regarding natural cultural resources protection, open space protection, and resource utilization. Riparian Corridors and Wetlands Policies 5.2.1 (Designation of Riparian Corridors and Wetlands), 5.2.2 (Riparian Corridor and Wetland Protection Ordinance), 5.2.3 (Activities Within Riparian Corridors and Wetlands), and 5.2.5 (Setbacks From Wetlands) are most pertinent to the protection of hydrologic resources because they restrict development within the established 100 foot riparian corridor of all wetlands unless provided a specific exception pursuant to the Riparian Corridor and Wetland Protection Ordinance. General Plan objectives and policies denoted with "LCP" in the title indicate that objective/policy is included as part of the Local Coastal Program.

Objective 5.2 – Riparian Corridors and Wetlands (LCP). To preserve, protect and restore all riparian corridors and wetlands for the protection of wildlife and aquatic habitat, water quality, erosion control, open space, aesthetic and recreational values and the conveyance and storage of flood waters.

Policy 5.2.3 Activities within Riparian Corridors and Wetlands (LCP). Development activities, land alteration and vegetation disturbance within riparian corridors and wetlands and required buffers shall be prohibited unless an exception is granted per the Riparian Corridor and Wetlands Protection ordinance. As a condition of riparian exception, require evidence of approval for development from the US Army Corps of Engineers, California Department of Fish and Game, and other federal or state agencies that may have regulatory authority over activities within riparian corridors and wetlands.

Policy 5.2.4 Riparian Corridor Buffer Setback (LCP). Require a buffer setback from riparian corridors in addition to the specified distances found in the definition of riparian corridor. This setback shall be identified in the Riparian Corridor and Wetland Protection ordinance and established based on stream characteristics, vegetation and slope. Allow reductions to the buffer setback only upon approval of a riparian exception. Require a 10-foot separation from the edge of the riparian corridor buffer to any structure.

Policy 5.2.5 Setbacks from Wetlands (LCP). Prohibit development within the 100-foot riparian corridor of all wetlands. Allow exceptions to this setback only where consistent with the Riparian Corridor and Wetlands Protection ordinance, and in all cases, maximize distance between proposed structures and wetlands. Require measures to prevent water quality degradation from adjacent land uses, as outlined in the Water Resources section.

Objective 5.5a – Watershed Protection (LCP). To protect and manage the watersheds of existing and future surface water supplies to preserve the quality and quantity of water produced and stored in these areas to meet the needs of County residents, local industry, agriculture, and the natural environment.

Objective 5.5b – San Lorenzo River Watershed Management (LCP). To restore, manage, and protect the San Lorenzo River Watershed to maximize the quality and quantity of water resources in that basin.

Objective 5.5c – Least Disturbed Watersheds (LCP). To protect the Least Disturbed Watershed areas that support the remaining clear running streams to preserve their water supply, recreation, and wildlife support values.

Policy 5.5.8 - Allowed Uses in Water Supply and Least Disturbed Watersheds (LCP). Require uses in Water Supply Watershed and Least Disturbed areas to be compatible with watershed protection policies and limited to open space uses or recreational and residential uses at the specified Watershed densities, unless otherwise exempted.

Policy 5.5.9- Development Activities Within Water Supply and Least Disturbed Watersheds (LCP). Require all grading, building, and timber harvesting in Water Supply and Least Disturbed Watersheds to meet strict standards for erosion control and protection of water quality as outlined in the Erosion Hazard and Drainage Facilities sections of this Plan and as identified in the San Lorenzo River Watershed Management Plan.

Objective 5.6 – Maintaining Adequate Streamflows (LCP). To protect and restore in-stream flows to ensure a full range of beneficial uses including recreation, fish and wildlife habitat and visual amenities as part of an ecosystem-based approach to watershed management.

Objective 5.7 – Maintaining Surface Water Quality (LCP). To protect and enhance surface water quality in the County's streams, coastal lagoons and marshes by establishing best management practices on adjacent land uses.

Policy 5.7.3 - Erosion Control for Stream and Lagoon Protection (LCP). For all new and existing development and land disturbances, require the installation and maintenance of sediment basins, and/or other strict erosion control measures, as needed to prevent siltation of streams and coastal lagoons.

Policy 5.7.4 - Control Surface Runoff (LCP). New development shall minimize the discharge of pollutants into surface water drainage by providing the following improvements or similar methods which provide equal or greater runoff control: (a) include curbs and gutters on arterials, collectors and locals consistent with adopted urban street designs; and (b) oil, grease and silt traps for parking lots, land divisions or commercial and industrial development.

Objective 5.8a – Groundwater Protection (LCP). To protect the quantity and quality of the County's groundwater resources through an integrated program of land use regulation and runoff management in groundwater recharge areas, careful water quality monitoring and management of extractions consistent with long-term sustainable water supply yields.

Objective 5.8b - Overdrafted Groundwater Basins (LCP). To act directly and coordinate and work with relevant water purveyors and agencies to eliminate long-term groundwater overdraft in all water basins where overdraft has been documented.

Policy 5.8.3 - Uses in Primary Groundwater Recharge Areas (LCP). Prohibit any land use in a Primary Groundwater Recharge Area which would allow the percolation of pollutants into the groundwater system.

Public Safety and Noise Element

The Public Safety and Noise Element, Chapter 6 of the County of Santa Cruz General Plan and Local Coastal Program, is intended to guide land use planning by providing pertinent information regarding geologic, soil, and flood hazards, among other topics. Erosion Policy 6.3.2 (Grading Projects to Address Mitigation Measures) and Erosion Policy 6.3.8 (On-Site Sediment Containment) are most pertinent to the protection of water resources because they instruct the County to deny any grading project where a potential danger to soil or water resources has been identified and adequate mitigation measures cannot be undertaken. They also require containment of all sediment on the site during construction and require drainage improvements for the completed development that will provide runoff control, including onsite retention or detention where downstream drainage facilities have limited capacity Please refer to Section 3.6, *Geology and Soils*, of this Draft EIR for a full description of the objectives and policies of the Public Safety and Noise Element that are pertinent to the Project. For a comprehensive list of all objectives and policies, see Chapter 6 of the General Plan.

Santa Cruz County Code (SCCC)

Chapter 7.69 – Water Conservation

Section 7.69.030, *Prohibited Water Uses,* of the Santa Cruz County Code (SCCC) prohibits various wasteful uses of water in the County including the watering of grass, lawn, groundcover, shrubbery, open ground, crops and trees, including agricultural irrigation, in a manner or to an extent which allows water to run off from the area being watered.

Chapter 7.79 – Runoff and Pollution Control

Section 7.79.040, *Prohibited Discharges, Exemptions and Limitations*, of the SCCC prohibits any non-storm water discharge to leave private property, enter the storm drain system, enter receiving waters of the County, or percolate into groundwater. Irrigation water contained on private property is exempt from the prohibition of discharge if it does not result in contamination or pollution, however, section 7.69.030 disallows excess runoff from the area being watered. Section 7.79.070, *Storm Drain System and Channel Modification Prohibited*, prohibits the unpermitted alteration to drainage patterns or modifications to the storm drain system or any channel that is part of a receiving water of the County. This chapter also prohibits the deposit of fill, debris, or other material in the storm drain system, a drainage channel, or on the banks of a drainage channel where it might enter the storm drain system or receiving waters and divert or impede flow. The County is granted the authority under this chapter to inspect a property with permission from the owner whenever it has probable cause to believe that there exists, or potentially exists, any condition which constitutes a violation of the chapter.

Chapter 13.10.632 - *Agricultural processing and storage facilities*, and 13.10.636 – *Greenhouses,* of the SCCC both require that storm water runoff drainage shall be retained on-site in areas of primary groundwater recharge capacity; in other areas, the drainage shall be detained on-site such that the rate of runoff leaving the site after the project is no greater than the rate before the project.

Chapter 13.13- *Water Efficient Landscaping*, of the SCCC requires water conservation by setting a maximum applied water allowance as an upper limit for water use and reducing water use to the lowest practical amount, promotes sustainability and mitigates for climate change in new landscaping projects by installing native plants and habitat enhancements, avoiding invasive plants, improving soils, minimizing stormwater runoff and providing shade, improves the efficiency of existing landscaping, and promotes rainwater capture and graywater use.

Chapter 16.10 – Geologic Hazards

Chapter 16.10.050, *Requirements for Geologic Assessment*, requires applicants to prepare Geologic Hazards Assessments for all development activities within 100-year floodplains and floodways. The Geologic Assessment is required to identify the location of proposed structures outside of the 100-year floodplain, where there is a buildable portion of the lot outside of the 100-year floodplain. Where structures are required to be placed in the 100-year floodplain, design features are required to be included that minimize flood damage. The placement of fills within a 100-year flood plain is permitted to the minimum amount necessary, up to 50 cubic yards.

County of Santa Cruz Grading Ordinance

Chapter 16.20 of the SCCC is the Santa Cruz County Grading Ordinance. The purpose of this chapter is to safeguard health, safety, and the public welfare; to minimize erosion and the extent of grading; to protect the watersheds; to ensure the natural appearance of grading projects; and to otherwise protect the natural environment of Santa Cruz County. This chapter sets forth rules and regulations to control all grading, including excavations, earthwork, road construction, dredging, diking, fills and embankments. It also establishes the administrative procedure for issuance of permits and provides for approval of grading plans and inspections. A proposed grading plan must be accompanied by an erosion control plan and erosion preventative measures, in accordance with the requirements of the County Erosion Control Ordinance. Commercial cannabis developments would require a grading plan and would be subject to the conditions set out in the Santa Cruz County Grading Code.

County of Santa Cruz Erosion Control Ordinance

Chapter 16.22 of the SCCC is the Santa Cruz County Erosion Control Ordinance. The purpose of this chapter is to eliminate and prevent conditions of accelerated erosion that have led to, or could lead to, degradation of water quality, damage to property, loss of topsoil and vegetation cover, disruption of water supply, and increased danger from flooding. This chapter requires control of all existing and potential conditions of accelerated erosion and sets forth required provisions for preparation of erosion control plans, runoff control, and land clearing approval. An erosion control plan indicating proposed methods for the control of runoff, erosion, and sediment movement must be submitted and approved with a grading plan prior to issuance of a building permit or development permit. Erosion control plans are designed to minimize erosion during construction and throughout the life of the project. Commercial cannabis developments would require an erosion control plan and would be subject to the conditions set out in the Santa Cruz County Erosion Control Code.

County of Santa Cruz Riparian Corridor and Wetlands Protection

Chapter 16.30 of the SCCC (Riparian Corridor and Wetlands Protection) is intended to minimize and to eliminate any development activities in the riparian corridor, preserve, protect, and restore riparian corridors for: protection of wildlife habitat; protection of water quality; protection of aquatic

habitat; protection of open space, cultural, historical, archaeological and paleontological, and aesthetic values; transportation and storage of floodwaters; prevention of erosion; and to implement the policies of the General Plan and the Local Coastal Program Land Use Plan. This chapter of the SCCC prohibits development activities within riparian corridors or within urban services line or rural services line which are within a buffer zone as measured from the top of the arroyo. Development is also prohibited within a buffer zone, which at a minimum extends 50 feet from the edge of riparian woodland and 20 feet beyond the edge of other woody vegetation as determined by the drip-line. This code would apply to pipes, pumps, and other water works used to withdraw water from ponds and streams.

3.9.4 Methodology and Assumptions

This analysis of potential hydrology and water quality impacts reviews the existing hydrology and water quality issues identified in Section 3.9.2 *Environmental Setting*, and determines whether the Program has the potential to create impacts due to such hydrology and water quality issues. Refer to Section 3.0, *Introduction and Approach to Analysis*, for a detailed discussion of projected cannabis activities in the County due to Program implementation.

Impacts to hydrology and water quality are assessed through the evaluation of existing water quality objectives, known impairments to water quality, status of stream and wildlife habitat, and available groundwater supplies. The Program is reviewed for the potential to increase use of groundwater, impair to water quality, reduce groundwater supply or recharge, impact stream level/base flow, or create a hazard by altering the course of a stream or by placing people or structures within an area of inundation or mudflow. The analysis takes into consideration the existing General Plan policies and water related regulations that prohibit the contamination of receiving water bodies, regulations pertaining to the withdraw of groundwater, and regulations that provide for building and human safety, including the SCCC. The analysis also accounts for the provision of the draft Cannabis Cultivation Ordinance that requires: "All licenses issued under this Chapter must be consistent with the County's policies, objectives, laws, regulations, and programs related to land use, including those related to the County's General Plan and Local Coastal Program."

3.9.5 Significance Criteria

CEQA Guidelines Thresholds

Appendix G of the State CEQA Guidelines states that a Project would be considered to have a significant impact related to geology and soils if it would result in any of the following:

- Violate any water quality standards or waste discharge requirements (i.e., as established by the Central Coast office of the RWQCB).
- Substantially deplete ground water supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.
- Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Inundation by seiche, tsunami, or mudflow.

3.9.6 Environmental Impact Analysis and Mitigation

This section discusses the potential hydrology and water quality impacts associated with the Proposed Project and More Permissive Project.

3.9.6.1 Program Impacts

Impact HYDRO-1. Commercial cannabis cultivation under the Program could introduce sediment and other pollutants to surface flows and groundwater, which would cause water resource contamination. With mitigation, this impact would be less than significant.

Impact HYDRO-1.1 – Direct Cultivation. Direct impacts of the Program could occur where the development and operation of licensed cannabis cultivation introduces sediment or pollutants into surface runoff, storm water flows, or groundwater that threaten the identified beneficial uses of these receiving water bodies. The introduction of sediment or pollutants could occur from the following sources: graded cultivation sites; spoil sites; soils, fertilizers, hydroponic wastewater, pesticides, herbicides, and rodenticides; trash associated with cannabis cultivation; human waste and household refuse; and spills and leaks of petroleum products or other chemicals associated with pumps and cultivation equipment. Operation of cannabis cultivation sites could result in long-term modification of the existing site conditions, including reduction of vegetative cover, grading, compaction of soils, and increases in impervious surfaces from onsite equipment and structures, thereby changing the percolation, drainage, and runoff of a site. The potential for sediment loading would be higher when grading occurs on steeper cultivation sites, such as the in the Mountain Region, which has the highest percentage of existing cultivation sites. Sites with larger areas of impact would have a greater potential to result in contamination due to an increase in potential area of ground disturbance and the amount of fertilizers and other chemicals used on the cultivation site. Outdoor cultivation would

have the potential for ground disturbance during initial grading and ongoing tilling, while greenhouse and indoor cultivation would have potential for concentrated surface runoff from impermeable surfaces. Any construction required to support cannabis cultivation would also have potential for ground disturbance, runoff, and contamination generated from machinery and sediments. Further, the More Permissive Project would involve licensing of more eligible sites than the Project, which would increase the number of sites subject to existing local regulations, but also increase the amount of site grading and use of potential pollutants.

In comparison with other agricultural uses and disturbed areas within the County, up to 190.1 acres of canopy for potential new cannabis cultivation, distributed county-wide, would involve relatively minor amounts of soil disturbance, especially related to the reuse of existing vacant greenhouses. However, the total amount of site disturbance directly associated with establishing or expanding a commercial cannabis operation is typically much greater than that devoted to cultivation canopy, particularly in steep mountain areas not typically used for other crops.

The Program would also potentially involve modification or relocation of existing cannabis cultivation sites, in order to meet the conditions of the license. These changes may result in adverse impacts to both surface and groundwater quality. The potential for impacts associated with the introduction of sediment and pollutants would depend upon the location and slope of the unlicensed cultivation site, site specific cultivation practices, and the distance to receiving water bodies.

The Program limits canopy size on an individual parcel to a maximum of 44,000 sf on parcels zoned CA under the More Permissive Project and 22,000 sf under the Project. All other parcels have canopy limits at or under 20,000 sf under the More Permissive Project, and 10,000 sf under the Project. Cannabis cultivation development under the More Permissive Project could exceed one acre on parcels zoned CA, which would require a General Construction Permit from the RWQCB for those CA zoned properties that are not using existing greenhouses, though this is not expected to occur commonly as it would be limited to CA land outside of the Coastal Zone. While the direct impacts associated with the cultivation of cannabis would generally not trigger a requirement for coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, when combined with the indirect impacts associated with access and home construction, many sites will exceed the one acre disturbance criteria. In these cases, licensees will be required to identify and implement BMPs meeting the technological standards of BAT and BCT to reduce or eliminate storm water pollution. BMPs include programs, technologies, processes, practices, and devices that control, prevent, remove, or reduce pollution. Licensees must also maintain BMPs and conduct inspection and sampling programs as required by the permit.

Dischargers are also required to comply with monitoring and reporting requirements to ensure that discharges comply with the numeric action levels and numeric effluent limitations specified in the permit. In addition to the State General Permit requirements, the RWQCB Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands will apply to all licensees. This Waiver requires all cannabis cultivators to submit a Notice of Intent to the RWQCB, comply with water quality standards, implement water quality protective management practices, minimize bare soil and implement erosion control, and submit a farm water quality management plan (Farm Plan) prior to any discharge or commencement of activities that may cause a discharge.

Wastewater that results from any growing, manufacturing, cleaning, or rinsing processes is considered an industrial waste (industrial wastewater) and is subject to local, state and federal regulations. This includes water used in extraction, hydroponic irrigation and the manufacture of

edible products. If a cultivation site has access to a municipal sanitation system, wastewater can be disposed of in the sanitary sewer, however, introduction of industrial wastewater into a municipal wastewater treatment plant often requires pre-treatment. As a previously unregulated industry, there are not yet standards for treating or pre-treating hydroponic cannabis effluent in the sanitation industry. Therefore, the disposal of hydroponic wastewater is a *potentially significant impact,* subject to mitigation under both the Project and the More Permissive Project.

Where there is no access to a sanitary sewer, disposal of industrial wastewater poses a significant threat to surface and groundwater quality. The two biggest pollutants found in hydroponic wastewater are phosphates and nitrates. Phosphates can attach to sediments such as clay particles, while nitrates are very soluble in water. Both pollutants can trigger eutrophication, causing algal blooms, which deplete oxygen in the water and can also release toxins that can kill animals or cause humans to be sick. Nitrate leaching can cause several environmental problems including the loss of calcium and other cations as well as moving into surface or ground water where it can severely impact drinking water. Elevated nitrate-N concentrations in drinking water can result in "blue-baby syndrome" and be fatal to infants by interfering with oxygen transport in the blood. These potential problems associated with managing hydroponic wastewater are among the reasons why the Clean Water Act was established to set water quality standards. The Clean Water Act made it unlawful for anyone to discharge pollutants into waters unless a permit is obtained under its provisions. As a result, cannabis cultivators and manufacturers are required to obtain a waiver or other permit from the State Water Resources Board that addresses the disposal of wastewater in order to obtain a State License. Conformance with this requirement ensures impacts associated with industrial wastewater disposal in areas not served by a domestic sanitation system are considered *less than significant.*

Beyond meeting the state and regional requirements regarding stormwater and agricultural discharge, all site grading would occur in accordance with the County's Grading Ordinance and Erosion Control Ordinances. These ordinances require that grading for site development be limited to the minimum necessary to achieve the project goals, and that any grading plan or land clearing plan in excess of one acre include an erosion and sediment control plan to address both construction and post-construction drainage to ensure sediment is retained on site. Both the Project and More Permissive Project include requirements to protect water quality, such as prohibiting cultivation within proximity to streams or within the high-water mark (HWM) of a water body. Adherence to these regulations would reduce the potential for sediment and pollutants to enter receiving water bodies. In this manner, implementation of the Program, including the Project and the More Permissive Project scenarios, would help to bring a largely unregulated activity into compliance with the water quality objectives of applicable regulations.

Further, MM LU-1.1.6, which requires the implementation of Cannabis Best Management Practices, would be applied through the licensing process to ensure that contaminated surface runoff or groundwater would be avoided or minimized on a site by site basis, including techniques to control surface runoff, minimize ground disturbance, and control hazardous materials.

However, application of legal pesticides, herbicides, and rodenticides by licensed cultivation under the Program runs a risk for contamination of water resources (see also, Section 3.8, *Hazards and Hazardous Materials)*. Under California law, the only pesticide products available to use on cannabis are those that contain an active ingredient that is exempt from residue tolerance requirements and either registered and labeled for a broad enough use to include use on cannabis or exempt from registration requirements as a minimum risk pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Although many surveyed and registered cannabis operations strive to be

organic or avoid the use of pesticides, there remains potential for use of pesticides for cannabis cultivation. Herbicides, pesticides, and rodenticides could result in the introduction of pollutants into receiving water bodies, and direct impacts are considered to be *potentially significant*.

Additionally, some existing cultivation sites may relocate to an eligible site and abandon an existing cultivation site that violates water quality, such as illegal grading, uncontrolled runoff, or release of hazardous materials to surface or groundwater sources. It is unknown how many sites would propose moving an existing cultivation operation to a new site. However, the potential abandoned cultivation sites that may result could have the potential to introduce sediments and pollutants to receiving waters if not properly remediated. Therefore, impacts from abandoned cultivation sites are *potentially significant.*

Mitigation Measures

MM HYDRO-1.1. Pesticide and Herbicide Control. Licensees shall submit information about any proposed use, storage, and application of pesticides and herbicides by type and amount as part of a Pest Management Plan (see MM BIO-1.1g) to be reviewed and approved as part of the licensing process. Cannabis cultivation on all licensed sites shall only use pesticides and herbicides that are exempt from residue tolerance requirements and either registered and labeled for a broad enough use to include use on cannabis or exempt from registration requirements as a minimum risk pesticide under Section 25(b) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the California Code of Regulations, title 3, section 6147. Any uses of pesticide or herbicide products shall be consistent with product labeling and any products on the site shall be placed, used, and stored in a manner that ensures that they will not enter or be released uncontrolled into the environment, including surface or ground waters.

Plan Timing and Requirements. The Licensee shall identify herbicides, pesticides, and/or rodenticides to be used on a cannabis cultivation site as part of a Pest Management Plan prior to any discharge to groundwater or receiving surface water bodies, or commencement of activities of that may cause a discharge.

Monitoring. The County Agricultural Commission shall ensure compliance through review of license applications and site inspections as needed in compliance with the approved Pesticide Management Plan.

MM HYDRO-1.2. Cleanup and Restoration Plan for Relocated Cultivation Sites. Cannabis cultivation sites that are non-conforming with site criteria following the adoption of Santa Cruz County Code (SCCC) Section 7.128 and 7.132 shall be vacated or relocated per the requirements of the SCCC. Prior to abandonment or relocation, the existing operator shall prepare a Cleanup and Restoration Plan to be submitted with the licensing application materials. The Cleanup and Restoration Plan shall contain at least the minimum site-specific information required for the County to determine that the vacated cannabis cultivation site does not result in a violation of water quality standards or other natural resource protection regulations of the SCCC. The Cleanup and Restoration Plan shall include a requirement for annual reporting to the Cannabis Licensing Office for a period of five years to ensure restoration and maintenance of the site.

Plan Requirement and Timing. The Licensee for cultivation shall submit the Cleanup and Restoration Plan with the submittal of all other license application materials. The Cleanup and Restoration Plan shall include the methods and equipment to be utilized to accomplish cleanup and restoration goals over five years, a cost estimate of cleanup and restoration

activities, and a proof of a committed financial assurance mechanism (i.e. surety bond, trust fund, or irrevocable letter of credit). The County shall review the plan for completeness prior to the issuance of a cannabis cultivation license. The County may require that critical elements of the Plan be accomplished in the first year if need to correct conditions that pose an immediate risk to public safety or the environment. For the five-year life of the Cleanup and Restoration Plan, the Licensee shall submit an annual report to the County detailing progress of reclamation activities. Upon completion of cleanup and restoration activities, the Licensee shall submit a final report and request for release of the financial assurance mechanism.

Monitoring. The County shall review and approve the Cleanup and Restoration Plan prior to the issuance of a license. The County shall review site conditions periodically, as determined necessary.

MM HYDRO-1.3. Sanitary Sewer Survey. Cannabis cultivation and manufacturing sites that create industrial wastewater as a result of hydroponic cultivation of the manufacturing process and that propose to discharge industrial wastewater into the sanitary sewer must provide proof of acceptance from the subject sanitation department to the Licensing Official that the wastewater can be accepted, prior to issuance of a related license. The proof of acceptance shall be based upon a wastewater management plan that includes estimates of anticipated discharge in gallons per day.

Plan Timing and Requirements. In order to understand what the industrial wastewater may contain, the Sanitation Division of the County Department of Public Works shall create a survey for licensee applicants to fill out specific to cannabis cultivation and manufacturing practices. The Sanitation Division shall coordinate with the Licensing Official regarding distribution of the survey to ensure all applicants for any license are aware of the specific requirements regarding industrial waste disposal.

Monitoring. The County Licensing Official shall ensure compliance through review of proof of acceptance prior to issuance of a license.

Post-Mitigation Level of Impacts

With the implementation of Mitigation Measure HYDRO-1.1, residual direct impacts related to the use of herbicides and pesticides would be *less than significant with mitigation* for both the Project and the More Permissive Project. The County would ensure that impacts from these hazardous materials are minimized by reviewing and approving the Pesticide Management Plan for each cannabis cultivation site prior to the discharge of runoff. As described above, impacts related to contamination of surface or groundwater from construction and operation of cannabis cultivation would be subject to existing water quality regulation that would ensure environmental effects are *less than significant*. With the implementation of Mitigation Measure HYDRO-1.2, residual direct impacts related to the closure of non-conforming cannabis cultivation sites would be *less than significant with mitigation* for both the Project and the More Permissive Project. Implementation of MM HYDRO-1.3 would address industrial wastewater to ensure impacts are *less than significant with mitigation*.

Impact HYDRO-1.2 – Indirect Cultivation. Indirect impacts of the Program could occur through pollutant and sediment generation from required construction of up to 228 new residential units and associated roads, utilities, and other site improvements for cannabis operations within an existing primary residence. As discussed above in Impact HYDRO-1.1, indirect impacts associated with road construction, land clearing, and grading for house and water storage, could exceed the one acre

minimum to require coverage under the NPDES General Permit, with the corresponding requirements described above. With the state, regional and local ordinances enforced, the existing regulations would lessen the potential to introduce sediment and pollutants to receiving water bodies. The More Permissive Project would involve licensing of more eligible sites than the Project, which would increase the number of sites subject to existing local regulations, thereby increasing the potential impact from the introduction of sediment and pollutants to receiving water bodies. Even though all supporting development would be required to adhere to applicable water quality regulations, there may be cases where the access to a proposed site must cross steep or highly erosive soils, may be miles from the nearest accessible County Right of Way, or may include stream crossings, which would be a *potentially significant* impact.

Mitigation Measures

Implement MM LU-1.1.4. Master Planned Cannabis Facilities. As appropriate, use of a Master Plan to coordinate multiple adjoining properties to meet site development requirements on a case-by-case basis would apply to Impact HYDRO-1.2.

Implement MM LU-1.1.5. Reduction of Excessive Grading. Implementation of County Grading Ordinance amendments to prevent excessive grading would apply to Impact HYDRO-1.2.

Post-Mitigation Level of Impacts

With implementation of MM LU-1.1.4 and MM LU-1.1.5, area of disturbance for site development with homes and infrastructure would be minimized and residual indirect hydrologic impacts would be *less than significant with mitigation.* The County would ensure that excessive grading is minimized on a case-by-case basis.

Impact HYDRO-2. Commercial cannabis cultivation under the Program could adversely affect groundwater supplies and groundwater recharge. This impact would be less than significant with mitigation.

Impact HYDRO-2.1 – Direct Cultivation. Direct impacts of the Program could occur where the development and operation of licensed cannabis cultivation activities would unsustainably draw groundwater resources or inhibit groundwater recharge. As discussed above, more than half (54 percent) of existing cannabis cultivation sites utilize groundwater for irrigation. An additional 33 percent rely on municipal water, which is largely sourced from groundwater in the County. Increased demand for groundwater could occur from existing cultivators expanding production or new cultivators beginning cultivation. The More Permissive Project would also allow for a greater number of cultivation sites and provide an additional registration period. Therefore, there is the potential that the More Permissive Project would incrementally increase groundwater withdrawal in the County.

As discussed in Section 3.14, *Utilities and Energy Conservation*, new cannabis cultivation could increase Countywide water demands by up to 634.03 AFY , with a substantial portion of this irrigation water coming from groundwater sources. Cultivation licensees would be required to demonstrate that an adequate water source is available for proposed cultivation, either from a municipal supplier, yield from a permitted well, or from an approved surface water source. Limits to the availability of water from municipal sources or from groundwater management agencies may limit the licenses if a licensee cannot demonstrate an adequate source of water, including groundwater.

All three groundwater basins in the County are in a stage of overdraft, including the Pajaro Valley Groundwater Basin and Santa Cruz Mid-County Basin, which serve agricultural demands in the South County and Urban Regions and are in critical overdraft and subject to seawater intrusion. A substantial portion of licensed cultivation is expected to occur within the South County and Urban Regions, which would increase demands on the Pajaro Valley Groundwater Basin and the Mid County Groundwater Basin. Both basins are under the management of an approved GSA. By 2020, these GSAs are required by SGMA to implement a GSP that identifies mechanisms to achieve sustainable yield by 2040. The withdrawal of groundwater for cannabis cultivation would be considered in the preparation of the GSPs, but increases in groundwater resource demands in the near future have the potential to exacerbate overdraft conditions and adversely affect groundwater resources, including increased rates of seawater intrusion with increased drawdown. Given the potential for new and relocated cannabis cultivation to contribute to drawdown of currently overdrafted aquifers that are threatened with seawater intrusion, this impact is *potentially significant*.

Additionally, development to support cannabis cultivation could inhibit groundwater infiltration in Primary Groundwater Recharge (PRG) zones. New development would generally involve structures such as drying rooms and greenhouses to support up to 22,000 sf of canopy under the Project and up to 44,000 sf under the More Permissive Project scenario on land zoned CA, substantially less on other zoned parcels allowed under the program. SCCC Sections 13.10.632 and 13.10.636 require for agricultural buildings, sheds and greenhouses that storm water runoff drainage shall be retained on-site in areas of primary groundwater recharge capacity; in other areas, the drainage shall be detained on-site such that the rate of runoff leaving the site after the project is no greater than the rate before the project. While these measures may reduce impacts to groundwater recharge to less than significant, recharge on sites with regular use of pesticides and fertilizers have the potential to introduce contaminants to the groundwater table, which would be *potentially significant*.

Mitigation Measures

MM HYDRO-2.1. Water Efficiency for Cannabis Cultivation. To the greatest extent feasible, Licensees for cannabis cultivation shall maximize irrigation water efficiency using available techniques and technologies to monitor and control water consumption. Licensees shall work with the County Cannabis Licensing Office staff to identify and implement water-conserving features of the cultivation site depending on the location and type of cultivation, including, but not limited to, recirculated irrigation water (zero waste), timed drip irrigation, soil moisture monitors, evaporative barriers on exposed soils and pots, and use of recycled water, consistent with state law. Water conserving techniques shall be reviewed and approved as part of the licensing process.

Plan Timing and Requirements. The Licensee shall identify water-conserving features of the proposed cannabis cultivation site prior to issuance of a license to cultivate.

Monitoring. County Cannabis Licensing staff shall ensure compliance through review of license applications and site inspections as needed.

MM HYDRO-2.2. Rainwater Harvesting for Cannabis Cultivation. In order to reduce impacts to groundwater quantity and quality county-wide, Licensees for cannabis cultivation shall install a system of rainwater collection from all structures associated with cannabis cultivation and processing, including greenhouses, drying and trimming sheds, barns and storage facilities, and residences. Licensee shall calculate projected water demand for irrigation during the dry season (April 1 through September 30) in order to determine the maximum storage required, and

estimate the potential water available based upon average rainfall in the area and square footage of roof surface available for harvesting. Required storage shall be the smaller of the two estimates. Waivers to this mitigation may be granted by the Licensing Official where the Licensee can show that such a system is not feasible due to site limitations, and that all other feasible water conservation BMPs have been implemented.

Plan Timing and Requirements. The Licensee shall submit Rainwater Harvesting Plan with the submittal of all other license application materials.

Monitoring. County Cannabis Licensing staff shall ensure compliance through review of license applications and site inspections as needed.

Post-Mitigation Level of Impacts

With the implementation of MM HYDRO-2.1 and MM HYDRO-2.2, residual direct impacts related to groundwater resources would be *less than significant with mitigation* for both the Project and the More Permissive Project. The County would ensure that water efficiency is maximized for each cannabis cultivation site prior to licensing. As described above, impacts related to groundwater recharge are *less than significant* for the Project and the More Permissive Project.

Impact HYDRO-2.2 – Indirect Cultivation. Indirect impacts of the Program could occur through groundwater withdrawal from required construction of up to 228 new residential units and associated roads, utilities, and other site improvements for cannabis operations within an existing primary residence. Such residences could potentially increase demand for groundwater as such homes may rely on private wells, but because each cannabis cultivation site requires only one residence, additional demand on any single groundwater basin, hard rock or shallow stream aquifer would be negligible. In addition, all new residences would be required to be designed and constructed in accordance with State and County codes regulating water efficiency, including SCCC Chapter 13.13, *Water Efficient Landscaping*, and SCCC chapter 7.60, *Water Conservation*, and would be considered in the development of GSPs for the County's groundwater basins. In addition, all supporting development would be required to adhere to applicable water quality regulations, such as the General Permit for Storm Water Discharges Associated with Construction Activity. Adherence to applicable regulations would ensure indirect impacts on groundwater resources from the development of supporting infrastructure are *less than significant*.

However, as described in Section 3.0, *Introduction and Approach to Analysis*, the County Fire Code requirements for commercial development would require any site which proposes cultivation or manufacturing of cannabis or cannabis products in any structure larger than 120 sf that is not serviced by municipal water connections to develop, fill, and maintain water onsite for fire suppression in order to meet fire flow requirements. The amount of water required to be held in reserve would vary on a site by site basis as determined by the Fire Marshal, based upon multiple factors, including the size and construction materials of the structures, the adequacy of access, and the defensible space provided around the structures. The range of storage is estimated to be between 10,000 gallons and up to160,000 gallons or more.

For the purposes of analysis, this EIR anticipates an average of 120,000 gallons would be needed for each site as a conservative estimate. Based on the estimated number of sites seeking a license which would not be serviced by a municipal water agency, approximately 568 sites would be required be have access to a 120,000-gallon water storage tank prior to being licensed to cultivate cannabis. To fill these water tanks, licensees would be required to utilize permitted groundwater wells and surface

water diversions through legal water rights, or to import water from a licensed purveyor. This would result in a worst-case scenario where the additional demand for water would be approximately 68,160,000 gallons, or an additional 209 acre-feet of water, as a one-time draw, primarily on groundwater resources. As licensees would be required to install and fill tanks prior to being permitted to operate, some portion of this additional demand for water would likely occur over a short period following implementation of the Program, and could result in the demand for groundwater or surface water supplies that could not sustain water demands in that time frame, resulting in potentially long-lasting drawdowns in local groundwater aquifers, and subsequently adverse effects on groundwater resources.

The 209 acre feet estimate is a worst-case scenario, estimated for total expansion of the Program, and in all likelihood, is not a reasonable expectation. The financial demands involved in meeting the 20-foot wide road standard, water storage and supply, and home construction will result in some percentage of registrants to either move to a location that has municipal water, leave the industry, continue to grow outside of the regulatory framework, or share water storage with other near-by cultivators. A certain percentage of the 568 sites will be housed in under-utilized existing greenhouses. For these reasons the 209 number is likely exaggerated; however, due to the uncertain nature of the future development of this industry, the analysis is based upon this worst-case scenario.

Given the inability to predict where cannabis sites would be licensed and the availability of non-adjudicated water supplies to meet County Fire Code requirements, available water supply to meet these demands may not exist. When considering the number of proposed cannabis cultivators seeking a license under the Program, and the potential for these sites to be licensed in areas of the County that could not support such substantial short-term water demands, the indirect impacts of the Program as a result of compliance with this requirement are considered *potentially significant.*

Mitigation Measures

MM HYDRO-2.3. Water Tank Supply Management. To the maximum extent feasible, the County Licensing Office shall coordinate with Licensees to establish shared water tanks for fire purposes in areas where two or more cultivators are in close proximity. Filling of water tanks from groundwater or surface water sources shall be limited to the rainy season, between October 15 and April 15 when groundwater resources are maximized, and imported water from a state licensed purveyor shall be encouraged as a source of tank filling.

Plan Timing and Requirements. The County Fire Marshal shall determine requirements for onsite water storage and management on a case-by-case basis. Licensing staff shall review license application data to identify potential Licensees eligible for shared use prior to issuing a license for cultivation for each site.

Monitoring. County Cannabis Licensing staff shall ensure compliance through review of license applications and site inspections as needed.

Post-Mitigation Level of Impacts

Implementation of MM HYDRO-2.3 would reduce onsite fire water storage requirements to levels commensurate with the low fire hazard associated with licensed and permitted cannabis greenhouses, drying sheds, barns, and agricultural buildings, which would substantially reduce the water demand, particularly from groundwater resources. Therefore, residual impacts of the Project and More Permissive Project would be reduced to a *less than significant* level.

Impact HYDRO-3. Commercial cannabis cultivation under the Program would have a less than significant effect on existing drainage patterns, including the alteration of the course of a stream or river and the potential to place people or structures in areas of inundation or mudflows, including 100-year floodplains. This impact would be less than significant with mitigation.

Impact HYDRO-3.1 – Direct Cultivation. The County's watersheds are defined by the topography of the County, and landscape-level changes to the existing drainage patterns would not occur. Due to the relatively small size of cultivation operations, site grading may result in small-scale alterations to onsite runoff and storm water flows related to outdoor cultivation. Direct impacts of all types of cannabis cultivation may involve some grading to make a site suitable for cultivation, including potential development of cannabis-related structures. SCCC chapter 16.30, Riparian Corridor and Wetlands Protection, prohibits development activities within a riparian corridor. Beyond this restriction, the proposed Project includes a prohibition on cultivation within 50 feet of an intermittent or ephemeral stream, and within 100 feet of a perennial stream, with those distances increased under the More Permissive Project to 100 feet and 150 feet respectively. The More Permissive Project setback distances are in conformance with the proposed setbacks in the Draft Cannabis Cultivation Guidelines currently being considered by the State Water Resources Control Board. Combined, the ordinance and the restrictions under the Program will ensure no direct alteration of the course of a stream or river.

Outdoor cultivation would be subject to existing County requirements for initial land clearing and would be similar to other agricultural operations in the County (see also, Section 3.6, *Geology and Soils*). Further, cannabis canopy would be limited to a maximum of 22,000 sf under the Project and 44,000 sf under the More Permissive Project on CA zoned properties, less on all others, which limits the potential for outdoor cultivation to have substantial impacts to drainage patterns or flood plains.

New greenhouses, building, or other cannabis-related structures would have the potential to increase concentrated runoff, but with implementation of MM-Hydro 2.2 this water will mostly be collected for irrigation. Furthermore, development would be subject to existing County regulation and permitting, in addition to the cannabis licensing process, ensuring that drainage is controlled and subject to a site plan, which would minimize adverse effects of runoff. The County's Grading Ordinance (SCCC Chapter 16.20) and Chapter 7.79, *Runoff and Pollution Control*, of the SCCC, prohibit the deposit of fill, debris, or other material in the storm drain system, a drainage channel, or on the banks of a drainage channel, and set forth best management practices to prevent, control, and reduce storm water volume, runoff rate, and pollutant load. The issuance of licenses following County review would also ensure that sites are properly designed in accordance with the County's Grading and Erosion Control Ordinances (Chapters 16.20 and 16.22 of the SCCC) to prevent the occurrence of mudflows. Implementation of the Program would result in relocation of ineligible cultivation locations to permissible locations outside riparian corridors and closure of existing ineligible cultivation sites which would reduce impacts to stream courses and flood zones. With adherence to the Program's design features and applicable regulations, the direct impacts of cannabis cultivation under the Project and More Permissive Project would be considered *less than significant*.

Impact HYDRO-3.2 – Indirect Impacts Related to Cultivation and Manufacturing. Indirect impacts of all types of cannabis cultivation allowable under the Project and More Permissive Project would be similar to the direct impacts of cultivation sites. The construction and placement of houses, roads, and other ancillary site improvements, including water storage tanks, within a designated 100-year floodplain would not be permitted, and all improvements would be required to adhere to

applicable regulations, including the County's Grading Ordinance and Chapter 7.79 of the SCCC. Where new roads are to cross a water course, the development of the roadway would be subject to permitting requirements from the Army Corps of Engineers, the RWQCB, the CDFW, and the County Riparian and Wetland Protection Ordinance. With application of existing regulations to maintain drainage patterns and hydraulic capacity, indirect impacts to drainage patterns under the Project and More Permissive Project would be *less than significant*.

Impact HYDRO-4. Commercial cannabis manufacturing under the Program would result in a less than significant effect with mitigation on the introduction of sediment and other pollutants to surface flows and groundwater, and on the groundwater supplies and groundwater recharge. This impact would be less than significant with mitigation.

Impact HYDRO-4.1 -Direct/Indirect Manufacturing. Cannabis manufacturing could occur throughout various areas of the County, and must be in conjunction with a licensed cultivation on parcels zoned CA, RA, A, SU, and TP. The manufacturing processes itself is not a water intensive process and would be expected to incrementally increase water demand. This increase is anticipated to be negligible when compared to available water supplies in any one groundwater source; for example, cold water hash requires small amounts of water that would not measurably increase water demand or water discharge. Further, any proposed new buildings dedicated to manufacturing would be subject to existing County regulation and permitting, in addition to the cannabis licensing process, ensuring that drainage is controlled and subject to a site plan, which would minimize adverse effects of runoff. The County's Grading Ordinance (SCCC Chapter 16.20) and Chapter 7.79, *Runoff and Pollution Control*, of the SCCC, prohibit the deposit of fill, debris, or other material in the storm drain system, a drainage channel, or on the banks of a drainage channel, and set forth best management practices to prevent, control, and reduce storm water volume, runoff rate, and pollutant load. The issuance of licenses following County review would also ensure that sites are properly designed in accordance with the County's Grading and Erosion Control Ordinances (Chapters 16.20 and 16.22 of the SCCC) to prevent the occurrence of mudflows. Implementation of the Program would result in relocation of ineligible manufacturing locations to permissible locations outside riparian corridors and closure of existing ineligible cultivation sites which would reduce impacts to stream courses and flood zones. Enclosed structures largely preclude the ability of pollutants to enter runoff, storm water flows, or groundwater because operations are contained within the structure. All hazardous materials used in cannabis manufacturing would be stored and used in accordance with applicable federal, state, and local regulations, which would prevent their introduction into receiving water bodies. Implementation of the Program would result in relocation or closure of impermissible manufacturing locations to permissible locations outside riparian corridors. Therefore, with application of existing regulations, the impacts of cannabis manufacturing under the Program would be *less than significant.*

Impact HYDRO-5. Commercial cannabis manufacturing under the Project would have a less than significant effect on existing drainage patterns, including the alteration of the course of a stream or river and the potential to place people or structures in areas of inundation or mudflows, including 100-year floodplains. This impact would be less than significant with mitigation.

Impact HYDRO-5.1 – Direct/Indirect Manufacturing. Although many manufacturing operations would be located in existing structures, direct impacts of cannabis manufacturing allowable under the Program could include site preparation activities to create level foundations for buildings and

structures. However, through the licensing process, the County would ensure that development activities, including grading activities and construction or use of structures to support cannabis manufacturing would not occur within a 100-year floodplain or within the HWM of existing water courses. The issuance of licenses following County review would also ensure that sites are properly designed in accordance with the County's Grading and Erosion Control Ordinances (Chapters 16.20 and 16.22 of the SCCC) to prevent the occurrence of mudflows or floods. Implementation of the Program would result in relocation of ineligible cultivation locations to permissible locations outside riparian corridors and closure of ineligible, unlicensed sites which would reduce impacts to riparian corridors. Therefore, with application of existing regulations to control the location of structures, the impacts of cannabis product manufacturing would be *less than significant*.

3.9.6.2 Summary of Program Impacts and Proposed Mitigation Measures

Table 3.9-5 below provides a summary of hydrology and water quality impacts resulting from the Program.

Table 3.9-5 Summary of Hydrology and Water Quality Impacts

Hydrology and Water Quality Impacts	Level of Significance	Mitigation Measures	Post-Mitigation Level of Significance	
			Project	More Permissive Project
Impacts from Commercial Cannabis Cultivation				
Impact HYDRO-1. Commercial cannabis cultivation under the Program could introduce sediment and other pollutants to surface flows and groundwater, which would cause water resource contamination. With mitigation, this impact would be less than significant.				
Direct	Potentially Significant	MM HYDRO-1.1. Pesticide and Herbicide Control MM HYDRO-1.2. Cleanup and Restoration Plan for Relocated Cultivation Sites MM HYDRO-1.3. Sanitary Sewer Survey	Less than significant with Mitigation	Less than significant with Mitigation
Indirect	Potentially Significant	MM LU-1.1.4. Master Planned Cannabis Facilities MM LU-1.1.5. Reduction of Excessive Grading	Less than Significant with Mitigation	Less than Significant with Mitigation
Impact HYDRO-2. Commercial cannabis cultivation under the Program could adversely affect groundwater supplies and groundwater recharge. This impact would be less than significant with mitigation.				
Direct	Potentially Significant	MM HYDRO-2.1. Water Efficiency for Cannabis Cultivation MM HYDRO-2.2. Rainwater Harvesting for Cannabis Cultivation	Less than Significant with Mitigation	Less than Significant with Mitigation
Indirect	Potentially Significant	MM-HYDRO-2.3. Water Tank Supply Management	Less than Significant with Mitigation	Less than Significant with Mitigation

Table 3.9-5 Summary of Hydrology and Water Quality Impacts (Continued)

Hydrology and Water Quality Impacts	Level of Significance	Mitigation Measures	Post-Mitigation Level of Significance	
			Project	More Permissive Project
Impact HYDRO-3. Commercial cannabis cultivation under the Program would have a less than significant effect on existing drainage patterns, including the alteration of the course of a stream or river and the potential to place people or structures in areas of inundation or mudflows, including 100-year floodplains. This impact would be less than significant with mitigation.				
Direct	Less than Significant	None Required	Less than Significant	Less than Significant
Indirect	Less than Significant	None Required	Less than Significant	Less than Significant
Impacts from Commercial Cannabis Manufacturing				
Impact HYDRO-4. Commercial cannabis manufacturing under the Program would result in a less than significant effect with mitigation on the introduction of sediment and other pollutants to surface flows and groundwater, and on the groundwater supplies and groundwater recharge. This impact would be less than significant with mitigation.				
Direct/ Indirect	Less than Significant	None Required	Less than Significant	Less than Significant
Impact HYDRO-5. Commercial cannabis manufacturing under the Project would have a less than significant effect on existing drainage patterns, including the alteration of the course of a stream or river and the potential to place people or structures in areas of inundation or mudflows, including 100-year floodplains. This impact would be less than significant with mitigation.				
Direct/ Indirect	Less than Significant	None Required	Less than Significant	Less than Significant

3.9.6.3 Secondary Impacts

Impact HYDRO-6. Unregulated commercial cannabis cultivation and cannabis product manufacturing under the Program could potentially introduce pollutants or sediment into surface flows and groundwater, reduce groundwater supplies and recharge, alter existing drainage patterns, or place people or structures in areas of inundation or mudflows. This is a significant and unavoidable impact.

Impact HYDRO-6. Secondary Cultivation/Manufacturing. The secondary impacts of the Program are related to licensee registrants who have registered for a license and are included in the baseline, but due to the restrictiveness of the program or an inability to secure a viable location to cultivate or manufacture within the program, continue unregulated cannabis cultivation and manufacturing in remote areas of the County. Impacts could occur related to inappropriate siting, grading, use of pesticides, runoff control, water source control, and erosion control. Although these sites may rely on existing and new wells, it is more likely that unlicensed sites would rely on illegal stream diversions due to the lower expense of operating a portable pump compared to drilling a new well. Therefore, these sites could potentially have adverse impacts on water resources or be sited in areas of inundation or mudflows. This is similar to the impact that any non-permitted development could have, since it is outside the system that identifies geologic hazards and compliance with regulations.

The potential for impacts associated with the introduction of sediment and pollutants would depend upon the location and slope of the unlicensed cultivation site, site specific cultivation practices, and the distance to receiving water bodies. Because many of the County's drainages have been identified as impaired for the type of pollutants that would be generated by an unlicensed cultivation, the unlicensed cultivation could potentially introduce pollutants of concern into receiving water bodies. Unlicensed cannabis cultivation development would not follow existing regulations intended to protect water quality, nor would these sites go through a licensing process to ensure water quality is considered in site development. Unregulated cannabis cultivation development would continue to occur in unknown areas of the County under the Proposed Project and More Permissive Project. Although these sites may rely on existing and new wells, it is more likely that unlicensed sites would rely on illegal stream diversions due to the lower expense of operating a portable pump compared to drilling a new well. The County's watercourses are a primary source of groundwater recharge, and a reduction in stream flow volumes may reduce groundwater infiltration along the watercourse.

Implementation of the Program would reduce the total number of unlicensed cannabis cultivation sites in the County through licensure of compliant sites and enforcement actions taken against noncompliant sites which would in turn reduce adverse impacts on surface and groundwater quality and quantity in the County. The More Permissive Project would more effectively reduce impacts from unlicensed cultivation and manufacturing as this scenario increases the area of eligibility for licensing and has an additional opportunity in the future for licensing of cannabis cultivation sites, which have the greatest potential for hydrologic impacts related to site disturbance and runoff. However, changing and expanded unlicensed cannabis activities would have *potentially significant* impacts to water resources.

Mitigation Measures

Implement MM AT-1.3a. Sustained Enforcement Program. To reduce secondary impacts related to hydrology and water quality associated with unregulated cannabis cultivation/manufacturing and related development activities, MM AT-1.3a, addressing County implementation of the Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program, shall apply to Impact HYDRO-6.

Implement MM AT-1.3b. Annual Survey and Reporting. To reduce secondary impacts related to hydrology and water quality associated with unregulated cannabis cultivation/manufacturing and related development activities, MM AT-1.3b, addressing County criteria for an annual report documenting changing cannabis trends and a survey to determine when to open additional license registration periods, shall apply to Impact HYDRO-6.

Post-Mitigation Level of Impact

With implementation of MMs AT-1.3a and AT-1.3b, unregulated cannabis cultivation and/or manufacturing would be reduced over time either through enforcement/closure of the cannabis sites or the permitting and licensing of new cannabis sites. Therefore, unregulated cannabis activity in areas susceptible to impacts to surface or groundwater quality and quantity would be reduced. Since unregulated cultivators/manufacturers would have adverse impacts on water resources and are unlikely to alert the County if their activities cause contamination or degradation of water resources, residual impacts associated with Impact HYDRO-6 would remain *significant and unavoidable*.

3.9.6.4 Cumulative Impacts

As described in Section 3.0, *Introduction and Approach to Analysis*, the cumulative setting for the Program involves a variety of planning programs in the region of Santa Cruz County along with regional growth and ongoing development under the County's General Plan. Ongoing development and planning, in addition to the Program, would have the potential to contribute to cumulative impacts associated with the introduction of sediment and pollutants to receiving water bodies, or the placement of fill or structures within a HWM or 100-year floodplain of a water course.

Regional growth and development would be subject to the County's existing regulatory environment, which would address potential impacts to water quality and hydrologic resources. All site grading would occur in accordance with the County's Grading Ordinance and Erosion Control Ordinances, as well as State and County regulations, such as the California Food and Agriculture Code, RWQCB Order R3-2017-0002, and the goals and policies of the County's General Plan. Adherence to these regulations would reduce the potential for sediment and pollutants to enter receiving water bodies, ensure ongoing groundwater recharge, and avoid impacts associated with flood and inundation. Further, the Updates to Agricultural Policies are intended to protect agricultural lands from subdivision in accordance with Measure J and the General Plan sustainability updates are intended to improve protection and sustainable use of water resources. When combined with the Program, these updates are not anticipated to result in a material change to water quality impacts from agricultural activities. Because Program and regional growth and development would occur in accordance with applicable water quality and resources regulations, cumulative impacts would be *less than significant.*

Notably, however, the development of the RWQCB's Cannabis Cultivation Program has the greatest potential to result in cumulatively considerable impacts. When adopted, the RWQCB Cannabis Cultivation Program may contain regulatory requirements for cannabis cultivation and manufacturing sites that apply to all four regions of the County and are more stringent than existing regulations and proposed design features of the Program. When adopted, these regulations may actually result in improvements to water quality; this would be a *potentially beneficial* cumulative impact.

Section 3.10
Land Use and Planning

3.10.1 Introduction

This section identifies and evaluates issues related to land use and planning that could arise from cannabis cultivation and manufacturing permitted under the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program), including analysis of both the Project scenario and the More Permissive Project scenario. Existing land uses within unincorporated Santa Cruz County (County) are described, along with applicable County land use policies and regulations. Impacts of future commercial cannabis cultivation and cannabis product manufacturing are assessed relative to consistency with land use designations, zoning regulations, and other relevant plans, ordinances, and standards.

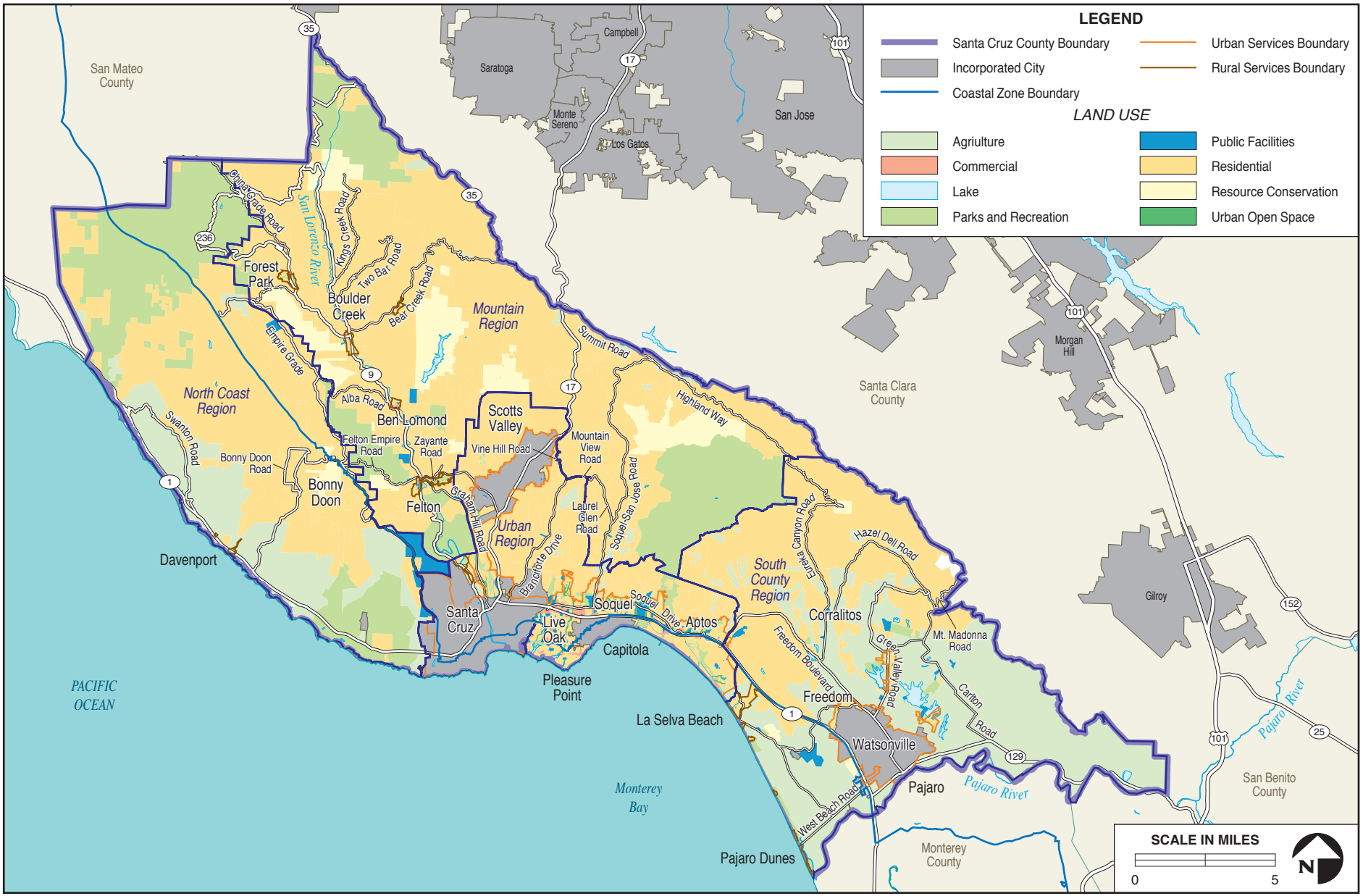
Program Impact Analysis
At a Glance
The Program could result in inconsistencies between plans and policies and adversely affect existing communities. County regulations and Program mitigations would address potential inconsistencies. However, unlicensed cannabis activities by registrants could have significant and unavoidable impacts.

This section is based on information from the Santa Cruz County General Plan and Local Coastal Program (LCP) Land Use and Conservation and Open Space Elements, Town and Village Plans, and the Santa Cruz County Code (SCCC), including the Santa Cruz County Zoning Ordinance. The overall assumptions and methodology for this analysis are detailed in Section 3.0, *Introduction and Approach to Analysis*.

3.10.2 Environmental Setting

Land use in the County is governed by the Santa Cruz County General Plan/Local Coastal Program (LCP) Land Use Plan in the Land Use Element. The Land Use Element guides physical development of the County and establishes a pattern of land utilization and sets out standards for both the density of population and the intensity of development for each of the land use classifications described. The Land Use Element describes land use classifications, diagrams the distribution of land uses throughout the unincorporated County, and addresses the policies established in individual village, town and community specific plans. Refer to Figure 3.10-1 for a map of County General Plan Land Use Designations.

The Santa Cruz County Zoning Ordinance (SCCC Chapter 13.10) carries out the policies of the General Plan and LCP Land Use Plan by classifying and regulating the uses of land within the County. While land use designations characterize the physical uses and the intensity of that use, zoning designations legally define permitted uses and development standards for those uses. Chapter 2, *Project Description*, characterizes the County's agricultural zoning districts (CA, A, and AP), timber production zoning district (TP), industrial zoning districts (M-1, -2, and -3), special use zoning district (SU), commercial zoning districts (C-2 and C-4), and residential zoning districts (RA, RR, R-1, RB, and RM). Refer to Figure 3.10-2 for a map of zoning districts in the County. Table 3.10-1 denotes the zoning districts that implement General Plan land use designations, consistent with the SCCC.

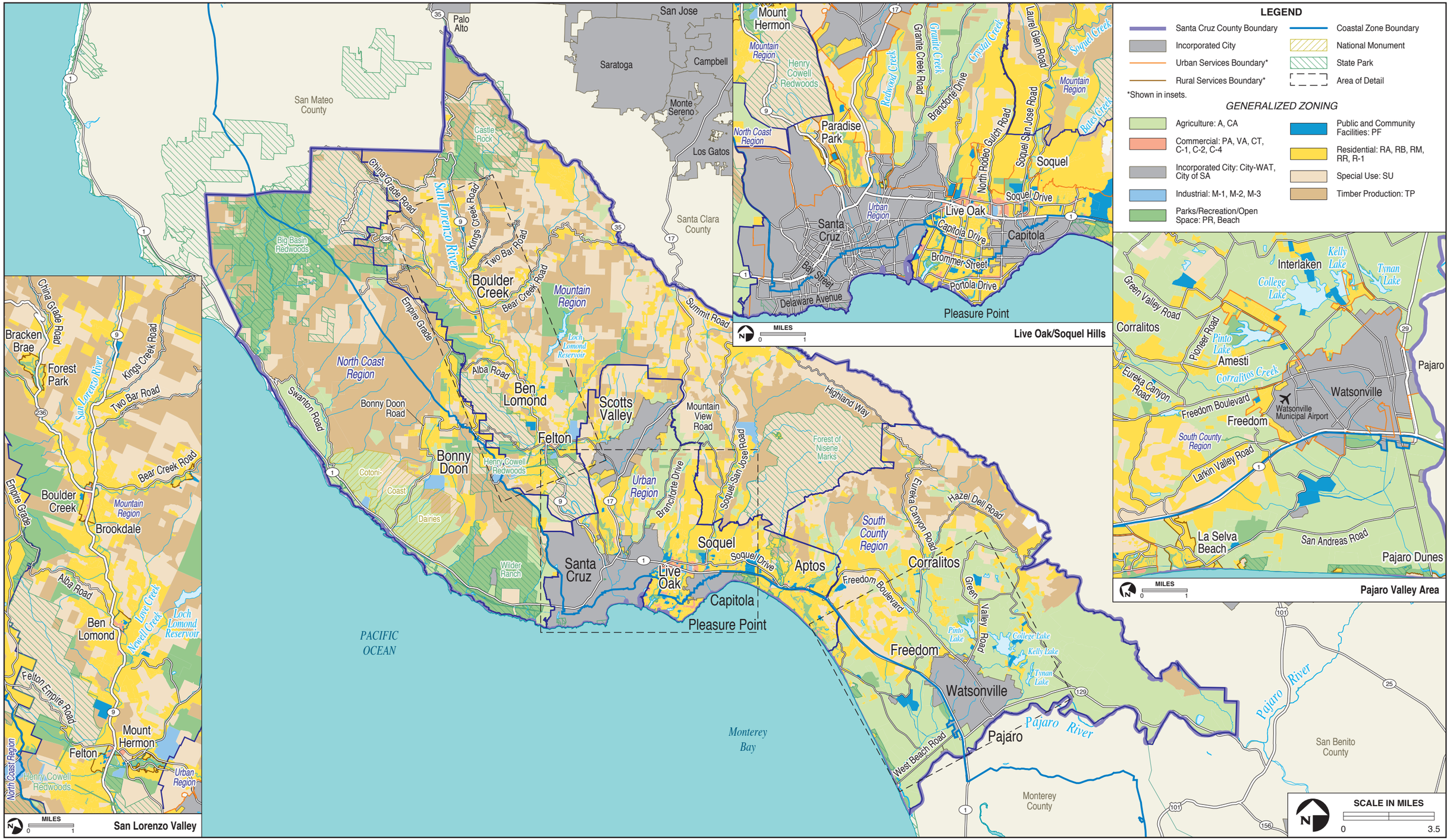


3.10-2

amec foster wheeler

Santa Cruz County General Plan
Land Use Designations

FIGURE 3.10-1



amec foster wheeler

Santa Cruz County Zoning Districts

FIGURE 3.10-2

This page intentionally left blank.

Land use in the County varies widely depending on location. The North Coast Region includes coastal agricultural areas and rural communities, such as Bonny Doon and Davenport, along with isolated industrial areas, such as the former Davenport Cement Plant (pictured).

The Mountain Region is primarily redwood forests, timberlands, and habitat areas with low density rural residential uses outside of small mountain communities, such as Boulder Creek (pictured).

The Urban Region contains the most developed areas of the County including unincorporated communities of Live Oak, Carbonera/Scotts Valley, Aptos, and Soquel (pictured), as well as low density rural residential areas in the foothills and mountains.

The South County Region is primarily agricultural with greenhouses and row crops by the coast and greenhouses, row crops, smaller orchards, and farms on the coastal terrace and in the foothills.

General Plan Consistency

SCCC Chapter 13.10 establishes zoning districts and regulations consistent with the General Plan to ensure allowable uses and development standards for each district are in harmony with and compatible with the County General Plan/LCP, and that they implement the objectives, policies and programs of the General Plan and do not inhibit or obstruct the orderly attainment of the General Plan. Land uses which are allowed by discretionary approval must be determined to be consistent with the General Plan prior to approving the use, and amendments to the SCCC must conform with the General Plan. Whenever an amendment to either the zoning ordinance or the General Plan is considered, a concurrent amendment to the other document shall be considered where necessary to maintain consistency.

Table 3.10-1 denotes the zoning districts that implement and are consistent with the various General Plan land use, resource and constraint designations. Of note, the SU zoning district uses on a site must be consistent with the underlying General Land/LCP Land Use designation and allowable zoning districts.

Table 3.10-1 Santa Cruz County Zoning Implementation of General Plan/LCP Land Uses

General Plan/LCP Land Use Designation	Zone District pursuant to SCCC
All Land Use Designations (except Agricultural Resource Lands)	SU – Special Use
Agricultural:	
AG – Agriculture	A – Agriculture
	RA – Residential Agriculture
	CA – Commercial Agriculture
	TP – Timber Production
	PR – Parks, Recreation and Open Space
	AP – Agricultural Preserve (for existing AP Districts only)[1]
Commercial:	
C-N – Neighborhood Commercial	C-1 – Neighborhood Commercial
	CT – Tourist Commercial
	PA – Professional and Administrative Offices
C-C – Community Commercial	C-2 – Community Commercial
	C-1 – Neighborhood Commercial
	CT – Tourist Commercial
	VA – Visitor Accommodations
	PA – Professional and Administrative Offices
C-S – Service Commercial/Light Industry	M-1 – Light Industrial
	PA – Professional and Administrative Offices
	C-4 – Commercial Services

[1] Currently there are no properties zoned AP in the County.

Table 3.10-1. Santa Cruz County Zoning Implementation of General Plan/LCP Land Uses (Continued)

General Plan/LCP Land Use Designation	Zone District pursuant to SCCC
Residential:	
R-M – Mountain Residential	RR – Rural Residential
	RA – Residential Agriculture
	TP – Timber Production
	A – Agriculture
	R-1 – Single-Family Residential
R-S – Suburban Residential	RR – Rural Residential
	RA – Residential Agriculture
	R-1 – Single-Family Residential
R-UVL – Urban Very Low Residential	R-1 – Single-Family Residential
R-UL – Urban Low Residential	R-1 – Single-Family Residential
	RB – Ocean Beach Residential
	RM – Multifamily Residential
R-UM – Urban Medium Residential	R-1 – Single-Family Residential
	RB – Ocean Beach Residential
	RM – Multifamily Residential
R-UH – Urban High Residential	R-1 – Single-Family Residential
	RM – Multifamily Residential
All Residential Designations	PR – Parks, Recreation and Open Space
Open Space Uses:	
O-R – Parks, Recreation and Open Space	PR – Parks, Recreation and Open Space
	TP – Timber Production
O-C – Resource Conservation	PR – Parks, Recreation and Open Space
	TP – Timber Production
	A – Agriculture
General Plan/LCP Land Use Overlay Designations:	
I – Heavy Industry	M-1 – Light Industrial
	M-2 – Heavy Industrial
Q – Quarry	M-3 – Mineral Extraction
General Plan/LCP Resource:	
Agricultural Resource Lands	AP – Agricultural Preserve Zone District
	A-P – Agriculture with Agricultural Preserve Zone District
	CA – Commercial Agriculture
	TP – Timber Production
Timber Resource Lands	TP – Timber Production

Source: SCCC Chapter 13.10.170, *General Plan Consistency*

Urban and Rural Land Use

A central County land use policy is to distinguish between urban and rural areas, with the goal of encouraging new development to occur in urban areas and protecting agricultural land and natural resources in the rural areas. As described in Chapter 2, *Project Description*, the County separates these areas with an Urban/Rural Boundary, which is illustrated by two lines; the Urban Services Line (USL) and the Rural Services Line (RSL) (refer to Figure 3.10-1).

USL – The USL defines where urban services may be provided in the County, and guides the extension of public services and the subsequent creation of urban densities, and coordinates new residential development with the provision of public services and facilities. Generally, the cities of Scotts Valley, Capitola, Santa Cruz, and Watsonville, and the communities of Live Oak, Soquel, Aptos, and portions of Pajaro Valley and Carbonera are included within the USL.

RSL – The RSL defines existing enclaves in rural areas which are developed at urban densities. Generally, these unique communities and subdivisions have some urban-level services. County policy allows the provision of full urban services to serve these enclaves, but expansion of the RSL into rural areas is prohibited. Areas within the RSL include the communities of Davenport, Boulder Creek, Boulder Creek Country Club, Bear Creek Estates, Ben Lomond, Felton, Paradise Park, La Selva Beach, Place de Mer, Sand Dollar Beach, Canon Del Sol, Sunset Beach, Pajaro Dunes North, and Pajaro Dunes South.

Residential Land Use

General Plan residential land use designations apply to rural areas outside the USL and RSL, and communities with urban densities defined by the RSL and the USL boundaries.

Mountain Residential (R-M) – This land use designation provides for very low density residential development in areas which are unsuited to more intensive development due to the presence of physical hazards and development constraints, the necessity to protect natural resources, the lack of public services and facilities required to support higher densities; and desire to maintain a large portion of the County in open space in order to retain the existing rural scenic character, and to promote a sustainable environment.

Rural Residential (R-R) – This land use designation provides for low density residential development on rural lands which have access from roads maintained to rural road standards and adequate fire protection, and which are restricted from more intensive development due to limited public services and facilities, physical hazards and development constraints, and the desire to maintain rural character.

Suburban Residential (R-S) – This land use designation provides for suburban density residential development in areas that have developable land, access from adequate roads maintained to rural road standards, water service, soils of good septic suitability, and fire protection.

Urban Very Low Density Residential (R-UVL) – This land use designation provides for areas of residential development on large lots at very low densities inside the USL which have a full range of urban services, or in USL or RSL areas currently developed to an urban density. It is appropriate in areas with significant environmental constraints, or as a transition to adjacent rural density development.

Urban Low Density Residential (R-UL) – This land use designation provides for low density residential development in areas within the USL which have a full range of urban services, or in USL or RSL areas currently developed to an urban density.

Urban Medium Density Residential (R-UM) – This land use designation provides for medium density residential development in areas within the USL which have a full range of urban services, with access onto collector or arterial streets, and located near neighborhood, community, or regional shopping facilities.

Urban High Density Residential (R-UH) – This land use designation provides for higher density residential development in areas within the USL, located where increased density can be accommodated by a full range of urban services and in locations near collector and arterial streets, transit service, and neighborhood, community, or regional shopping facilities.

The Residential zoning district (R-1, RA, RB, RM, and RR) which collectively make up 43,992 acres of the County, provide areas of residential use in locations and at densities consistent with the County General Plan. The intent of the R zoning districts is to reserve areas for primarily residential uses in locations protected from the incompatible effects of nonresidential land uses (Part III, Article II, *Residential Districts*, of SCCC Chapter 13.10, *Zoning Regulations*).

Commercial and Industrial Land Use

Commercial areas in the County have the potential to conflict with adjacent residential areas, causing problems such as noise and traffic impacts, incompatible design, and insufficient buffering. To reduce these issues, the General Plan and LCP Land Use Plan focuses on the development of commercial clusters, the need for greater attention to both building and site design, and the designation of appropriate land uses near commercial areas.

Neighborhood Commercial (C-N) – This land use designation provides compact, conveniently-located, and well-designed shopping and service uses to meet the needs of individual urban neighborhoods, rural communities, and visitors. It allows a variety of retail and service facilities.

Community Commercial (C-C) – This land use designation provides well-designed centers of concentrated commercial use accommodating a mix of activities serving the general shopping, service, and office needs of community-wide market areas. It allows a wide variety of retail and service facilities, including cottage industry with onsite retail sales.

Service Commercial and Light Industrial (C-S) – This land use designation provides for commercial services and light industrial activities in areas which have adequate access and public services and where the impacts of noise, traffic, and other nuisances and hazards associated with such uses will not adversely affect other land uses. It allows light industrial facilities such as assembly and manufacturing, as well as commercial services facilities.

Heavy Industry (I) – This land use designation overlay provides for limited heavy industrial activities such as major manufacturing plants, to encourage the productive utilization of the County's natural resources and provide employment, while ensuring compatibility with the environment, available infrastructure, and adjacent land uses.

Quarry (Q) – This land use designation overlay allows for the economic extraction of mineral resources with conditions to require minimal adverse impacts on environmental and scenic resources, and surrounding residential land uses.

The Industrial zoning district (M-1, 2, and 3) collectively make up 1,074 acres of the County, including approximately 887 acres within the M-3 with Quarry (Q) land use designation/overlay, to provide area for manufacturing, research and development, industrial uses, and mining processes. The intent of the M zoning districts and Q designation overlay is to provide areas for light and heavy industrial facilities, and M-3 allows for mineral extraction associated with the quarries in the County (Part III, Article IV, *Industrial Districts*, of SCCC Chapter 13.10, *Zoning Regulations*).

The Special Use (SU) zoning district applies to 70,392 acres of the County. The intent of the SU zoning district is to provide for and regulate land use that requires flexibility of use and regulation, the development of land with a variety of physical constraints, and the development of land that is designated for mixed uses (Part III, Article VIII, *Special Use SU District*, of SCCC Chapter 13.10, *Zoning Regulations).* SU zoned properties must comply and be consistent with the underlying land use designation, as described in Table 3.10-1.

The Commercial Services (C-4) zoning district applies to 132 acres of the County and generally applies to larger parcels near major roadways. The intent of the C-4 zoning district is to meet the commercial services needs of the various communities in the County by allowing a broad range of commercial services uses that are primarily nonretail and nonpolluting (Part III, Article VIII, *Commercial Services C-4 District*, of SCCC Chapter 13.10, *Zoning Regulations*).

The Community Commercial (C-2) zoning district applies to 267 acres of the County and generally applies commercial clusters and shopping centers in established communities. The intent of the C-2 zoning district is to provide centers of concentrated commercial uses accommodating a broad range and mixture of commercial activities, serving the general shopping and service needs of community-wide service areas, and including visitor accommodations (Part III, Article VIII, *Community Commercial C-2 District*, of SCCC Chapter 13.10, *Zoning Regulations*).

Agricultural and Timber Land Use

The General Plan addresses timber and agricultural land uses in Chapter 5 the Conservation and Open Space Element. The timber policies involve use of timber production zoning to maintain economically-viable timber production and timber management practices to protect soil, water, and habitat values. The agricultural policies establish protection for both commercial and non-commercial agricultural lands.

Timber Production – This land use designation encourages the orderly economic production of forest products consistent with the least possible environmental impacts.

Commercial Agricultural Land – This land use designation maintains designated commercial agricultural lands and aims to prevent conversion of this land to non-agricultural uses.

Non-Commercial Agricultural Land – This land use designation encourages and provides for limited agricultural uses, such as small-scale agriculture and community gardens, on the small amount of agricultural land not designated as commercially viable in the County.

Specialized Agricultural Uses – This land use designation provides for a variety of agricultural uses such as greenhouses, aquaculture, and wineries on lands appropriately suited for these uses.

Large areas of timber production in the Santa Cruz Mountains lie within the TP zoning district which extends across 71,306 acres of the County. The intent of the TP zoning district is to protect and

maintain the County's timberland, and to preserve agriculture and other open space uses where they are compatible with timberland uses.

The County's three agricultural zoning districts are CA - Commercial Agriculture, A – Agriculture, and AP - Agricultural Preserve and comprise 82,422 acres of the County; however, there are no properties zoned AP in the County. The intent of the CA zoning district is to preserve the productive capacity and economic integrity of commercial agricultural lands. The A zoning district provides for single family residential and non-commercial agricultural uses, such as family farming and animal raising, and limited commercial agricultural activities. Such lands are identified by the County as not as commercially viable as CA and AP lands but still productive. In addition, the RA – Residential Agriculture zoning district is defined by the SCCC as a residential zone that permits both single family residential and small-scale commercial agricultural uses.

3.10.3 Regulatory Setting

The land use and planning analysis was conducted in conformance with the goals and policies of local regulations. The following section summarizes the most applicable policies and regulations which would relate directly to future cannabis cultivation and cannabis product manufacturing under the Project and More Permissive Project. Additional federal, state, and local policies and regulations are provided in Appendix A.

3.10.3.1 Local

The County regulates the physical development of land through its General Plan and LCP Land Use Plan, which is implemented by the SCCC. The County's land use regulations provide a comprehensive set of policies and regulations. Key policies and regulations particularly relevant to this Program are described below. A complete list of relevant plans and policies can be found in Appendix H and below in Table 3.10-2, County Plans and Policies Consistency Summary. Policies denoted with "LCP" in the title indicate that objective/policy is included as part of the Local Coastal Program. For resource-specific policies (e.g., geology, public services), please refer to the relevant section of this EIR.

General Plan/LCP

Land Use Element/LCP Land Use Plan (Chapter 2)

The purpose of the Land Use Element is to guide the future physical development of the County of Santa Cruz and to address the historic, current and future distribution, location, density and intensity of all land uses in the unincorporated portion of the County. Agricultural goals and policies are addressed by the Conservation and Open Space Element. Key relevant goals, objectives and policies of the Land Use Element include:

- **Population and Residential Growth Goals:** To provide an organized and functional balance of urban, rural, and agricultural land use that maintains environmental quality; enhances economic vitality; protects the public health, safety and welfare; and preserves the quality of life in the unincorporated areas of the County.
- **Commercial and Industrial Siting and Development Goals:** To provide adequate facilities to meet the shopping, service, and employment needs of County residents and area visitors in

a manner compatible with adjacent residential development, availability of public facilities, protection of natural resources, and maintenance of environmental quality and high standards of urban design.

- **Jobs/Housing Balance Goals:** To develop an efficient land use pattern which improves the area's jobs/housing balance and thereby reduces the total amount of vehicle miles traveled and reduces polluting emissions.
- **Village, Town, Community and Specific Plans Goals:** To continue using village, town, community and specific plans to provide a planning framework to guide future public and private improvements in town centers and other concentrated urban and rural areas; to provide a higher level of planning detail and public involvement; and promote economic vitality and coherent community design within the unique town center areas which are community focal points for living, working, shopping, and visiting.

Objective 2.1 (LCP) – Urban/Rural Distinction. To preserve a distinction between urban and rural areas of the County, to encourage new development to locate within urban areas and discourage division of land in rural areas; and to achieve a rate of residential development which can be accommodated by existing public services and their reasonable expansion, while maintaining economic, social, and environmental quality.

Policy 2.1.4 (LCP) – Siting of New Development. Locate new residential, commercial, or industrial development, within, next to, or near existing developed areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on environmental and natural resources, including coastal resources.

Policy 2.1.6 (LCP) – Public Services Adequacy. Consider the adequacy of public service capacity (including without limitation sewer, water, roads), public school capacity, terrain, access, pattern of existing land use in the neighborhood, unique circumstances of public value, location with respect to regional or community shopping and other community facilities; access to transportation facilities including transit, rail, bicycle and pedestrian facilities; and parcel size in the surrounding area in determining the specific density to be permitted for individual projects within each residential range, as appropriate.

Objective 2.20 – Home Occupations. To encourage appropriate small businesses conducted as Home Occupations, provided that they are compatible with surrounding residential land uses.

Policy 2.20.1 – Home Occupations as Accessory Uses. Permit small businesses as Home Occupations in residential areas and residential zone districts as accessory uses to the primary residential use of the property.

Policy 2.20.2 – Siting and Administration of Home Occupations. Maintain regulations for Home Occupations in Volume II of the County Code to control the allowable Home Occupation activities and prevent adverse impacts on surrounding properties. When Home Occupations expand to the extent that they significantly impact adjacent residential uses, require relocation to a Commercial or Industrial area as appropriate.

Objective 2.24 (LCP) – Village, Town, Community and Specific Plans. To continue to use village, town, community and specific plans to provide a planning framework to guide future public and private improvements in town centers and other concentrated urban and rural areas; to provide a higher level of planning detail and public involvement; and to promote economic viability, coherent

community design and enhancement of the unique characteristics of the village areas and community centers as focal points for living, working, shopping and visiting.

Conservation and Open Space Element (Chapter 5)

The purpose of the Land Use Element is to balance conservation and preservation of natural and cultural resources with their productive use and stewardship, including water resources, habitat, open space, and resource management, such as agriculture and timber. Key relevant goals, objectives and policies of the Conservation and Open Space Element include:

Objective 5.1 (LCP) – Biological Diversity. To maintain the biological diversity of the County through an integrated program of open space acquisition and protection, identification and protection of plant habitat and wildlife corridors and habitats, low-intensity and resource compatible land uses in sensitive habitats and mitigations on projects and resource extraction to reduce impacts on plant and animal life.

Policy 5.1.6 (LCP) – Development within Sensitive Habitats. Sensitive habitats shall be protected against any significant disruption of habitat values; and any proposed development within or adjacent to these areas must maintain or enhance the functional capacity of the habitat. Reduce in scale, redesign, or, if no alternative exists, deny any project which cannot sufficiently mitigate significant adverse impacts on sensitive habitats unless approval of a project is legally necessary to allow a reasonable use of the land.

Policy 5.1.8 (LCP) – Chemicals within Sensitive Habitats. Prohibit the use of insecticides, herbicides, or any toxic chemical substances in sensitive habitats, except when an emergency has been declared, when the habitat itself is threatened, when a substantial risk to public health and safety exists, including maintenance for flood control by Public Works, or when such use is authorized pursuant to a permit issued by the Agricultural Commissioner.

Objective 5.2, (LCP) Riparian Corridors and Wetlands. To preserve, protect and restore all riparian corridors and wetlands for the prot3ection of wildlife and aquatic habitat, water quality, erosion control, open space, aesthetic and recreational values and the conveyance and storage of flood waters.

Policy 5.2.3 (LCP) - Activities within Riparian Corridors and Wetlands. Implement the protection of Riparian Corridors and Wetlands though the Riparian Corridor and Wetland Protection Ordinance to ensure no net loss of riparian corridor and riparian wetlands.

Objective 5.5a (LCP) - Watershed Protection. To protect and manage the watersheds of existing and future surface water supplies to preserve the quality and quantity of water produced and stored in these areas to meet the needs of County residents, local industry, agriculture, and the nature environment.

Objective 5.5b (LCP) – San Lorenzo River Watershed Management. To restore, manage, and protect the San Lorenzo River Watershed to maximize the quality and quantity of water resource in that basin.

Objective 5.5c (LCP) – Least Disturbed Watersheds. To protect the Least Disturbed Watershed areas that support the remaining clear running streams to preserve their water supply, recreational, and wildlife support values.

Objective 5.6 (LCP) – Maintaining Adequate Stream Flows. To protect and restore in-stream flows to ensure a full range of beneficial uses including recreation, fish and wildlife habitat and visual amenities as part of an ecosystem-based approach to watershed management.

Objective 5.7 (LCP) – Maintaining Surface Water Quality. To protect and enhance surface water quality in the County's streams, coastal lagoons and marshes by establishing best management practices on adjacent land uses.

Objective 5.8a (LCP) - Groundwater Protection. To protect the quantity and quality of the County's groundwater resources through an integrated program of land use regulation and runoff management in groundwater recharge areas, careful water quality monitoring and management of extractions consistent with long-term sustainable water supply yields.

Objective 5.10a (LCP) – Protection of Visual Resources. To identify, protect and restore the aesthetic values of visual resources.

Objective 5.10b (LCP) – New Development in Visual Resource Areas. To ensure that new development is appropriately designed and constructed to have minimal to no adverse impact upon identified visual resources.

Policy 5.10.2 (LCP) – Development within Visual Areas. Recognize that visual resources of Santa Cruz County possess diverse characteristics and that the resources worthy of protection may include, but are not limited to, ocean views, agricultural fiends, wooded forests, open meadows, and mountain hillside views.

Policy 5.10.5 (LCP) - Preserving Agricultural Vistas. Continue to preserve the aesthetic value of agricultural vistas. Encourage development to be consistent with the agricultural character of the community. Structures appurtenant to agricultural uses on agriculturally designated parcels shall be considered to be compatible with the agricultural character of surrounding areas.

Objective 5.12 – Timber Production. To encourage the orderly economic production of forest products on a sustained yield basis under high environmental standards, to protect the scenic and ecological values of forested areas, and to allow orderly timber production consistent with the least possible environmental impacts.

Policy 5.12.2 (LCP) - Uses Within Timber Production Zones. Allow the following types of uses compatible with Timber Production zoned lands (TP) in accordance with the Timber Protection Ordinance: (d) Grazing and other agricultural uses on that portion of the land not under timber production.

Objective 5.13 (LCP) – Commercial Agricultural Land. To maintain for exclusive agricultural use those lands identified on the County Agricultural Resources Map as best suited to the commercial production of food, fiber and ornamental crops and livestock and to prevent conversion of commercial agricultural land to non-agricultural uses. To recognize that agriculture is a priority land use and to resolve policy conflicts in favor of preserving and promoting agriculture on designated commercial agricultural lands.

Policy 5.13.5 (LCP) – Principal Permitted Uses on Commercial Agricultural (CA) Zoned Land. Maintain a Commercial Agricultural (CA) Zone District for applications to commercial lands that are intended to be maintained for exclusively for long-term commercial agricultural uses. Allow principal permitted uses in the CA Zone District to include only agricultural pursuits

for the commercial cultivation of plant crops, including food, flower, and fiber crops and raising of animals including grazing and livestock production and, outside the coastal zone, timber harvesting operations.

Policy 5.13.12 - Energy Efficiency and Resource Protection. Encourage energy-efficient and resource protection agricultural practices such as organic farming, integrated pest management, biodynamic cultivation and utilization of agricultural wastes for on-site energy production.

Policy 5.13.13 (LCP) - Composting Agricultural Wastes. Encourage the composting of agricultural wastes and the use of composts in agriculture production, as a means of reducing irrigation water demand and reducing solid waste disposal requirements. Allow the commercial composting of source separated organic material such as yard waste on agricultural land with an approved development permit, including coastal development permits, subject to health and water quality requirements.

Policy 5.13.20 (LCP) - Conversion of Commercial Agricultural Lands. Consider development of commercial agricultural lands to non-agricultural uses only under the following circumstances:

(a) It is determined that the land is not viable for agriculture and that it is not likely to become viable in the near future

(b) Findings are made that new information has been presented to demonstrate that the conditions on the land in question do not meet the criterial for commercial agricultural lands; and

(c) The conversion of such land will not impair the viability of, or create potential conflicts with, other commercial agricultural lands in the area.

Policy 5.13.23 (LCP) - Agricultural Buffers Required. Require a 200-foot buffer areas between commercial agricultural and non-agricultural land uses to prevent or minimize potential land use conflicts, between either existing or future commercial agricultural and non-agricultural land uses.

Policy 5.13.27 (LCP) – Siting to Minimize Conflicts. Structures shall be sited to minimize possible conflicts with agriculture in the area. Where structures are located on agricultural land, the structures shall be sited in such a manner to remove as little land as possible from production.

Objective 5.14 (LCP) – Non-Commercial Agricultural Land. To encourage and provide for limited agricultural uses, such as small-scale agriculture and community gardens, on the limited amount of agricultural land remaining in the County which is not designated as commercially viable, in order to maintain a diversity of farm operations and to maintain productive open space and rural character.

Policy 5.14.5 (LCP) – Encourage Farming. Encourage the use of rural lands for farming use to the extent that topography, soil, climate and water supply will allow.

Policy 5.14.7 (LCP) - Encourage Water Conservation. Encourage all agricultural users to implement water conservation measures in areas subject to overdraft. Support water conservation in the following ways:

(a) Provide accurate, comprehensive information relating to optimal timing and amount of irrigation.

(b) Consider economic assistance to farmers or water management agencies as an incentive to install water conserving irrigation and well systems.

(c) Develop and distribute information on changing cropping patterns to revise water requirements.

(d) Promote efficient irrigation techniques such as spray, drip, tail water reuse, or conversion to crops using less water.

(e) Discourage practices which involve an intensification of water use.

Objective 5.15 (LCP) – Specialized Agriculture. To recognize and provide for a variety of agricultural uses such as greenhouses, aquaculture and wineries on lands which are appropriately suited for these specialized uses in order to maintain the optimum agricultural diversity.

Policy 5.15.1 (LCP) - Agriculture Inside Structures. Recognize that certain forms of agriculture requiring production of crops, livestock or related products inside structures (e.g., greenhouses, insectaries, and aquaculture) may be a necessary part of an agricultural operation. Require any such uses to mitigate any impacts created by such facilities to minimize land sues conflate and/or environmental problems.

Policy 5.15.5 (LCP) - Maximize Energy Efficiency. Encourage the use of alternative energy sources such as passive solar design techniques to maximize energy efficiency, when feasible.

Policy 5.15.6 (LCP) – Ventilation. Encourage open ventilation where feasible. When exhaust fans are proven to be necessary, the fans should be located away from non-agricultural uses, and should maximize energy efficiency.

Policy 5.15.7 (LCP) - Water Conservation. Require irrigation systems to be water conserving.

Objective 5.17 (LCP) - Energy Conservation. In accordance with Measure C, The Decade of the Environment Referendum, adopted by the people of Santa Cruz County in June 1990, to maximize conservation and efficient use of energy in the private and public sectors and encourage the development and use of local available renewable energy resources in order to reduce dependence on imported and nonrenewable energy supplies.

Public Safety and Noise Element (Chapter 6)

Objective 6.5 – Fire Hazards. To protect the public from the hazards of fire through citizen awareness, mitigating the risks of fire, responsible fire protection planning and built-in systems for fire detection and suppression.

Policy 6.5.9 (LCP) - Consistency with Adopted Codes Required for New Development. Require all new development to be consistent with the Uniform Fire Code, California Building Code, and other adopted County and local fire agency ordinance.

Measure J/SCCC Chapter 17.01, Growth Management

Measure J was approved by Santa Cruz County voters and became law in 1978, codified as Chapter 17.01 of the SCCC. This chapter includes policies addressing future growth in the County with regulations of the character, location, amount, and timing of development to address environmental, economic, and housing problems resulting from rapid development, including agricultural land preservation. The following key policies apply:

(A) **Preserve Agricultural Lands**. It shall be the policy of Santa Cruz County that prime agricultural lands and lands which are economically productive when used for agriculture shall be preserved for agricultural use.

(F) **Resource Protection**. It shall be the policy of Santa Cruz County to prevent the division or other development of lands which contain timber resources, mineral resources, and wildlife habitat or other natural resources, except when any such development is conditioned so as to prevent the loss of or damage to such resources.

3.10.4 Methodology and Assumptions

This analysis of land use consistency considers whether the proposed Program would be consistent with applicable plans, policies, and regulations. Potential impacts focus on consistency with adopted environmental plans and policies and the compatibility of the Program with existing and planned land uses in the County. This analysis includes both the Project scenario and the More Permissive Project scenario identified in Chapter 2, *Project Description*. This analysis is conducted based on the assumptions for Program implementation, as described in Section 3.0, *Introduction and Approach to Analysis*.

This analysis considers the proposed General Plan amendments to support the Program (Appendix C). Following or concurrent with the proposed adoption of the Program, the Zoning Ordinance would be updated to adopt the standards set forth in the Program, as described in Chapter 2, *Project Description* and provided in Appendix C. Since the Program would provide the standards that would supersede existing zoning regulations within the County, analysis of consistency between existing zoning and the Program is not discussed further in this section.

3.10.5 Significance Criteria

CEQA Guidelines Thresholds

With respect to land use and planning, applicable sections of Appendix G of the CEQA Guidelines state that a project would have a significant impact on the environment if it would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any habitat conservation plan or natural community conservation plan.

Non-Applicable Threshold – Habitat Conservation Plan. As discussed in Section 3.4, *Biological Resources*, the Interim Programmatic Habitat Conservation Plan (IPHCP) for the Zayante Sandhills applies wherever Sandhills habitat exists within the County, which is primarily concentrated in central areas such as Scotts Valley, San Lorenzo Valley, and Bonny Doon. There is no potential for the activities allowed under the Program to conflict with the policies of the Zayante Sandhills IPHCP, since cannabis cultivation and/or manufacturing would be required to be consistent with any HCP and this

impact is not addressed further in this analysis. Impacts to biological resources protected by HCPs are addressed in Section 3.4, *Biological Resources.*

3.10.6 Environmental Impact Analysis and Mitigation

This section analyzes the potential land use and planning impacts associated with the Program, including the Project and More Permissive Project.

3.10.6.1 Program Impacts

This section identifies the potential impacts related to land use and planning associated with the Program. A detailed discussion of each potential impact follows. Where there are potentially significant or significant and unavoidable impacts, mitigation measures are proposed and the residual impact, if any, is determined.

Impact LU-1. Commercial cannabis cultivation and manufacturing under the Program would potentially conflict with an applicable land use plan, policy, or regulation. Impacts would be less than significant with mitigation.

The following discussion of County policies and preliminary determinations regarding the consistency of the proposed Program with these policies is presented to comply with Section 15125 (d) of the state CEQA Guidelines, which require that an EIR "shall discuss any inconsistencies between the proposed project and applicable general plans and regional plans."

This analysis focuses on applicable County-adopted plans and policies. Table 3.10-2 summarizes relevant Santa Cruz County General Plan/LPC policies and other relevant plans and policies. Where potential policy inconsistencies are identified, the EIR identifies feasible mitigation measures to improve Program consistency with these policies. Please refer to Appendix I for complete text of relevant policies and code regulations, including policies and regulations that are found to be related to and consistent with the Program.

Table 3.10-2 County Land Use Plans and Policies Consistency Summary

Policy Requirement	Program Consistency Analysis: Project and More Permissive Project
Santa Cruz County General Plan and Local Coastal Program – Land Use Element	
Urban/Rural Distinction Policy 2.1.4 (LCP) – Siting of New Development. Locate new development, within, next to, or in close proximity to existing developed areas with adequate public services and where it will not have significant adverse effects on environmental and natural resources.	**Consistent**. Cannabis cultivation is an agricultural use. Similar to other agricultural uses, cultivation can require development of some cannabis-related structures, such as greenhouses, indoor grow rooms, drying rooms, barns, storage, and processing facilities, which are compatible uses with rural agricultural areas in the County. All development of cannabis-related structures would be subject to existing County regulation protecting environmental and natural resources to control where and how development occurs in the rural area. The Program also allows for cultivation in the urban area where public services would meet the needs of cannabis cultivation operations. Cannabis manufacturing would be allowed in areas zoned appropriately for different technologies. All development of cannabis-related structures would be subject to existing and proposed County regulations protecting environmental and natural resources to control where and how development occurs in the rural area. The Program also allows for manufacturing in the urban area where public services would meet the needs of cannabis cultivation operations. Therefore, the Project and the More Permissive Project would be consistent with this policy.
Community Commercial Designation (C-C) Policy 2.14.2 (LCP) – Allowed Uses in the Community Commercial Designation	**Consistent**. Cannabis cultivation would be limited to service commercial and industrial areas, which would adequately allow for indoor cultivation. Cannabis manufacturing operations, are allowed in C-2 only if they are associated with a permitted cannabis dispensary, which would be consistent with the intent of the land use designation. Therefore, the Project and the More Permissive Project would be consistent with this policy.
Service Commercial and Light Industrial Designation (C-S) Policies 2.17.2 (LCP) – Location of Light Industry within the Coastal Zone, and 2.17.3 (LCP) – Allowed Uses in Service Commercial and Light Industrial Designations. Provide for commercial services and light industrial activities such as assembly and manufacturing in areas having adequate access and public services and where the impacts of noise, traffic, and other nuisances and hazards associated with such uses will not adversely affect other land uses.	**Consistent**. Cannabis cultivation and manufacturing would be similar to uses allowed in the C-S zoning district and would be allowed in service commercial and industrial areas. Further, cannabis manufacturing would be allowed in commercial and light industrial zoning districts, and would be subject to regulations controlling nuisance and hazards. Therefore, the Project and More Permissive Project would be consistent with these policies.

Table 3.10-2. County Land Use Plans and Policies Consistency Summary (Continued)

Policy Requirement	Program Consistency Analysis: Project and More Permissive Project
Quarry Designation (Q) ***Policy 2.19.1 (LCP) – Siting of Heavy Industries and Quarries.*** **Any change in use or major expansion of existing quarries and heavy industries shall be subject to full environmental and economic analysis and review by the County for the adequacy and appropriateness of the site for the proposed use and shall be subject to a General Plan and LCP amendment.**	Consistent. Cannabis cultivation and manufacturing is allowed within industrial zoning districts with a "Q" designation. All cannabis activities with land designated "Q" would be subject to the licensing criteria of the Program and existing County regulations for environmental protections, quarry property permitting and management, and land use development. Therefore, the Project and More Permissive Project would be consistent with this policy.
Policy 2.20.1 – Home Occupations as Accessory Uses. Permit small businesses as Home Occupations in residential areas and residential zone districts as accessory uses to the primary residential use of the property. Policy 2.20-1 – Siting and Administration of Home Occupations… When Home Occupations expand to the extent that they significantly impact adjacent residential uses, require relocation to a Commercial or Industrial area as appropriate.	**Consistent**. The Program would allow limited ancillary cannabis manufacturing as a home occupation on residentially zoned properties, subject to specific regulations limiting characteristics of the operation such as methods used, employees, and scale of the business, which would be consistent with Policy 2.20.1. The Program limits the size of cannabis home occupations to ensure relocation to an appropriate area if the operations outgrows the residential use. Therefore, the Program would be consistent with these policies.
Santa Cruz County General Plan and Local Coastal Program – Conservation and Open Space Element	
Objective 5.1 Biological Diversity (LCP). Biological Diversity Policies 5.1.6 (LCP) – Development Within Sensitive Habitats, 5.1.7 (LCP) – Site Design and Use Regulations, 5.1.8 (LCP) – Chemicals Within Sensitive Habitats, and 5.1.11 (LCP) – Wildlife Resources Beyond Sensitive Habitats. Maintain the biological diversity of the County through an integrated program of open space acquisition and protection, identification and protection of plant habitat and wildlife corridors and habitats, low-intensity and resource compatible land uses in sensitive habitats and mitigations on projects and resource extraction to reduce impacts on plant and animal life.	**Potentially Consistent**. Cannabis cultivation would be required to minimize impacts to sensitive habitat and species through required setbacks from creeks and water bodies and compliance with SCCC Title 16 Environmental Resources regulations. However, as the Program would require a minimum 6-foot tall opaque fence for all outdoor cultivation, which have the potential to conflict with wildlife corridors and present a barrier between habitats. Additionally, the Program would potentially conflict with policies addressing use and storage of chemicals within sensitive habitats, including pesticides and rodenticides (see Section 3.8, *Hazards and Hazardous Materials,* and Section 3.4, *Biological Resources).* However, within the range of mitigation measures identified in Section 3.8, *Hazards and Hazardous Materials,* Section 3.9*, Hydrology and Water Quality,* and Section 3.4, *Biological Resources,* the Program would maximize biological resource protection and cannabis cultivation would be consistent with these policies. Manufacturing cannabis product would not conflict with these policies since it is an indoor use and any physical development would be subject to County environmental, site development and design standards, including SCCC Title 16.

Table 3.10-2. County Land Use Plans and Policies Consistency Summary (Continued)

Policy Requirement	Program Consistency Analysis: Project and More Permissive Project
Riparian Corridors and Wetlands Policies 5.2.1 (LCP) – Designation of Riparian Corridors and Wetlands, 5.2.2 (LCP) – Riparian Corridor and Wetland Protection Ordinance, 5.2.3 (LCP) – Activities Within Riparian Corridors and Wetlands, 5.2.4 (LCP) – Riparian Corridor Buffer Setback, and 5.2.5 (LCP) – Setbacks from Wetlands. Preserve, protect and respite all riparian corridors and wetlands for the protection of wildlife and aquatic habitat, water quality, erosion control, open space, aesthetic and recreational values and the conveyance and storage of flood waters.	**Consistent**. In addition to complying with SCCC Title 16 Environmental Resources regulations, which include Chapter 16.20 Grading Regulations, Chapter 16.22 Erosion Control, Chapter 16.24 Water Quality Control, and Chapter 16.30 Riparian Corridor and Wetlands Protection, the Program's development standards require cannabis cultivation to be setback 100 feet from a perennial stream, 50 feet from an intermittent or ephemeral stream and 100 feet from high water mark of a water body. Therefore, the Program would be consistent with these policies. Conflicts related to cannabis product manufacturing would not occur because manufacturing is an indoor use, and any associated physical development would be subject to County environmental, site development and design standards, including SCCC Title 16.
Monterey Bay and Coastal Water Quality Policies 5.4.1 (LCP) – Protecting the Monterey Bay National Marine Sanctuary from Adverse Impacts, and 5.4.14 (LCP) – Water Pollution from Urban Runoff. Improve the water quality of Monterey Bay and other Santa Cruz County coastal waters by supporting and/or requiring best management practices for the control and treatment of urban run-off and wastewater discharges in order to maintain local, state and national water quality standards, protect County residents from health hazards of water pollution, protect the County's sensitive marine habitats and prevent the degradation of the scenic character of the region.	**Potentially Consistent**. Cannabis cultivation would be required to comply with all local, state, and federal laws regarding storm water management, pesticide, herbicide, and rodenticide application, and chemical storage and use. However, the Program does not include specific best management practices to address water quality. With mitigation to identify and implement a range of feasible best management practices for the cannabis industry to protect water quality and other environmental features related to the health of the Monterey Bay, the Program would be consistent with these policies. Impacts related to cannabis product manufacturing would not apply since it is an indoor use and would be subject to County development standards addressing site development and use, as well as regulations from state and federal legislation protecting water quality (see Section 3.9, *Hydrology and Water Quality*).
Maintaining Adequate Streamflows Policies 5.6.1 (LCP) – Minimum Stream Flows for Anadromous Fish Runs, and 5.6.2 (LCP) Designation of Critical Water Supply Streams. To protect and restore in-stream flows, to ensure a full range of beneficial uses including recreation, fish and wildlife habitat and visual amenities as part of an ecosystem-based approach to watershed management.	**Potentially Consistent**. The source of water for cannabis cultivation and manufacturing sites is required to be an approved, onsite source, which would allow only municipal water, legal wells or stream diversions with riparian rights. However, as described in Section 3.0, *Introduction and Approach to Analysis*, where there is no municipal water supply, indirect impacts related to maintaining minimum onsite water storage requirements to comply with the Fire Code, which could result in storage of up to 120,000 gallons in large water tanks at up to 568 locations, may result in impacts to stream flows from aquifer drawdown during initial filling, which would be inconsistent with these

Table 3.10-2. County Land Use Plans and Policies Consistency Summary (Continued)

Policy Requirement	Program Consistency Analysis: Project and More Permissive Project
	policies. With mitigation to manage how water storage requirements for cannabis-related structures are met, the Program would be consistent with these policies. (see also Section 3.4, *Biological Resources,* 3.9, *Hydrology and Water Quality,* and Section 3.14, *Utilities and Energy Conservation*)
Maintaining Surface Water Quality Policies 5.7.1 (LCP) – Impacts from New Development on Water Quality, 5.7.3 (LCP) – Erosion Control for Stream and Lagoon Protection, 5.7.4 (LCP) – Control Surface Runoff, 5.7.5 (LCP) – Protecting Riparian Corridors and Coastal Lagoons. To protect and enhance surface water quality in the County's streams, coastal lagoons and marshes by establishing best management practices on adjacent land uses.	**Potentially Consistent**. Cannabis cultivation sites must comply with SCCC Title 16 Environmental Resources Protection, as well as all local, state, and federal laws regarding storm water management, erosion control, runoff, pesticide, herbicide, and rodenticide application, and chemical storage and use to protect water quality, as well as setbacks from water resources which are part of the cultivation regulations. However, the Program does not specifically include best management practices to address water quality. With mitigation to identify and implement a range of feasible best management practices for the cannabis industry to protect water quality and other environmental features related to surface water, the Program would be consistent with these policies, including the Project and More Permissive Project. Conflicts related to cannabis product manufacturing would not occur because manufacturing is an indoor use, and any associated physical development would be subject to County environmental, site development and design standards, including SCCC Title 16.
Objective 5.8a (LCP) -- Groundwater Protection. To protect the quantity and quality of the County's groundwater resources through an integrated program of land use regulation and runoff management in groundwater recharge areas, careful water quality monitoring and management of extractions consistent with long-term sustainable water supply yields.	**Potentially Consistent**. The source of water for cannabis cultivation and manufacturing sites is required to be an approved, onsite source, which would allow only municipal water, legal wells or stream diversions with riparian rights. However, as described in Section 3.0, where there is no municipal water supply, indirect impacts related to maintaining minimum onsite water storage requirements to comply with the Fire Code, which could result in water storage in large water tanks on cannabis cultivation and manufacturing sites that lie outside municipal water service areas, may result in impacts from aquifer drawdown during initial filling (see also Section 3.4, *Biological Resources* and 3.9, *Hydrology and Water Quality*. This drawdown would be inconsistent with these policies. With mitigation to manage how water storage requirements for cannabis-related structures are met, the Program would be consistent with these policies.

Table 3.10-2. County Land Use Plans and Policies Consistency Summary (Continued)

Policy Requirement	Program Consistency Analysis: Project and More Permissive Project
Scenic Protection Policies 5.10.2 – Development within Visual Resource Areas, 5.10.11 – Development Visible from Rural Scenic Roads, and 5.10.13 – Landscaping Requirements. Recognize that visual resources of Santa Cruz County possess diverse characteristics and are worthy of protection, and require project evaluation for visual resource policy consistency, specifically all development within the visual resource areas of Highway 1, outside of the Urban/Rural boundary, as designated on the General Plan/Local Coastal Program Visual Resources Map, and apply the design criteria of Section 13.20.130 of the County's zoning ordinance to such development. **Scenic Protection Policies 5.10.16 – Designation of Coastal Special Scenic Areas, and 5.10.17 – Swanton Road Coastal Special Scenic Areas. Require development in designated Coastal Special Scenic Areas to comply with design criteria set forth in the Coastal Zone Regulation ordinance and provisions of Policy 5.10.17.** **Scenic Protection Policies 5.10.3 – Protection of Public Vistas, 5.10.5 – Preserving Agricultural Vistas, and 5.10.6 – Preserving Ocean Vistas, 5.10.9 – Restoration of Scenic Areas. Identify, protect, and restore the aesthetic values of visual resources, including significant vistas.**	**Potentially Consistent**. Cannabis cultivation would be allowed within zoning districts RA, SU, TP, A, CA, C-4, M-1, M-2, and M-3, including within the visual resource area of Highway 1 outside the USL/RSL, agricultural vistas, and ocean vistas. These areas overlap with limited areas of the County's Coastal Special Scenic Areas. As described in Section 3.1, *Aesthetics and Visual Resources*, the Program would not have an adverse effect on scenic vistas or designated scenic areas, which would be consistent with these policies. However, a minimum 6-foot tall, opaque fence would be required for all outdoor grows. In addition, an onsite residential unit would be required on cultivation sites located within zoning districts A, RA, TP, and SU, and road grading and up to 568 large fire water storage tanks may be required, with related site improvements, to comply with the Fire Code. These improvements may require extensive grading and development that may be visible from public roads and/or public lands. With mitigation to address the visual effects of fencing, grading, water tanks, and homes, these potential inconsistencies would be reduced. The Program includes development criteria to address visual impact, such as restricting views of cannabis activity from public roads, limiting lighting and glare, and setting back cannabis activities from public areas. Therefore, adoption of the Program would be potentially consistent with these policies, including the Project and the More Permissive Project, with mitigation included to protect visual resources. Conflicts related to cannabis product manufacturing would not occur because manufacturing is an indoor use, and any associated physical development would be subject to County environmental, site development and design standards addressing visual resource.
Timber Production Policies 5.12.1 (LCP) – Designation of Timberlands, 5.12.2 (LCP) – Uses Within Timber Production Zones, 5.12.3 (LCP) – Conditional Uses Within Timber Production Zones, and 5.12.7 (LCP) – Location of Development on Timber Production Lands. To encourage the orderly economic production of forest products on a sustained yield basis under high environmental standards, to protect the scenic and ecological values of forested areas, and to allow orderly timber	**Consistent**. The Programs would allow for cannabis cultivation and manufacturing on parcels zoned TP. Agricultural uses are compatible with TP zoning and all cannabis-related activities would be licensed consistent with any timber production plans and the SCCC. Manufacturing on TP zoning would only be licensed as a conditional use and secondary to cultivation. See Section 3.2, *Agricultural and Timber Resources*. Therefore, the Program would be consistent with these policies.

Table 3.10-2. County Land Use Plans and Policies Consistency Summary (Continued)

Policy Requirement	Program Consistency Analysis: Project and More Permissive Project
production consistent with the least possible environmental impacts.	
Commercial Agricultural Land Policies 5.13.5 (LCP) – Principal Permitted Uses on Commercial Agricultural (CA) Zoned Land, and 5.13.6 (LCP) – Conditional Uses on Commercial Agricultural (CA) Zoned Lands	**Consistent.** As discussed in Section 3.2, *Agricultural and Timber Resources*, all commercial cannabis cultivation would be licensed by the state as an agricultural product. Therefore, cultivation of cannabis would enhance agriculture as an agricultural commodity in the County. Cannabis cultivation and manufacturing are allowed in the CA zoning district under both Program scenarios; however, the More Permissive Project allows a greater cultivation maximum canopy size in the CA zoning district than the Project, which may increase the productivity of cannabis as a commercial agricultural product, which would make the More Permissive Project more consistent with these policies than the Project. Cannabis cultivation would be subject to County policies and regulation supporting the viability of commercial agricultural areas, and adoption of the Program would be consistent with these policies supporting agricultural uses. Manufacturing cannabis products would only be allowed as an ancillary use to cultivation, similar to other forms of agriculture and, therefore, would be consistent with these policies.
Commercial Agriculture Policies 5.13.7 – Agriculturally Oriented Structures, 5.13.8 – Location of Agricultural Support Facilities, and 5.13.20 (LCP) - Conversion of Commercial Agricultural Lands.	**Consistent**. As discussed in Section 3.2, *Agricultural and Timber Resources*, all commercial cannabis cultivation would be licensed by the state as an agricultural product. Therefore, cultivation of cannabis would enhance agriculture as an agricultural commodity in the County. No agricultural conversions would occur under the Program. New development associated with cannabis product manufacturing is allowed on CA zoned land consistent with applicable zoning regulations and permitting requirements. This may result in small isolated development on agricultural land for cannabis manufacturing co-located with cultivation, but as manufacturing would be ancillary to cultivation onsite, it would be similar to other forms of agriculture in the County.

Table 3.10-2. County Land Use Plans and Policies Consistency Summary (Continued)

Policy Requirement	Program Consistency Analysis: Project and More Permissive Project
Commercial Agricultural Land Policies 5.13.23 (LCP) – Agricultural Buffers Required, 5.13.24 (LCP) – Agricultural Buffer Findings Required for Reduced Setbacks, 5.13.26 (LCP) – Windbreaks, 5.13.27 (LCP) – Siting to Minimize Conflicts, 5.13.28 (LCP) and 5.13.30 – Farm Labor Housing. Determine and address operational and land use conflicts via agricultural buffers, windbreaks and issuance of residential and ancillary use building permits in accordance with the SCCC.	**Consistent.** Cultivation and manufacturing operations are required to meet all agricultural buffer setback policies and codes. Farmworker housing is not required by the Program, but housing demands may induce construction of agricultural employee housing. Additional employees from cannabis industry would be addressed by County land use and housing programs (see Section 3.12, *Population, Employment, and Housing).* Further if housing is proposed on agricultural lands, it would be developed subject to SCCC regulations and permit requirements. Therefore, the Program is consistent with these agricultural land policies.
Non-Commercial Agricultural Land Policies 15.14.1 – Uses Allowed on Non-Commercial Agricultural (A) Zoned Lands, 15.14.5 – Encourage Farming, 15.14.6 – Encourage Tree Crops and Green Field, 15.14.7 (LCP) – Encourage Water Conservation, 15.14.10 – Development on Non-Commercial Agricultural Land, and 15.14.11 (LCP) – Visual Mitigations for Large Agricultural Structures. Encourage and provide for limited agricultural uses, such as small-scale agriculture and community gardens, on agricultural land which is not designated as commercially viable, in order to maintain a diversity of farm operations and to maintain productive open space and rural character.	**Consistent**. Commercial cannabis cultivation and manufacturing is allowed within the A zoning district. The minimum parcel size for a commercial cannabis cultivation site is 10 acres, which is consistent with the small-scale agriculture and community garden use these policies encourage. Under the More Permissive Project, the minimum parcel size for a commercial cannabis cultivation site in the A zoning district is 5 acres, which is half the minimum parcel size of the Project, and allows for smaller-scale cultivation sites, which is more consistent with these policies. Manufacturing would only be allowed as and ancillary use to cultivation, which is consistent with agricultural practices and policy in the County. Therefore, adoption of the Program would be consistent with these policies.
Greenhouse Agriculture Policies 5.15.1 (LCP) – Agriculture Inside Structures, 5.15.2 (LCP) – Runoff Retention, 5.15.3 (LCP) – Preserving Prime Soil, 5.15.4 (LCP) – Limiting Impervious Surfaces, 5.15.5 (LCP) – Maximize Energy Efficiency, 5.15.6 (LCP) – Ventilation, and 5.15.7 (LCP) – Water Conservation. Recognize and provide for a variety of agricultural uses such as greenhouses on lands which are appropriately suited for these specialized uses in order to maintain the optimum agricultural diversity, as well as associated policies with these uses.	**Potentially Consistent**. Greenhouses would be used to cultivate cannabis in eligible zone districts, including A, CA, and RA. While many existing greenhouses would be used, new greenhouses may be constructed and/or operated consistent with the SCCC. New greenhouses for cannabis-related uses are not allowed in the coastal zone plus one mile buffer under the Program. Greenhouses licensed for cannabis activities would be required to comply with SCCC regulations, including requirements for permeable and non-toxic flooring to preserve underlying soil quality. With mitigation to require application of best management practices to ensure consistency with the General Plan, adoption of the Program would be consistent with these policies.

Table 3.10-2. County Land Use Plans and Policies Consistency Summary (Continued)

Policy Requirement	Program Consistency Analysis: Project and More Permissive Project
Public Safety and Noise Element	
Objective 6.5 – Fire Hazards. To protect the public from the hazards of fire through citizen awareness, mitigating the risks of fire, responsible fire protection planning and built-in systems for fire detection and suppression. **Policy 6.5.9 (LCP) - Consistency with Adopted Codes Required for New Development. Require all new development to be consistent with the Uniform Fire Code, California Building Code, and other adopted County and local fire agency ordinance.**	**Consistent.** Licensing under the Program would be subject to the County Fire Code, including review by the Planning Department and County Fire Marshal, to ensure cannabis operations provide onsite fire suppression systems and adequate emergency access (see also, Section 3.8, *Hazards and Hazardous Materials* and Section 3.13, *Transportation and Circulation*)
Santa Cruz County Code	
Santa Cruz County Agricultural Land Preservation and Protection (SCCC Chapter 16.50); Determines and protects commercially viable agricultural land which exists within the County, that it is in the public interest to preserve and protect this land for exclusive agricultural use and to enhance and encourage agricultural operations within the County, and that certain agricultural land in the County, not presently of commercial value, also merits protection.	**Consistent**. Refer to consistency discussion for *Commercial Agricultural Land Policies 5.13.5 through 5.13.13*.
Santa Cruz County Timber Harvesting Regulations (SCCC Chapter 16.52); Determines, protects, and maintains County timberlands through regulation of timber harvesting. The Chapter encourages the continued production of forest products in compliance with performance standards which emphasize protection of environmental and open space values while fostering increased productivity of forest land, and to protect, maintain and improve the forest land of Santa Cruz County.	**Consistent**. Refer to consistency discussion for *Timber Production Policies 5.12.2, 5.12.3, and 5.12.7*.
Growth Management (SCCC Chapter 17.01); Includes policies addressing future growth in the County with regulations of the character, location, amount, and timing of development to address environmental, economic, and housing problems resulting from rapid development, including agricultural land preservation.	**Consistent**. The Program would allow cannabis cultivation and limited amounts of manufacturing on agricultural lands in the County, which would support the economic viability of agricultural operations and would minimize conversion of agricultural lands to other land uses.

Table 3.10-2. County Land Use Plans and Policies Consistency Summary (Continued)

Policy Requirement	Program Consistency Analysis: Project and More Permissive Project
Temporary Occupancy of Mobile Homes and Recreational Vehicles (SCCC Chapter 13.10.683); Limits recreational vehicle occupancy to the time during construction of a permanent residence.	**Consistent**. The County prohibits permanent residences within recreational vehicles. The Program would require a permanent residence onsite to issue a cultivation license. Temporary recreational vehicles would only be allowed during construction consistent with SCCC Chapter 13.10.683; therefore, the Program is consistent with this regulation.

Impact LU-1.1- Direct/Indirect Cultivation/Manufacturing. Impacts to land use and planning policy consistency would result from land use conflicts related to the direct cultivation of cannabis plants and manufacturing of cannabis products. Indirect impacts to land use and planning would result from land use conflicts related to the construction of new residential units and facility structures, as well as roads and utilities to support cannabis cultivation and manufacturing sites. Further, the development of water tanks, paved roads, and defensible space vegetation management to meet County Fire Code standards for cannabis cultivation sites would result in potential grading, runoff, species, habitat, water supply, and visual resources impacts, which may conflict with County policies for resource management. The Program's key potential inconsistencies with County land use policies are identified in Table 3.10-2 and described below.

The Program would create a land use conflict with General Plan/LCP Conservation and Open Space Element's Biological Diversity Policy 5.1.11, which aims to protect valuable wildlife resources such as migration corridors (see Table 3.10-2). The Program would require all outdoor grows to be enclosed by a minimum 6-foot tall opaque fence with a locked gate, including both the Project and More Permissive Project. This requirement would potentially disrupt wildlife corridors, especially in rural mountainous areas with the biggest concentration of wildlife. With the implementation of MM BIO-3.2, *Wildlife Fencing*, an exception to the requirement for a fence could be approved on a case by case basis by the Licensing Official, which would reduce the inconsistency with policies protecting biological resources and visual resources. Further, when a fence would be required, natural or non-disruptive fencing designed to allow for wildlife passage would be required to minimize adverse effects, which would further ensure consistency with County policy to protect these resources.

The Program does not prohibit licensing of cannabis cultivation and manufacturing on public lands, which could create a land use conflict. There are some lands that would be eligible for licenses by zoning, and are also public lands (e.g., State Parks). This is a potential land use consistency issue, allowing cultivation or manufacturing in conflict with public uses of these lands. This potential land use conflict would be mitigated by the implementation of MM LU-1.1.1, *Public Lands Restriction*, which amends the Program to specify that no cultivation would be allowed on public lands.

A land use conflict may be created from how the Program addresses cultivation in the SU zoning district. The Program does not clearly state that SU zoned parcels are only eligible for cannabis cultivation and/or manufacturing if the underlying General Plan land use designation is consistent and implemented by one of the zoning districts, other than SU, in which cultivation is allowed. As shown in Table 3.10-1, some land use designations are only implemented by zoning districts that would not allow cannabis activities. For example, Urban Very Low Residential (R-UVL) is only implemented by residential zoning districts, so any SU zoning that overlies R-UVL should not be eligible for cannabis cultivation licensing; otherwise, there would be an inconsistency with the

General Plan. Implementation of MM LU-1.1.2, *SU Eligibility*, would add clarifying language to the cannabis cultivation to address this potential inconsistency.

As described in Section 3.0, *Introduction and Approach to Analysis*, the County Fire Code and occupancy designations for different types of buildings will require a high level of fire flow, and therefore in most rural locations a large amount of water storage onsite (up to 568 tanks of up to 120,000 gallons each) with related site pad clearing and grading, installation of 20-foot wide roads with turnaround, and defensible space vegetation management around a cannabis-related structure of up to 100 feet would be required. Outdoor operations that do not include greenhouses, drying sheds or similar structures, and do not include manufacturing, would not trigger these requirements. Since many cannabis sites are anticipated to be considered for licensing in the rural mountainous and agricultural areas of the County, there is a potential for tanks, roads, and site improvements to individually or collectively conflict with County policies to preserve rural areas and resources, including timber resources, minimize grading, minimize site disturbance, ensure erosion control and prevent sedimentation of creeks. For example, site grading and construction of paved roads and water tank structures may displace timber resources or biological resources. Further, filling of storage tanks may conflict with County policies and regulations protecting overdrafted groundwater basins and stream flows, (see also Section 3.14, *Utilities and Energy Conservation* and Section 3.9, *Hydrology and Water Quality*). Implementation of MM LU-1.1.4 and MM LU-1.1.5 would address evaluation of proposed site improvements for cannabis-related structures to balance agricultural uses with environmental concerns and address this potential inconsistency.

The Program would create a land use conflict in communities where C-4 and M-1, M-2, or M-3 zoning lies within RSL and USL boundaries. Due to the Program's development standard that does not permit cannabis cultivation within the USL and RSL except in the Coastal Zone + 1 mile buffer area in certain zoning districts, most towns in the County are excluded from cannabis cultivation licensing. In most communities, there is no zoning within the USL or RSL outside the Coastal Zone + 1-mile buffer area that would allow cannabis cultivation. The only exceptions are parts of Felton, Boulder Creek, and Soquel where industrial and commercial zoning districts lie within the RSL or USL. Some of these communities already have existing cultivation occurring within the USL and RSL boundaries, and would not be allowed to continue to cultivate in current locations under the Project or the More Permissive. Even if a parcel is located within an eligible zoning district in one of these communities and conforms to all Program development standards and restrictions, it would not be eligible to cultivate if it is located within an USL or RSL. This restriction of cultivation would create a potential conflict within the Program. Especially in mountain towns and communities, cannabis cultivation has become an established part of the local economy, as shown in the preliminary registrant data (see Chapter 2, *Project Description*), which documents that 567 of the 760 registrants are currently cultivating. However, with implementation of MM LU-1.1.3, *USL + RSL Allowances*, cultivation would be permitted in select commercial and industrial zoned areas of these communities.

Taken together, the Program, including both the Project and the More Permissive Project scenarios, would potentially conflict with County policies, regulations, plans, and jurisdictional boundaries. However, these inconsistencies can be addressed with measures to amend the Program to reflect limitations to licensing and to provide flexibility and discretion to the Licensing Official to issue licenses in areas where cannabis cultivation and manufacturing would be consistent with the County General Plan/LCP Land Use Plan and other County land use regulations. Therefore, with mitigation, impacts related to land use policy consistency would be *less than significant*.

Mitigation Measures

Implement MM BIO-3.2. Wildlife Fencing. To reduce direct and indirect land use and planning impacts associated with cannabis cultivation, MM BIO-3.2, addressing County implementation of the Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program, shall apply to Impact LU-1.1.

MM LU-1.1.1. Public Lands Restriction. The County shall amend the Program to specify that there shall be no cannabis cultivation and/or manufacturing licensed on publicly owned lands within the County.

> **Plan Requirements and Timing:** The proposed cannabis cultivation ordinance and manufacturing ordinance shall be revised prior to adoption of the Program. The County Cannabis Licensing Office shall submit an ordinance with the revisions to the Board of Supervisors for review and approval.
>
> **Monitoring:** The Licensing Officer shall review applications to ensure that no licenses are issued for parcels located within publicly owned lands.

MM LU-1.1.2. SU Eligibility. The County shall revise the Program with clarifying language to specify the range of land use designations that would be eligible for cannabis cultivation when the subject property is zoned SU. The amendment shall clarify that if a parcel is within the SU zoning district, it is only eligible for licensing under the Program if it has an eligible land use designation, as detailed below.

Land Use Designation Eligibility for Cannabis Cultivation Sites Zoned Special Use (SU)

Eligible Land Use Designations	Ineligible Land Use Designations
AG-Agriculture	C-N-Neighborhood Commercial
C-S-Service Commercial/Light Industry	C-C-Community Commercial
R-M-Mountain Residential	C-V-Visitor Accommodations
R-R-Rural Residential	C-O-Professional and Administrative Offices
R-S-Suburban Residential	P-Public/Institutional Facilities
O-R-Parks, Recreation and Open Space	R-UVL-Urban Very Low Residential
O-C-Resources Conservation	R-UL-Urban Low Residential
I-Heavy Industry*	R-UM-Urban Medium Residential
Q-Quarry Overlay*	R-UH-Urban High Residential
Agricultural Resources Lands Overlay**	O-L-Lakes, Reservoir, Lagoon
	O-U-Urban Open Space
	PP-Proposed Parks and Recreation*

* Land Use Designations in the General Plan/LCP

** Resources identified in the General Plan/LCP

> **Plan Requirements and Timing:** Proposed SCCC Chapter 7.128 shall be revised prior to adoption of the Program. The County Cannabis Licensing Office shall submit an ordinance with the revisions to the Board of Supervisors for review and approval.
>
> **Monitoring:** The Licensing Officer shall review applications and ensure that no licenses are issued for parcels zoned SU with an underlying land use designation that is ineligible.

MM LU-1.1.3. USL + RSL Allowances. The County shall amend the Program to allow cannabis cultivation in C-4 and M zoning districts within the USL and RSL throughout the County.

Plan Requirements and Timing: The cannabis cultivation ordinance and manufacturing ordinance shall be revised prior to adoption of the Program. The County Cannabis Licensing Office shall submit an ordinance with the revisions to the Board of Supervisors for review and approval.

Monitoring: The Licensing Officer shall review applications and ensure that licenses may be issued for parcels zoned C-4 and M in the USL and RSL.

MM LU-1.1.4. Master Planned Cannabis Facilities. The Program shall allow for the use of Master Plans that provide for the shared use of infrastructure on adjoining parcels that are under the same ownership or a joint business ownership, including the possibility of an exception to the provisions of 7.128.110 7.132.110 that require a residence on each property with a cannabis cultivation license. The exception may be granted by the Licensing Official (or Planning Commission or Zoning Administrator, as may be required by the SCCC) to allow for one residence to serve the shared parcels when the Master Plan would:

- Reduce physical alteration of the landscape and reduce impacts on aesthetic and visual resources, and be environmentally preferable;
- The shared residence would provide enough residential use to meet goals for security and neighborhood compatibility.

Plan Requirements and Timing: The Licensing Official shall approve any Master Plan, following any required approval by the Planning Commission or Zoning Administrator, prior to issuance of license for cannabis activities.

Monitoring: The Licensing Officer shall review Master Plans and ensure that licenses may comply with all Master Plan components and requirements.

MM LU-1.1.5. Avoid Excessive Grading and Disturbance Associated with Commercial, Industrial, and Manufacturing Cannabis Activities. The County shall amend the Grading Ordinance to prevent excessive grading, erosion and land disturbance associated with road building and other development by establishing limits on grading, such as:

- Retained cuts and fills shall not exceed 10-feet;
- Unretained cut and fill depths shall not exceed 5 feet;
- Cannabis cultivation shall not be allowed on slopes over twenty percent;
- No cannabis related development shall be allowed on ridgelines;
- No grading on slopes steeper than thirty percent;
- No terracing shall be allowed for cannabis cultivation.

Plan Requirements and Timing: The County Planning Department shall amend the County Grading Ordinance as required by MM LU-1.1-5 as part of adoption of the Program. The County Cannabis Licensing Office and/or Planning Department shall submit an amendment to the Board of Supervisors for review and approval.

Monitoring: The Licensing Officer shall review and ensure that licenses may comply with all requirements of the County Grading Ordinance.

MM LU-1.1.6. Cannabis Best Management Practices. To ensure consistency with County goals and policies for resource use efficiency, water quality and supply, biological resources protection, and visual resource preservation, the County shall require the following cannabis best management practices on a site by site basis, as applicable and feasible. All best management practices shall be encouraged for each licensee to the maximum extent feasible and may become license conditions at the discretion of the Licensing Official.

Construction Practices

1. Work Limit - Seasonal Restriction. To the extent practicable, ground-disturbing activities will be avoided during the wet season (i.e., between November 1 and March 31) to minimize impacts due to erosion and sedimentation.

2. Work Hours. No outdoor construction activity will be initiated until 30 minutes after sunrise, and all outdoor construction activity will cease 30 minutes prior to sunset.

3. Pre-Activity Training Program. Prior to the start of initial ground-disturbing activities, a qualified biologist will conduct a pre-activity training program for all employees, contractors, or representatives of the Permittee who will take part in any project-related cultivation or manufacturing activity. The training will be tailored to the specific resources potentially occurring on the cannabis site in question and will include a discussion of sensitive biological resources within the area (including sensitive and regulated habitats), the potential for occurrence of special-status species, and the life histories of those species. The training will also review the project boundaries, work limits, and applicable environmentally sensitive areas. In addition, the pre-activity training program will also provide images of potentially occurring special-status species and review the avoidance, minimization, and protection measures to be implemented to ensure species are not impacted by project activities. A handout that summarizes all the information covered in the pre-construction training program will be given to all on-site personnel and copies shall be made available on the site at all times.

4. Sediment Control Measures. Sediment control measures will be utilized throughout all phases of ground disturbance where sediment and/or earthen fill threaten to enter Waters of the U.S./State. Sediment control structures will be monitored for effectiveness and will be repaired or replaced as needed. Build-up of soil behind control structures (e.g., silt fencing) will be removed promptly and any breaches or undermined areas repaired at once.

5. Erosion Control. All exposed/disturbed areas within the cannabis site will be stabilized to the greatest extent possible. Erosion control measures, such as silt fences, straw hay bales, gravel or rock lined ditches, water check bars, and broadcast straw will be used where ever sediment-laden water has the potential to leave the work site and enter Waters of the U.S./State. Erosion control measures will be monitored during and after each storm event. Modifications, repairs, and improvements to erosion control measures will be made whenever needed. Materials used for erosion control or to repair erosion control will not pose a risk to fish or wildlife (e.g., materials containing monofilament will not be used to avoid entanglement of wildlife).

6. Staging and Storage Areas. Staging and storage areas will be located in a dry upland location, above the top of bank. Staging and storage areas will be within a paved or gravel-

lined site, if feasible. Stationary equipment such as motors, pumps, generators, compressors, and welders located within or adjacent to a stream will be positioned over drip pans. Stationary heavy equipment will have suitable containment to handle a catastrophic spill/leak.

7. Spill Containment. Spill containment kits will be maintained onsite at all times during construction operations and/or staging or fueling of equipment to contain and remediate incidental spills of fluids, such as fuels, oils, cleaning products, etc.

8. Open Pipe Restriction. All pipes, culverts, or similar structures that are stored vertically or horizontally on site for one or more overnight periods will be securely capped on both ends prior to storage to prevent their occupancy by wildlife, and they will be thoroughly inspected for wildlife prior to being moved.

9. Open Trenches. Any open trenches, pits, or holes with a depth greater than 1 foot will be covered at the conclusion of work each day with a hard, non-heat conductive material (e.g., plywood). No netting, canvas, or material capable of trapping or ensnaring wildlife will be used to cover open trenches. If use of a hard cover is not feasible, multiple wildlife escape ramps will be installed, constructed of wood or installed as an earthen slope in each open trench, hole, or pit that is capable of allowing large (i.e., deer) and small (i.e., snakes) wildlife to escape on their own accord. Prior to the initiation of construction each day and prior to the covering of the trench at the conclusion of work each day, a qualified biologist or on-site personnel will inspect the open trench, pit, or hole for wildlife. If wildlife is discovered it will be allowed to leave on its own accord; if wildlife does not leave on its own accord consultation with the California Department of Fish and Wildlife (CDFW) will be initiated.

10. Spoils Placement. Spoils will be placed in a stable area outside of streams, wetlands, riparian areas, and other sensitive habitats.

11. Intake Screens. All water diversion intake hoses and pump inlets will be completely screened with wire mesh not larger than 5 millimeters to prevent native fish, amphibians, and other aquatic species from entering the pump system. The screens will be made of non-corrosive material. The screen will be kept in good repair and cleaned/checked frequently. All screens will be supported above the channel bottom.

12. Vegetation Removal. Disturbance or removal of vegetation will be kept to the minimum necessary to complete permitted project-related activities.

13. Riparian Buffers. Maintain buffers from riparian areas and other sensitive habitat areas, consistent with SCCC Title 16, to minimize intrusion of cannabis activities.

14. Revegetation. Restoration and revegetation work for temporary effects will be implemented using native California plant species collected on-site or from local sources (i.e., local ecotype). Plant species and material from non-local sources will be utilized only with prior written authorization from the County. Revegetation will be completed as soon as possible after earthmoving activities cease. Seeding placed after October 15 will be applied by hydro-seed or will be covered with broadcast straw, jute netting, coconut fiber blanket, light mulch or a similar erosion control method. Erosion control blankets with monofilament or woven plastic strands will not be used.

Operational Practices

15. Vehicle Access. To minimize harassment, injury, death, and harm of sensitive wildlife species due to temporary habitat disturbances, all cannabis-related vehicle traffic and operations will be restricted to established roads, construction areas, equipment staging, storage, parking, and stockpile areas to the extent practicable. Vehicles will observe a 20-miles per hour speed limit within construction areas, except on County roads and State and Federal highways.

16. Vehicle/Equipment Maintenance and Fueling. Any equipment or vehicles driven and/or operated adjacent to a stream will be checked and maintained daily to prevent the release of contaminants that could be deleterious to aquatic and terrestrial life or riparian habitat. Vehicle and equipment fueling and maintenance operations will be at least 50 feet away from water courses, except at established commercial gas stations or established vehicle maintenance facilities.

17. Litter Control. A litter control program will be instituted at each cannabis site. All workers will ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers will be removed from the site at a frequency sufficient to prevent overflow of trash.

18. Greenwaste Management. To the extent feasible, cannabis plant material and other organic materials will be composted and/or mulched on site or hauled to an appropriate location for composting.

19. Water Conservation. Water conserving techniques and technologies will be employed to supplement water demand of cannabis activities, including, but not limited to:

    a. Install water storage system on site only after obtaining the appropriate permit or registration for water storage from the Division of Water Rights.

    b. Implement conservation tillage to reduce or eliminate erosion and runoff.

    c. Install rainwater catchment to reduce demand on streams (see MM HYDRO-2.2, *Rainwater Harvesting*).

    d. Create contours across slopes to catch surface runoff and promote groundwater recharge.

    e. Implement drip irrigation, mulch, and vegetate around cultivated areas.

    f. Implement irrigation technologies that have higher distribution uniformities and water use efficiencies (e.g., precision drip and micro-sprinkler irrigation systems).

    g. Monitor the soil moisture below the root zone to monitor excess irrigation.

    h. Water only when the soil is dry.

    i. Water deeply late in the evening or early in the morning to avoid evapotranspiration.

    j. Water at rates that avoid runoff.

k. Inspect water delivery system for leaks prior to planting each year and periodically during the season.

l. Install float valves on tanks to prevent tanks from overflowing. Provide for secondary containment in the event of rupture or overflow of water storage. Containment must be sufficient to capture or infiltrate the maximum contents of the tank.

m. Implement mechanical retrofits on watering systems to improve water efficiency, such as changing droplet size on nozzles, spraying closer to the ground, and lower water pressure.

n. Water plants at the appropriate time of day and frequency, according to month, season, and availability. Avoid watering in the wind and heat.

o. Document watering schedule, and implement weather-based irrigation scheduling.

p. Implement water harvesting reuse practices and recapture and reuse water wherever possible.

q. Use greywater that does not contain chlorine bleach, salts, or boron to irrigate plants, as it also acts as a gentle fertilizer. Do not let greywater runoff into any water bodies.

r. Measure and monitor the quantity of all water used, including fresh, recycled, and harvested.

s. Set goals to increase the percentage of water use from rainwater catchment or recycled water (MM HYDRO-2.2, Rainwater Harvesting).

20. Renewable Energy Sources. Renewable energy sources will be employed to supplement energy demand of cannabis activities, including, but not limited to:

    a. Generate alternative power onsite (e.g., solar, wind). Solar panels may be installed on greenhouses or other structures used for cannabis cultivation and manufacturing.

    b. Utilize power from alternative energy sources such as solar panels, wind power, geothermal, or alternative energy co-op.

    c. Limit use of open flame burners and petroleum products.

21. Energy Conservation. Maximize energy efficiency of cannabis activities, including, but not limited to:

    a. Conduct an annual energy audit.

    b. Measure and record net energy usage.

    c. Maintain efficient heating/cooling/dehumidification systems.

    d. Implement energy efficient lighting, specifically LEDs over HID or HPS lighting where feasible.

e. Implement automated lighting systems.

f. Utilize natural light when possible.

g. Utilize an efficient circulation system.

h. Ensure that energy use is above or in-line with industry benchmarks.

i. Implement phase-out plans for the replacement of inefficient equipment.

22. Organic Cultivation and Permaculture. Maximize the use of organic and permaculture techniques for cannabis productions, including, but not limited to:

a. Restrict the use of Genetically Modified Organisms (GMOs).

b. Use only non-chemically treated clones and planting materials.

c. Maintain an appropriately detailed database for all seeds used.

d. Only use naturally occurring mineral fertilizers and only as a supplement to biologically-based fertility methods.

e. Grow nitrogen-fixing plants such as clover, alfalfa or legumes following a heavy cannabis rotation. These plants have symbiotic bacteria in their roots, and pull nitrogen from the atmosphere and transfer it to the soil in a way that benefits the surrounding plants, as nitrogen is essential for a plant's growing cycle.

f. Use intercropping with companion plants to help replenish the soil, attract pollinators, and deter pests.

g. Implement an integrated Pest Management Plan, which includes considerations for human and environmental health, and is based on integrated pest management (IPM) principles. This IPM plan shall use a hierarchy of practices: prevention, observation, intervention including physical/mechanical/biological methods, approved substances.

h. Incorporate pest deterring plants and/or beneficial insect attracting plants into the cultivation system.

i. Implement policies and deterrents to eliminate contamination from pests and disease.

j. Train staff to identify common pests and disease, and implement a schedule for monitoring plant health.

k. Have a plan in place to remove, quarantine, and treat plants contaminated with pests and/or disease once they are identified, with protocols to identify the source of the infestation.

l. Use natural pest control techniques such as MET-52, yeast, and citric acid (to control spider mites).

Plan Requirements and Timing: The cannabis best management practices shall be considered and required as feasible on a site by site basis, and shall be implemented prior

to cannabis activities and/or on an ongoing basis commensurate with the requirements of the best management practices.

Monitoring: The Licensing Officer shall ensure best management practices are applied as needed as criteria of the licensing process and implemented on an ongoing basis during annual license renewals.

Post-Mitigation Level of Impacts

With implementation of MM BIO-3.2, *Wildlife Fencing*, alternative wildlife-friendly fencing would be required in rural, mountainous regions of the County to preserve wildlife corridors and uphold Biological Diversity Policy 5.1.11. Therefore, this mitigation measure would reduce residual direct and indirect land use and planning impacts to a *less than significant* level.

With implementation of MM LU-1.1.1, *Public Lands Restriction*, land use conflicts with public lands in the County would be resolved, and direct and indirect impacts would be reduced to a *less than significant* level.

With implementation of MM LU-1.1.2, *SU Eligibility*, land use conflicts with the SU zoning district would be resolved, and direct and indirect impacts would be reduced to a *less than significant* level.

With implementation of MM LU-1.1.3, *USL + RSL Allowances*, land use conflicts with the USL and RSL would be mitigated, and direct and indirect impacts would be reduced to a *less than significant* level.

With implementation of MM LU-1.1.4, impacts from development of water tanks, roads, homes, and defensible space vegetation management adjacent to one another would be consolidated and minimized, which would reduce the potential impact to a *less than significant* level.

Implementation of MM LU-1.1.5 would address excessive grading from site improvements to reduce the impact to a *less than significant* level.

With implementation of MM LU-1.1.6, cannabis best management practices would be adopted by the County. These best management practices would be reviewed and implemented to the maximum extent feasible on a site by site basis and the County has discretion to make the best management practices mandatory for licenses. MM LU-1.1.5 would improve consistency of licensed cannabis sites with County policies and regulations; therefore, this impact is *less than significant*.

Impact LU-2. Commercial cannabis cultivation and manufacturing under the Program could cause adverse effects to existing communities due to increases in traffic, odors, noise, or other quality of life issues. Impacts would be less than significant.

Impact LU-2.1 – Direct/Indirect Cultivation/Manufacturing. The Program would license commercial cannabis cultivation and manufacturing in existing residential and commercial communities in the County. The direct impacts to established communities could result from land use conflicts related to the cultivation of cannabis plants and manufacturing of cannabis products. The indirect impacts to existing communities could result from land use conflicts related to the construction of new residential units, facility structures, and site improvements to address County

Fire Code (i.e., fire water tanks, road widenings, and defensible space vegetation management), as well as roads and utilities to support cannabis cultivation and manufacturing sites. Cannabis cultivation and manufacturing activities occurring within or adjacent to existing communities could potentially cause quality of life and business viability issues.

Although manufacturing is not an outdoor use, it is allowed as an ancillary home occupation in residential zoning districts (RA, RR, R-1, RB, and RM) that have a detached single family dwelling, which could also potentially cause neighborhood compatibility issues. No employees are allowed with cannabis home occupational licenses; however, an owner could request a conditional use permit to allow employees on parcels zooned RA or RR. Residents may perceive a change in quality of life if they experience a notable difference in noise, odor, and traffic levels due to cannabis cultivation and manufacturing activities, including temporary population increases during harvesting or product batching. In particular, residents have expressed concerns relating to crime, population increases, traffic, parking, odors, and noise associated with the Program during the scoping period for this EIR.

The regulations and restrictions included in the Program, including zoning restrictions, parcel size requirements, setbacks from sensitive uses and habitable structures, land use permits for some activities, and prohibitions on noise and odor generation that can be perceived offsite, serve to restrict the potential for neighborhood incompatibility and quality of life impacts related to the issues described above. As detailed in Section 2.3.2, *Program Components*, these include the requirement of cultivation site setbacks at least 200 feet from a habitable structure on a neighboring parcel under the Project, and at least 100 feet under the More Permissive Project; restriction of cultivation within the USL and RSL in certain zoning districts in order to reduce potential conflicts with schools and neighborhoods; prohibition on using generators as an energy source; restriction of visible lighting at night from a cultivation site; and not allowing cultivation within a residence/residential garage or viewable from a public right-of-way. Further, cannabis manufacturing is required to occur only indoors. Cultivation is not allowed within a residence or a residential garage. In residential zoning districts R-1, RB and RM, manufacturing is limited to cannabis home occupations, which limit the size and scale of the activity. These requirements would contain potential nuisances within each cannabis site to minimize or eliminate potential adverse effects on the surrounding neighborhood. Therefore, direct and indirect impacts to existing communities would be *less than significant.*

3.10.6.2 Summary of Program Impacts and Proposed Mitigation Measures

Table 3.10-3 below provides a summary of the Program impacts related to land use and planning and proposed mitigation measures.

Table 3.10-3 Summary of Land Use and Planning Impacts

Land Use and Planning Impacts	Level of Significance	Mitigation Measures	Post-Mitigation Level of Significance	
			Project	More Permissive Project
Impacts from Commercial Cannabis Cultivation and Cannabis Product Manufacturing				
Impact LU-1. Commercial cannabis cultivation and manufacturing under the Program would potentially conflict with an applicable land use plan, policy, or regulation. Impacts would be less than significant with mitigation.				
Direct and Indirect	Potentially Significant	MM BIO-3.2. Wildlife Fencing (Cultivation Only). MM LU-1.1.1. Public Lands Restriction. MM LU-1.1.2. SU Eligibility. MM LU-1.1.3. USL + RSL Allowances. MM LU-1.1.4. Master Planned Cannabis Facilities MM LU-1.1.5. Avoidance of Excessive Grading MM LU-1.1.6. Cannabis Best Management Practices	Less than significant with Mitigation	Less than significant with Mitigation
Impact LU-2. Commercial cannabis cultivation and manufacturing under the Program could cause adverse effects to existing communities due to increases in traffic, odors, noise, or other quality of life issues. Impacts would be less than significant.				
Direct and Indirect	Less than Significant	None required.	Less than Significant	Less than Significant

3.10.6.3 Secondary Impacts

Impact LU-3. Commercial cannabis cultivation and manufacturing under the Program would potentially conflict with an applicable land use plan, policy, or regulation, an adopted habitat conservation plan in the County, or cause adverse effects on existing communities. Impacts would be significant and unavoidable.

Impact LU-3.1 - Secondary Cultivation/Manufacturing. Secondary impacts to land use and planning policy consistency would result from project-induced new or expanded land use conflicts related to unregulated illegal cannabis cultivation and manufacturing activities. After adoption of the Program, unregulated cultivators would either begin or continue operating illegally, or would not seek a license under the Program, causing significant policy consistency impacts. Secondary impacts to neighborhood compatibility and plan inconsistency would result from land use conflicts related to unregulated cannabis cultivation and manufacturing activities within existing communities. With the implementation of MM AG-1.3a, *Enforcement*, the County would enact a program to address enforcement of illegal cannabis cultivators and manufacturers. With the implementation of MM AG-1.3b, *Annual Survey and Monitoring Report*, the County would monitor and conduct annual surveys of illegal cultivation and manufacturing locations throughout the County, and ensure feasible levels of staffing and resources are dedicated to enforcement.

However, even with the implementation of MM AG-1.3a and MM AG-1.3b, secondary impacts related to land use policy consistency conflicts under both the Project and the More Permissive Project would be *significant and unavoidable*.

Mitigation Measures

Implement MM AT-1.3a. Enforcement. To reduce secondary land use and planning impacts associated with cannabis cultivation/manufacturing and related development activities, MM AT-1.3a, addressing County implementation of the Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program, shall apply to Impact LU-3.

Implement MM AT-1.3b. Annual Survey and Monitoring Report. To reduce secondary land use and planning impacts associated with cannabis cultivation/manufacturing and related development activities, MM AT-1.3b, addressing County criteria for an Annual Survey and Monitoring Report of licensed activities as well as illegal activities, including recommendations regarding enforcement staffing and resources, shall apply to Impact LU-3.

Post-Mitigation Level of Impacts

With implementation of MMs AT-1.3a and AT-1.3b, unregulated cannabis cultivation and/or manufacturing would be reduced over time either through enforcement/closure of the grow sites or the permitting and licensing of new grow sites. However, it is not possible to ensure that all land use impacts would be avoided or minimized; therefore, this impact is *significant and unavoidable*.

3.10.6.4 Cumulative Impacts

As described in Section 3.0, *Introduction and Approach to Analysis*, cumulative development and growth in population and employment is projected to be gradual toward 2040 with some change in agricultural uses and crop types. The County is updating the General Plan to improve sustainability policies, which the Program would be able to accommodate through implementation of licenses. Concurrent development of residential and commercial land uses with commercial cannabis cultivation and manufacturing could potentially result in conflicts related to neighborhood character and quality of life. The potential for cumulative development in the County could lead to perceived quality of life impacts to residents and established communities located near future cannabis cultivation and manufacturing areas. Such impacts would likely be related to changes to the existing character of these neighborhoods, land use conflicts, and cannabis-related traffic, odor, and noise increases. However, it is anticipated that restrictions and regulations of the proposed Program, as well as review processes for Plan Updates and/or land use permits would address land use conflicts and existing community issues on a project-specific level before permit or cannabis license issuance. Therefore, cumulative impacts to land use and planning are anticipated to be *less than significant*.

Section 3.11
Public Services

3.11.1 Introduction

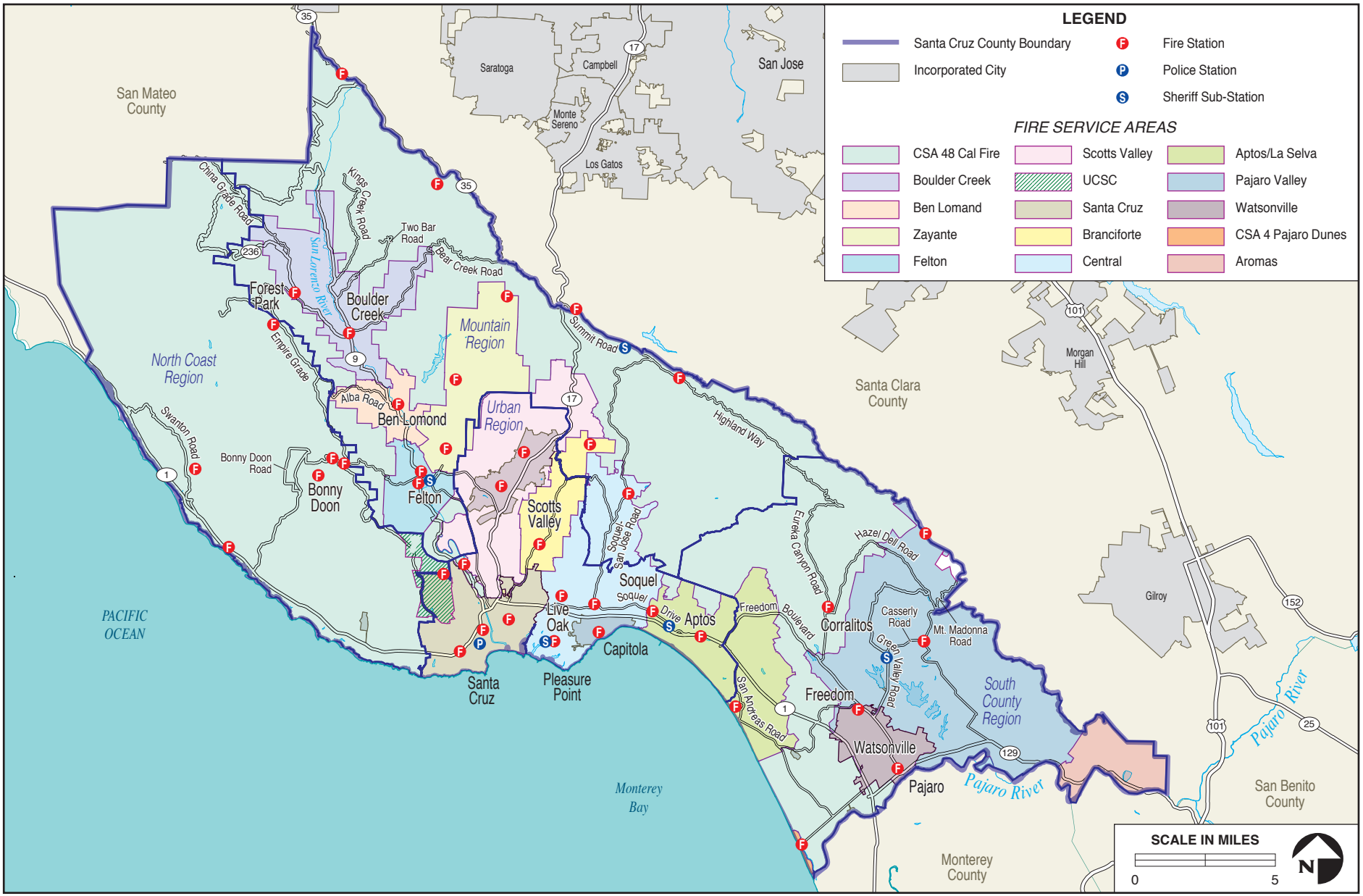
Program Impact Analysis
At a Glance
The Program could adversely affect public services from additional demand on fire, police, schools, parks, and library services created by employees and population associated with an expanded cannabis industry. County regulations for public services and development standards would ensure direct and indirect impacts are less than significant. However, unlicensed cannabis activities could have significant and unavoidable impacts.

Cannabis cultivation and manufacturing permitted under the proposed Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program), including the Project and More Permissive Project scenarios, may result in impacts related to the increased demand for police and fire protection, additional student population in public schools, demand for public parks and other services. This analysis evaluates existing public services in unincorporated areas of the County of Santa Cruz (County) and the adequacy and capacity of these services, relative to additional demand that may result from the Program. Public services analyzed in this section include fire protection, police protection, public schools, health care facilities, parks, and libraries. The impact that the Program may have on services, taking into consideration the various restrictions and development standards of the Program, some of which will reduce demand and others of which may increase demand, is evaluated. Where potentially significant impacts on services are identified, mitigation measures are recommended. Key resources used in the preparation of this section include the Santa Cruz County Review of Fire Districts Services and Spheres of Influence, County of Santa Cruz General Plan, and the County of Santa Cruz Emergency Management Plan (Local Agency Formation Commission [LAFCO] of Santa Cruz County 2016; County of Santa Cruz 1994; County of Santa Cruz 2002).

For information regarding public utilities such as water, wastewater, solid waste and energy facilities, please refer to Section 3.14, *Utilities and Energy Conservation*, and for transportation, please refer to Section 3.13, *Transportation and Circulation*. The overall assumptions and methodology for this analysis are detailed in Section 3.0, *Introduction and Approach to Analysis*.

3.11.2 Environmental Setting

State and local government entities provide a wide range of services to County residents related to public health and safety, education institutions, and parks and recreational facilities.



amec foster wheeler

Santa Cruz County Emergency Services

FIGURE 3.11-1

Fire Protection

Fire protection in California is the responsibility of the federal, state, or local government. Fire protection services in the County are provided by 10 fire protection districts, two city fire departments, the Santa Cruz County Fire Department (SCCFD), and the California Department of Forestry and Fire Protection (CalFire) (Santa Cruz County Grand Jury 2015). Fire protection in Local Responsibility Areas (LRAs) is provided by the County, a city, or a designated fire protection district. Within State Responsibility Areas (SRAs), fire protection is provided by CalFire. Each agency's sphere of influence is illustrated in Figure 3.11-1 and agency service areas and staffing levels are summarized in Table 3.11-1.

The County has substantial area in the wildland urban interface, where wildfire risks are elevated, and in high or very high risk areas (see Figure 3.8-1, Countywide Fire Hazard Severity Areas, in Section 3.8, *Hazards and Hazardous Materials*). As described in Section 3.8, *Hazards and Hazardous Materials*, there is concern that cannabis related activity can cause wildfires. Based on interviews with CalFire in February and March 2017, unregulated cannabis activities in high fire areas susceptible to fire due to sources of ignition from faulty wiring, campfires, generators, and use of flammable materials, particularly in open blasting manufacturing. For example, on August 10, 2017, CalFire officials announced that use of a portable generator at an unregulated cannabis farm was the cause of the Loma Fire in the Santa Cruz Mountains in September 2016, which destroyed 12 homes and burned a total of 4,474 acres over a period of 16 days before fire authorities could contain and extinguish the fire. It was also reported that the Loma Fire was the County's most destructive wildfire linked to unregulated cannabis cultivation since the 2002 Croy Fire on the Santa Clara County eastern side of the Santa Cruz Mountains, which burned over 3,100 acres, destroyed 31 homes, and which officials blamed on unpermitted solar panels powering an illegal cannabis grow (CalFire 2016b).

Santa Cruz County is served by ten fire protection districts, two city fire departments, the SCCFD, and CalFire. The jurisdictions maintain Mutual Aid Agreements to ensure adequate fire response and protection throughout the County.

The County's License Registration data indicates that existing cannabis operations are concentrated within the remote forested areas of the County that are subject to greater threats of wildfire, such as the Mountain Region, North Coast Region, and foothill areas of the South County Region. Registration data confirms substantial overlap between current grow sites and high fire severity zones. Some cultivation sites may also include manufacturing activities using higher fire risk methods, such as open blast butane honey oil (BHO) production. These areas also have challenging access for firefighting.

Table 3.11-1 Fire Protection Services within Santa Cruz County

Fire Department	Service Area	Staffing & Resources	Region
Aptos/La Selva Fire Protection District	27 square miles in the Aptos and La Selva communities	3 Fire Stations 38 employees	Urban
Aromas Fire Protection District	60 square miles within portions of Monterey, San Benito and Santa Cruz Counties	Not available	South County
Ben Lomond Fire Protection District	Town of Ben Lomond and the surrounding area	28 volunteer safety members, 1 clerical, 1 public education specialist	Mountain
Boulder Creek Fire Protection District	21 square miles in Boulder Creek and Brookdale	35 volunteers	Mountain
Branciforte Fire Protection District	Within Santa Cruz County, between the City of Santa Cruz and Scotts Valley	3 full-time Captains, 34 volunteer firefighters	Urban
CSA 58 CalFire	State Responsibility Area (SRA) of Santa Cruz County	Not available	North Coast
Central Fire Protection District	28 square miles encompassing the communities of Live Oak, Soquel, and Capitola	57 full-time employees, 19 part-time employees	Urban
Felton Fire Protection District	The Community of Felton, CA	30 volunteer fire firefighters, 1 Fire Chief and 1 paid firefighter	Mountain
CSA 4 Pajaro Dunes Fire Protection District	County Service Area (CSA) 4, the southern coastal area of Santa Cruz County	Not available	South County
Pajaro Valley Fire Protection District	47 square miles in the unincorporated portions of south Santa Cruz County, surrounding the City of Watsonville	2 fire stations 9 full-time employees	South County
Santa Cruz City Fire Department	City of Santa Cruz	60 staff members	Urban
Scotts Valley Fire District	22 square miles, including the City of Scotts Valley and the surrounding area	24 firefighting personnel	Urban
UC Santa Cruz Fire Department	UC Santa Cruz Campus and surrounding area	Station is leased and operated by the Santa Cruz City Fire Department	Urban
Watsonville City Fire Department	14 square miles including the City of Watsonville and the surrounding area	2 fire stations	South County
Zayante Fire Protection District	Community of Zayante and the surrounding area	32 employees	Urban/ Mountain

Source: Santa Cruz LAFCO 2016.

CalFire San Mateo-Santa Cruz Unit – The CalFire San Mateo-Santa Cruz Unit (SMSCU) borders the Pacific Ocean to the west, San Francisco County to the north, San Francisco Bay and Santa Clara County to the east, and the Pajaro River along San Benito and Monterey Counties to the south. SMSCU primarily operates in the SRA of Santa Cruz and San Mateo counties, an area of approximately 894 square miles. The SMSCU provides a combination of state, county, and local fire district resources that

collectively respond to a wide variety of emergencies including wildland, structure, and vehicle fires; vehicle accidents and medical aids; cliff and water rescues; and hazardous material incidents (CalFire 2012a). SMSCU and SCCFD currently operate under a Local Operational Plan as part of the SCCFD Master Plan, which guides operations through June 30, 2017 (County of Santa Cruz 2014). Under the operational agreement, the County contracts with CalFire to provide administrative and operational management of SCCFD.

Santa Cruz County Fire Department – SCCFD provides service across 266 square miles of the unincorporated areas of the County that is often geographically diverse, sparsely populated, and has minimal infrastructure with respect to roads and water supply for fire protection (Santa Cruz County Fire Department 2015). SCCFD is a full-service fire agency that provides fire protection, emergency medical service, fire prevention, fire marshal, and public education. The department responds to over 2,500 emergency incidents a year. Communities serviced by SCCFD include Davenport, Swanton, Bonny Doon, Los Cumbres, South Skyline, Burrell, Loma Prieta, Corralitos, Soquel, and Pajaro Dunes. The County of Santa Cruz contracts with CalFire for administration, support services, and line personnel and include 260 paid firefighters and support staff as well as 110 volunteers. All paid personnel of SCCFD are CalFire employees, funded by the County under contractual agreement with the state. SCCFD is a "Combination Type" Division having both paid and volunteer personnel. In total, SCCFD operates six volunteer fire stations (South Skyline, Bonny Doon, McDermott, Loma Prieta, Davenport, and Corralitos) and eight paid stations (Saratoga Summit, Jamison Creek, Fall Creek, Big Creek, Pajaro Dunes, Soquel, Burrell, and Corralitos) (CalFire 2012b). SCCFD provides and receives mutual aid to and from all fire protection agencies within the County.

Pajaro Valley Fire Protection District - The Pajaro Valley Fire Protection District (PVFPD) provides fire protection services to the unincorporated portions of south Santa Cruz County and covers a service area of approximately 52 square miles of both SRA and LRA lands. PVFPD protects approximately 18,000 residents and responds to approximately 750 service calls per year (Pajaro Valley Fire 2013). Through a cooperative agreement with CalFire, PVFPD operates one fire station, Fire Station 45 (Watsonville) to provide emergency services to the unincorporated area surrounding the City of Watsonville. Additionally, PVFPD has automatic and mutual aid agreements with the City of Watsonville, Santa Cruz County Fire in Corralitos, Aromas Tri-County Fire, and South Santa Clara County Fire District (Pajaro Valley Fire 2013).

Urban Fire Agencies - Aptos La Selva Fire Protection District (Aptos Fire), Central Fire Protection District (Central Fire), and Scotts Valley Fire Protection District (Scotts Valley Fire) have adopted response standards similar to National Fire Protection Association (NFPA) 1710 section 5.2.4.1.1. All three full-time districts met the goal of 90 percent compliance during the 2013/2014 year (Santa Cruz County Grand Jury 2015). Additionally, there are two municipal fire departments in the county: City of Santa Cruz Fire Department and City of Watsonville Fire Department. The urban agencies (Scotts Valley, Central, and Aptos/La Selva) respond with 24-hour companies staffed with an Advanced Life Support (ALS) Paramedic; whereas, rural agencies have a mix of staffed and paid-call companies responding with emergency medical technicians (EMTs). Emergency Medical Services (EMS) account for approximately 67 percent of 911 calls within the County. Within urban areas of the County, the average fire response time to a Code 3 emergency call is 5-minutes, 28-seconds.

Police Protection

The County Sheriff's Office provides primary law enforcement services in the unincorporated areas of the County at acceptable service levels (County of Santa Cruz 2017). The cities of Santa Cruz, Capitola, Scotts Valley, and Watsonville maintain their own police departments.

The Santa Cruz County Sheriff's Office responds to incidents and enforces cannabis laws within the County in concert with local police departments and state agencies.

Based on the 2016 License Registration and 2016 Growers Survey data, existing cannabis cultivation operations are concentrated in the Mountain Region and the South County Region, primarily within the San Lorenzo Valley in the Mountain Region and the Pajaro River Valley in the South County Region. Data on the location of existing cannabis manufacturing operations is less robust, but based on Sheriff Department records and communications with CalFire personnel, violations for cannabis manufacturing have been concentrated in the more remote, mountainous or forested regions of the County. Sheriff records and other enforcement data indicate the police staff response to calls related to fire and hazardous materials associated with existing cannabis operations. Between January 2015 and December 2016, the Sheriff Department reported a total of 200 cannabis site related enforcement cases within the County, 32 of which involved potentially hazardous materials associated with BHO operations (Appendix D). Based on interviews conducted with the Sheriff's Office in February and March 2017, it is possible that many more manufacturers currently operate under similar conditions, but are not captured in case data collected by the Sheriff's Office.

Santa Cruz County Sheriff's Department - The Sheriff's Office provides public protection and law enforcement through the enforcement of local, state, and federal laws. Approximately half of Santa Cruz County's resident population of 264,298 lives in unincorporated areas including Aptos, Ben Lomond, Bonny Doon, Boulder Creek, Brookdale, Corralitos, Davenport, Felton, Freedom, La Selva Beach, Live Oak, Rio Del Mar, Soquel, and Zayante. There are six Sheriff stations throughout the County (See Table 3.11-2 and Figure 3.11-1; County of Santa Cruz 2017). In 2015, the Sheriff's Office received over 102,000 calls for service that were responded to by the patrol division (Santa Cruz County Sheriff 2015). In 2014, the Santa Cruz County Anti-Crime Team (SCCACT) confiscated 549 pounds of unlawfully processed marijuana. In 2015, marijuana consisted of 86 percent of drugs seized by the SCCACT (Santa Cruz County Sheriff 2014, 2015).

Table 3.11-2 Santa Cruz County Sheriff's Department Resources

Sheriff Station	Address	Service Area	Region
County Sheriff Headquarters	5200 Soquel Avenue Santa Cruz, CA 95062 4-7800	Santa Cruz County	All
Aptos Service Center (County)	19 D Rancho Del Mar Aptos, CA 95003	Aptos and La Selva Beach	Urban
Live Oak/Soquel Service Center (County)	5200 Soquel Avenue Santa Cruz, CA 95062	Davenport, Live Oak, Soquel and Summit	Urban
San Lorenzo Valley Service Center(County)	6062 Graham Hill Road, Suite A & B Felton, CA 95018	Ben Lomond, Bonny Doon, Boulder Creek, Brookdale, Felton, Mount Hermon and Zayante/Lompico	North Coast/ Mountain
South County Service Center(County)	790 Green Valley Road Watsonville, CA 95076	Corralitos and Freedom	South County
Summit Service Center (County)	23800 Summit Road Los Gatos, CA 95030	Temporarily Closed	Mountain

Source: County of Santa Cruz 2017b.

Incorporated Area Police Departments - The cities of Santa Cruz, Capitola, Scotts Valley, and Watsonville all maintain city police protection services that provide for the public's protection and enforcement of local, state, and federal laws. In addition to municipal police forces, the University of California, Santa Cruz maintains its own force of duly sworn officers that police the campus.

California Highway Patrol - The California Highway Patrol (CHP) is responsible for patrolling state highways and county roadways, enforcing traffic regulations, responding to traffic accidents, and providing service and assistance to drivers in disabled vehicles. CHP maintains a mutual aid agreement with the Santa Cruz County Sheriff's Office and assists local governments during emergencies when requested. The County is located within the CHP Coastal Division, whose service area includes 325 miles along the Central Coast with 11 area offices, one resident post, two commercial vehicle inspection facilities and three communication/dispatch centers. These facilities are staffed by nearly 700 uniformed and non-uniformed employees (CHP 2017b). The area office in Santa Cruz County (Office 720) is located at 10395 Soquel Drive in Aptos, CA (CHP 2017a).

Health Care Facilities

The major hospitals in the County are Dominican Hospital, Sutter Maternity and Surgery Center, and Watsonville Community Hospital. Dominican Hospital and Watsonville Community Hospital both operate emergency rooms and Dominican also operates an Urgent Care facility. County-operated medical facilities include Santa Cruz Health Center and Watsonville Health Center. Other medical facilities in the County include but are not limited to Scotts Valley Medical Clinic, Santa Cruz County Mental Health, East Cliff Family Health Center, several branches of Doctors on Duty, Sutter Health/Palo Alto Medical Foundation facilities (at dispersed sites) and Urgent Care, Salud Para La Gente Health Clinic, Beach Flats Clinic, and Planned Parenthood.

Schools

There are 10 K-12 districts within the County of Santa Cruz with a total enrollment of 37,099 students (Table 3.11-3; Santa Cruz County Office of Education 2017). Operating revenue provided to school districts is generated by local property taxes accrued at the state level and then allocated to each school district based on average daily student attendance. Because state funding for capital improvements has historically lagged enrollment growth, physical improvements to accommodate new students are funded primarily by public debt (bond measures), supplemented by fees assessed on development projects and certain building permits.

Table 3.11-3 Santa Cruz County School Districts

School District	Enrollment	Schools	Region
Bonny Doon Union Elementary School District	146	Bonny Doon School (K-6)	North Coast
Happy Valley Elementary School District	132	Happy Valley Elementary School (K-6)	Urban
Live Oak School District	2,100	Cypress Charter High School (9-12); Del Mar Elementary School (K-5); Green Acres Elementary School (K-5); Live Oak Elementary School (TK-5); Ocean Alternative; Shoreline Middle School (6-8); Tierra Pacifica Charter School (K-8)	Urban
Mountain Elementary School District	125	Mountain Elementary School (K-6)	Mountain
Pacific Elementary School District	130	Pacific Elementary School (Preschool-6)	North Coast
Pajaro Valley Unified	20,354	16 Elementary Schools; 9 Secondary Schools; 8 Alternative & Charter Schools; 1 Adult Education School	South County
San Lorenzo Valley Unified School District	2,667	San Lorenzo Valley Elementary (K-5); Boulder Creek Elementary (K-5); San Lorenzo Valley Middle School (6-8); San Lorenzo Valley High School (9-12); SLVUSD Charter School (K-12)	Mountain
Santa Cruz City Schools	7,000	4 Elementary Schools; 2 Middle Schools; 3 High Schools; 5 Small/Alternative Schools; 1 Charter School	Urban
Scotts Valley Unified School District	2,545	Brook Knoll Elementary School (K-5); Vine Hill Elementary School (TK-5); Scotts Valley Middle School (6-8); Scotts Valley High School (9-12); Independent Study/Home School (K-8)	Urban
Soquel Union Elementary School District	1,900	4 Elementary Schools; 1 Middle School	Urban

Sources: Happy Valley Elementary 2016; Bonny Doon School 2015; Live Oak School District 2017; Mountain Elementary School District 2016; Pacific Elementary School 2017; Pajaro Valley Unified School District 2017; San Lorenzo Valley Unified School District 2017; Santa Cruz City Schools 2017; Scotts Valley Unified School District 2017; Santa Cruz County Office of Education 2017.

Parks and Recreation

The State of California owns and operates 14 state parks within the County, totaling 42,120 acres (California Department of Parks and Recreation 2017). The Santa Cruz County Parks, Open Space, and Cultural Services Department maintains 49 parks consisting of 1,400 acres and 29 miles of coastline (County of Santa Cruz 2017a). Numerous parks are also found within the cities (Santa Cruz LAFCO 2005). For example, the City of Santa Cruz maintains 32 neighborhood parks (49 acres), seven community parks (191 acres), seven open spaces (1,298 acres), four primary beaches (33 acres), and 35 miles of trails, as well as several community, recreational, and cultural facilities. The County is currently in the process of updating the Parks Master Plan (County of Santa Cruz 2017).

Libraries

County of Santa Cruz

A Santa Cruz City-County library system serves approximately 219,000 residents throughout the County, (Santa Cruz Public Libraries 2016). The Santa Cruz Public Library system includes 10 neighborhood library branches: Aptos, Boulder Creek, Branciforte, Capitola, Downtown Santa Cruz, Felton, Garfield Park, La Selva Beach, Live Oak, and Scotts Valley. Santa Cruz Public Library services are provided through the Fourth Amendment of the Library Joint Powers Agreement with the funds made available by the Santa Cruz County Library Financing Authority (Santa Cruz Public Libraries 2016).

City of Watsonville

The City of Watsonville Public Library system maintains three facilities: Main Library, Freedom Branch Library, and Adult Literacy Program adjacent to the Main Library. These libraries serve City of Watsonville residents and residents of unincorporated Santa Cruz County (RBF Consulting 2009).

3.11.3 Regulatory Setting

This analysis was conducted in conformance with the goals and policies of federal, state and local regulations. The following section summarizes the most applicable policies and regulations that would relate directly to future cannabis cultivation and cannabis product manufacturing under the Project and More Permissive Project. Additional federal, state, and local policies and regulations are provided in Appendix A.

3.11.3.1 State

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (CAL-OSHA) requires that a minimum of two firefighters, operating as a team, conduct interior firefighting operations while a minimum of two firefighters must be positioned outside and remain capable of rapid intervention and rescue if needed pursuant to the State of California's "Two-In, Two-out" law [29 CFR 1910.134(g)(4)]. If there are only three firefighters assigned to a fire engine, the engine company must wait for back-up to arrive before being able to engage in interior firefighting operations to be in compliance with CAL-OSHA regulations.

California Code of Regulations Sections 17620 and 65995

California Code of Regulations (CCR) Section 17620 authorizes school districts to levy a fee, charge, dedication, or other requirement against any construction of new residential, commercial, and industrial uses within their boundaries to fund the construction of new schools or school facilities. CCR Section 65995 limits the maximum fee that school districts can assess. Section 65996 designates Section 17620 of the Education Code and Section 65970 of the Government Code to be the exclusive method for considering and mitigating development impacts on school facilities.

Senate Bill 50 (SB 50) (1998)

This bill requires that cities and counties mitigate impacts to school facilities as a condition of approving new developments. SB 50 also authorizes school districts to levy statutory developer fees at levels which may be significantly higher than previously permitted. To levy higher fees the school district must conduct a Needs Analysis and a Fee Justification. This legislation also stipulates that school impact fees are the sole and exclusive method of mitigation for school enrollment impacts.

Quimby Act (1975)

The Quimby Act gives cities and counties the authority, by ordinance, to require the dedication of land or payment of in-lieu fees, or a combination of both, for park and recreation purposes as a condition of approval of a tract map or parcel map. The Quimby Act allows fees to be collected for up to 5 acres of parkland per 1,000 residents to serve the needs of residents of the subdivision and the greater public residing in the jurisdiction.

3.11.3.2 Local

County of Santa Cruz General Plan and Local Coastal Program

Parks, Recreation, and Public Facilities Element

The Parks, Recreation, and Public Facilities Element, Chapter 7 of the County of Santa Cruz General Plan and Local Coastal Program, combines numerous policies and programs related to the provision of public facilities to support existing and future populations. The following objectives and policies of the Parks, Recreation, and Public Facilities Element highlight the objectives and policies that are pertinent to the proposed Program. For a comprehensive list of all related objectives and policies, see Chapter 7 of the General Plan.

Objective 7.1a – Parks and Recreation Opportunities (LCP). To provide a full range of public and private opportunities for the access to, and enjoyment of, park, recreation, and scenic areas, including the use of active recreation areas and passive natural open spaces by all ages, income groups and people with disabilities with the primary emphasis on needed recreation facilities and programs for the citizens of Santa Cruz County.

Objective 7.1b – Park Distribution (LCP). To establish and maintain, within the economic capabilities of the County, a geographical distribution of neighborhood, community, rural, and regional park and recreational facilities throughout the County based on the standards for acreage and population ratios contained in this plan; and to preserve unique features of the natural landscape for public use and enjoyment.

Policy 7.1.3 – Parks, Recreation and Open Space Uses (LCP). Allow low intensity uses which are compatible with the scenic values and natural setting of the county for open space lands which are not developable; and allow commercial recreation, County, State and Federal parks, preserves, and biotic research stations, local parks and passive open space uses for park lands which are developable.

Objective 7.16 – Fire Protection. To provide the highest level of fire protection service feasible in the rural areas considering the difficult terrain, disperse settlement patterns, and limited road and water improvements and to provide an urban level of fire service in the urban areas.

Policy 7.16.1 – Reviewing New Development for Fire Protection. Require review of all new developments, including building permits on existing parcels of record, by the County Fire Marshal or local fire agency, and require adequate access, water supply and location with respect to fire stations and Critical Fire Hazard Areas in order to ensure adequate fire protection.

Policy 7.16.2 – Development to be Consistent with Fire Hazards Policies. Allow development approvals only if adequate water supply, access, and response time for fire protection can be made available in accordance with the Fire Hazards policies found in Section 6.5.

Objective 7.17 – Police Protection. To provide the highest level of police protection services to County residents and property in the unincorporated areas of Santa Cruz County.

Policy 7.17.2 – Maintaining Adequate Levels of Service. Provide adequate levels of police service to protect County residents and businesses.

3.11.4 Methodology and Assumptions

This analysis describes how the Program could result in increased demand on public services in the County. The Project scenario and the More Permissive Project scenario are both evaluated. Refer to Section 3.0, *Introduction and Approach to Analysis*, for a detailed discussion of projected cannabis activities in the County due to Program implementation.

The analysis is based on a review of the existing services for fire protection, police protection, and public facilities in the County identified in Section 3.11.2, *Environmental Setting*, what County policies and regulations under the Program would limit unsustainable increases in public services demand, and where there would be a potential substantial increase in demand of public services such as fire and police protection due to cannabis cultivation and/or manufacturing sites in order to determine impacts.

3.11.5 Significance Criteria

CEQA Guidelines Thresholds

The following thresholds of significance are based on Appendix G of the 2017 CEQA Guidelines. For purposes of this EIR, implementation of the Program may have a significant adverse impact on public services if it would:

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

- Fire protection.
- Police protection.
- Schools.
- Parks.
- Other public facilities.

Additionally, the SCCFD employs the following two standards with respect to the provision of fire protection services:

1. A firefighter-to-population ratio of one firefighter on duty 24 hours a day for every 2,000 in population is considered "ideal," although a ratio (including rural areas) of one firefighter per 4,000 population is the maximum population that can be adequately served.
2. The second fire protection standard is a 5-minute response time in urban areas. This incorporates the following NFPA response-time objectives:

    a. One minute (60 seconds) for turnout time

    b. Four minutes (240 seconds) or less, for the arrival of the first-arriving engine company

The SCCFD is striving to obtain a minimum of four on-duty firefighters on each engine company in the County in compliance with NFPA standards (NFPA, 5.2.3.1.1).

3.11.6 Environmental Impact Analysis and Mitigation

This section discusses the potential impacts to public services associated with the Program. A detailed discussion of each impact follows. Where there are potentially significant or significant and unavoidable impacts, mitigation measures are proposed and any residual impacts after mitigation are described.

3.11.6.1 Program Impacts

Impact PS-1. Commercial cannabis cultivation under the Program would increase demand for fire protection, police protections, public schools, parks, libraries, and other public facilities. Impacts would be less than significant.

Impact PS-1.1 – Direct Cultivation. Implementation of the Program and the direct cultivation of cannabis plants throughout the County would result in additional demand for fire protection, police protection, public schools, parks, libraries, and other public facilities, as described below.

Fire Protection

Approval of the proposed Program could incrementally increase demand for both emergency and non-emergency fire protection services in the County, including increased response to structure fires and wildfires. Implementation of the Program could potentially cause the number of people and cannabis sites in the high fire risk zones to increase due to the eligibility of parcels in these zones for cannabis activities under the Program. Due to this potential population increase in risk areas, demand for emergency response services, including fire response, would also increase. The potential of cannabis-related activities to occur in more remote areas could exacerbate difficulty with emergency evacuations, particularly along narrow rural roads (see also, Section 3.13, *Transportation and Circulation*). Further, cannabis cultivation could introduce new ignition sources to rural areas, including electrical power, machinery, and operators and employees, incrementally increasing the potential for accidental ignition of structure fires and wildfires.

However, to become licensed under the Program, licensees must comply with the County Parks, Recreation, and Public Facilities Element, Fire Protection Policies 7.16.1 and 7.16.2, and the County's Fire Code, which provide for adequate roads for fire protection and meet all fire protection policies found in Section 6.5 of the General Plan, including visible address numbers, adequate water availability, automatic smoke detection devices, adequate disposal of refuse, and fire retardant roofs, depending on the structural development proposed for the site. It is anticipated that emergency access to licensed cultivation sites would be improved under the Program, as many roads currently providing access to grow sites do not have the capacity to support emergency vehicles and do not have water supplies meeting minimum flow requirements. It is anticipated that emergency access to and evacuation routes from licensed cultivation sites would improve as access roads are upgraded to comply with Fire Protection Policy 7.16.2.

County Fire Code requirements applicable to cannabis activities within structures would require significant site improvements to provide onsite water storage for firefighting purposes (up to 568 tanks of up to 120,000 gallons each) with related site pad clearing and grading, installation of up to 20-foot wide road improvements with turnaround, and fire clearance vegetation management around a cannabis-related structure of up to 100 feet (see Section 3.0, *Introduction and Approach to Analysis*). These required paved roads and water storage tank structures would improve firefighting response and access to cultivation sites.

Development plans would be required to be designed and operated to avoid interference with implementation of County emergency and evacuation plans. Programs such as the Local Hazard Mitigation Plan and the Emergency Management Plan (EMP) would facilitate emergency response and preparedness in affected areas, especially in critical fire hazard areas.

The character of incidents to which fire services would have to respond under the Program may also shift from the present situation and this is a potential beneficial impact. Because there are not yet any licensed cannabis cultivation sites, the experience of fire protection services has only been with responses to incidents on unregulated sites. These locations are often not easily accessible, nor compliant with state and local building codes. Since regulated sites would be designed to minimize fire risk in compliance with existing regulations, implementation of the Program may cause emergency calls and incidents to decrease. Overtime, existing, unregulated operations would be brought into compliance with building and electrical codes as is required by the Program. Demand for non-emergency services such as fire safety inspections for new residences, building inspections, fire code investigations, and code compliance would incrementally increase under both Program

scenarios. Further, overall risk of fire would be reduced under the Program, as further described in Section 3.8, *Hazards and Hazardous Materials*, with a commensurate decrease in demand for fire response services. Therefore, this impact would be *less than significant*.

Police Protection

Cannabis cultivation in the County under the Program would have the potential to incrementally increase demand for police and emergency services. As cannabis is a high-value crop, there is a potential for crime to increase around cultivation and manufacturing sites. This would also include the potential for youth to gain illegal access to cannabis plants despite security measures required by the Program. Increased calls for service could include responses to noise complaints, driving while under the influence, security concerns, and other public transportation safety concerns (refer to Section 3.13, *Transportation and Circulation*). A projected increase in employment within unincorporated portions of the County would incrementally increase demand on police protection services (see Section 3.12, *Population, Employment, and Housing*). However, this increase in employee population would occur incrementally over several years. As described in Section 3.11.2, existing police staffing levels are currently adequate and this incremental increase would not substantially affect police resources nor result in the need for additional facilities. Further, the Program includes implementation of a new division within the County dedicated to regulating cannabis production, which includes code compliance officers, alleviating some demand for police protection. Therefore, direct impacts to police protection would be *less than significant*.

Parks, Schools, Libraries and Other Public Services

The proposed Program would potentially generate an estimated 7,116 full-time cannabis cultivation and manufacturing jobs (see Section 3.12, *Population, Employment, and Housing*). Of the 190.1 acres of projected new cannabis cultivation, 147 acres are assumed to occur within existing greenhouses, mostly in South County, which have had associated employees both in the past and currently. Therefore, this projected increase in employment is conservative, and could be lower during implementation. Nevertheless, increased employment would contribute to increased demand for housing, as well as the use of parks, schools, libraries, and other public services by the employees' families. However, this population and employment increase would occur over several years and would be distributed throughout the area of eligibility (see Chapter 2, *Project Description*). The County and other agencies have adaptive capacity to modify plans and staffing levels to adjust to changing growth forecasts and changing demands for services. The overall level of population, employment and housing growth that is forecast is at a level that is consistent with Measure J, the County's growth management system. Additional information is contained within Section 3.12, *Population, Employment, and Housing*.

Projected growth would not increase demand for educational, health care, and parks and recreation facilities to the extent that new facilities would be required, as there is capacity to accommodate growth. For example, school districts have been experiencing declining growth of students due to changing demographics. With regards to adequate park service, new residents and employees would be served by not only County and individual City parks, but also the 14 state parks within Santa Cruz County, which provide an extensive amount of acreage for recreational purposes. It is also likely that many employees and associated household members may live within cities in the County or in adjacent counties, so demand for recreational areas would be more diffused than only in unincorporated areas of the County.

Further, new enrollment in local schools from increased employment would be offset by impact fees, which vary with school district, that contribute to fund development of new school facilities to accommodate new student growth. Parks impact fees are also required, to help fund parks in areas of the County where the minimum ratio of park space to resident is not met.

Potential public services impacts associated with cultivation activities under the Program would be limited, as described in this section, and addressed by existing County policies and regulations. Licenses for cultivation would not be approved or activated unless all other required permits and/or entitlements are in place for a proposed cannabis operation, and all applicable impact fees for associated building permits are paid. Associated demand on fire protection, police, public schools, parks, libraries or other public services from new development would not be concentrated in any one Region due to the distribution of cannabis cultivation sites over the Program's eligibility area. Further, the cultivation that would occur within existing greenhouses mostly in South County has a history of being served by these public services and facilities. Furthermore, cannabis activities will contribute substantial tax revenues to state and local government, which can be used to ensure adequacy of public services. For these reasons, potential impacts to public services from cannabis cultivation associated with the Program are considered *less than significant.*

Impact PS-1.2 – Indirect Cultivation. Indirect impacts of the Program on public services could occur where residential structures and improvements required under the Program for cultivation sites, as well as other development supporting cannabis cultivation, would require additional fire, police, and emergency services. Residences would be required on parcels where cultivation occurs within A, RA, TP, and SU zone districts under the Project and More Permissive Project. Given the potential for up to 228 new residential units, the Program could directly result in an estimated 615 additional residents that would require public services in unincorporated portions of the County (see Section 3.12, *Population, Employment, and Housing*). This is incremental increase in the County population requiring fire protection services and would not substantially affect the firefighter-to-population ratio. Similarly, population increases would not strain existing law enforcement services. As the area of eligibility for cultivation extends into rural areas of the County, some homes required by the Program would occur outside the County's adequate response times for urban areas and may be impeded by distance and limited accessibility. Increased response times for rural areas do not conflict with National Fire Protection Association (NFPA) standards, which only apply to urban areas.

Further, regulation of cannabis cultivation activities and associated development would improve safety and reduce fire hazards relative to existing baseline conditions, which include unlicensed, unregulated activity. Sites would be designed to include firefighting infrastructure and access roads would accommodate fire response. The County Fire Code would require significant site improvements to provide onsite water storage for firefighting purposes (up to 568 tanks of up to 120,000 gallons each) with related site pad clearing and grading, installation of road improvements with turnaround for cannabis-related activities within structures, as well as defensible space vegetation management around a cannabis-related structure of up to 100 feet (see Section 3.0, *Introduction and Approach to Analysis*). These required paved roads and water tank structures would improve firefighting response and access to cultivation sites. In addition, indoor cultivation under the Program would occur only within permitted structures subject to building codes, electrical codes, as well as to review by County Fire Department. Potential impacts would therefore be addressed or avoided through proper implementation of existing codes and standards, and would not interfere with County emergency response or evacuation plans.

Pursuant to the County's Building Code (Section 12.10), and with Fire Protection Policies 7.16.1 and 7.16.2, development related to cannabis cultivation would be required to ensure the safeguarding of life, property, and public welfare. All supporting development would be subject to County Code regulations and General Plan policies, which would enforce County development standards that reduce public services impacts. Additionally, as a provision of the licensing program, all cannabis operations associated with the Program are required to be set back a minimum of 300 feet from schools, parks and libraries. This provision will further reduce any indirect impacts that could occur.

Overall, the proposed Program would not exceed the capacity of existing fire protection or law enforcement services and would not require provision of new or physically altered facilities to maintain service capability. Additionally, the ongoing application of existing and proposed regulations to avoid siting development related to cannabis cultivation close to parks, schools, or libraries, and outside of emergency access areas, would ensure that indirect impacts due to increased demand for public services under the Project and the More Permissive Project would be considered *less than significant.*

Impact PS-2. Cannabis product manufacturing under the Program would increase demand for fire protection, police protections, public schools, libraries, and other public services. Impacts would be less than significant.

Impact PS-2.1 – Direct Manufacturing. Implementation of the Program and the direct manufacturing of cannabis products throughout the County would result in additional demand for fire protection, police protection, public schools, parks, libraries, and other public facilities, as described below.

Fire Protection

Much of the manufacturing of cannabis involves the use and storage of potentially hazardous and highly flammable materials that would introduce a potential fire hazard (see Section 3.8, *Hazards and Hazardous Materials*). Collectively, the operation of new cannabis manufacturing facilities under the Program could incrementally increase the number of incidents requiring fire protection services and associated demand on fire protection resources. However, manufacturing activities would be subject to review by the Licensing Office, compliance with federal and state regulations relating to employee health and safety, and existing County policies and regulations relating to emergency access, the operation of manufacturing facilities, types of allowed operations, and the general operation of each manufacturing activity. Proper consultation with fire and emergency service providers and compliance with all Fire Protection Policies (e.g., SCCC Chapters 7.16.1 and 7.16.2) and other regulations would reduce this impact as safety conditions are improved with licensure.

Police Protection

Manufacturing facilities under the Program may attract crime, vandals, and present other security risks. Although these facilities would be required to provide onsite security, fencing, and limited access, these types of facilities may be inherently subject to crime because of the high value of cannabis products and the concern of keeping youth away from the premises. This would incrementally increase demand on police services. Cannabis manufacturing would be licensed under the Program in commercial or manufacturing spaces in industrial/commercial and agricultural zoning districts, where police services are adequate relative to adopted standards. The number of eligible manufacturing facilities is limited and dispersed across the County and would not substantially

increase demand on police services to the extent that the construction of new police facilities would be required.

Parks, Schools, Libraries, and Other Public Services

Cannabis manufacturing development, including potential greenhouses, warehouses, commercial buildings, and residential structures, would not increase the demand for parks, schools, libraries, or other public services. Development would be subject to County policies and Program guidelines that address park land, recreational facilities, schools, and libraries, including payment if impact fees to offset incremental contribution to demand for schools and parks. Where necessary, manufacturing licenses and associated development permits would be reviewed by the County to ensure compliance with the County's Zoning Regulations and Coastal Zone Regulations (SCCC Sections 13.10 and 13.20). Therefore, application of existing policies and regulations on future cannabis product manufacturing development would mitigate potential public services impacts associated with manufacturing activities under the Program. Licenses for manufacturing would not be approved or activated unless all other required permits and/or entitlements are in place for a proposed cannabis product manufacturing facility. Development under the proposed Program is not anticipated to result in substantial population growth and associated demand on fire protection, police, public schools, parks, libraries or other public services due to the incremental distribution of cannabis manufacturing sites over the Program's eligibility area. Direct impacts to public services from cannabis product manufacturing would be considered *less than significant* for both Program scenarios.

Impact PS-2.2 – Indirect Manufacturing. Indirect impacts of cannabis product manufacturing would occur when new buildings and related infrastructure are constructed to support manufacturing operations. This development may include new residential structures, infrastructure improvements and extensions, and development of new ancillary structures such as greenhouses to support cannabis manufacturing. As such, impacts would be similar to those associated with cannabis cultivation as discussed under Impact PS-1.2, and may be incrementally less severe due to the lack of Program requirements such as co-location of a residence for these developments or improvements. Therefore, indirect impacts are considered *less than significant.*

3.11.6.2 Summary of Program Impacts

Table 3.11-4 below provides a summary of the Program impacts related to public services and proposed mitigation measures.

Table 3.11-4 Summary of Public Services Impacts

Cultural Resources Impacts	Level of Significance	Mitigation Measures	Post-Mitigation Level of Significance	
			Project	More Permissive Project
Impacts from Commercial Cannabis Cultivation				
Impact PS-1. Commercial cannabis cultivation under the Program would increase demand for fire protection, police protections, public schools, parks, libraries, and other public facilities. Impacts would be less than significant.				
Direct	Less than significant	None required.	Less than significant	Less than significant
Indirect	Less than significant	None required.	Less than significant	Less than significant
Impacts from Cannabis Product Manufacturing				
Impact PS-2. Cannabis product manufacturing under the Program would increase demand for fire protection, police protections, public schools, libraries, and other public services. Impacts would be less than significant.				
Direct	Less than Significant	None required.	Less than Significant	Less than Significant
Indirect	Less than Significant	None required.	Less than Significant	Less than Significant

3.11.6.3 Secondary Impacts

Impact PS-3. Unregulated commercial cannabis cultivation and cannabis product manufacturing under the Program could increase demand for fire protection, police protection, public schools, parks, libraries, and other public facilities. Impacts would be significant and unavoidable.

Impact PS-3 – Secondary Cultivation/Manufacturing. Currently, there is a significant but unquantified amount of illegal cannabis cultivation and manufacturing occurring in the County (see Section 3.0, *Introduction and Approach to Analysis*). There is potential for expansion of the existing, baseline illegal activity as a result of the Program in that any licensing program may create the perception that, regardless of any restrictions and limitations of the program, there is opportunity for new cultivation and manufacturing businesses to become established and ultimately licensed within the County. This perception could lead to new cultivation and/or manufacturing activity that may not be licensed.

Implementation of the Program could create secondary impacts through continued or accelerated unlicensed cannabis manufacturing countywide, if project-induced expanded or additional new unlicensed and illegal manufacturing operations occur outside of the licensing and regulatory program. However, the location of unlicensed manufacturing sites cannot be predicted with any certainty; such development could occur in any of the countywide regions and could continue or expand in areas unsuitable for manufacturing relative to fire and police response times or proximity to sensitive public services. Cannabis manufacturing activities, including volatile extraction processes, may occur in structures that are not in compliance with the County Building Code, thereby increasing

fire and hazards risks for both residents and emergency response personnel. Unlicensed manufacturing may occur in remote areas lacking adequate emergency access routes, further increasing response times. These impacts could occur countywide; although, impacts associated with emergency access and police and fire response times would have higher potential to occur in the North Coast and Mountain regions due to the less concentrated emergency service facilities relative to other regions of the County. Unlicensed manufacturers would not comply with existing or proposed regulations governing manufacturing under the Program. Given that unlicensed cannabis cultivation would not comply with existing SCCC regulations that address public service adequacy including acceptable emergency access, secondary impacts related to unlicensed cannabis product manufacturing under the Program would be potentially significant. Potential significant impacts would depend upon the number of unlicensed manufacturing operations within the County as these operations create additional demand for public services. Therefore, secondary impacts to public services would be *potentially significant*.

Mitigation Measures

Implement MM AT-1.3a. Sustained Enforcement Program. To reduce secondary impacts to public services associated with unlicensed cannabis cultivation/manufacturing within the County, MM AT-1.3a, addressing County implementation of the Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program, shall apply to Impact PS-3.

Implement MM AT-1.3b. Annual Survey and Monitoring Report. To reduce secondary impacts to public services associated with unlicensed cannabis cultivation/manufacturing within the County, MM AT-1.3b, addressing County criteria for an Annual Survey and Monitoring Report of licensed activities as well as illegal activities, including recommendations regarding enforcement staffing and resources, shall apply to Impact PS-3.

Post-Mitigation Level of Impacts

With implementation of Mitigation Measures AT-1.3a and AT-1.3b, secondary impacts to public services resulting from unregulated cannabis cultivation and/or manufacturing would be reduced to the maximum extent feasible by the County. With implementation of these measures, the County would ensure that illegal cannabis cultivation and manufacturing operations in all zone districts are minimized, and enforcement and annual monitoring and surveys are conducted in a reliable manner addressing operations on a case-by-case basis, therefore reducing the potential for continued unlicensed cannabis cultivation/manufacturing operations and associated additional demand on emergency services and other public services in the County over the life of the Program. However, due to the high likelihood for continued operation of unlicensed cultivation and manufacturing regardless of increased enforcement throughout the County, as well as the inability to enforce standard requirements and regulations relating to fire protection and security and ensure the protection of unlicensed cultivation and manufacturing facilities, secondary impacts of the Program are considered *significant and unavoidable*.

3.11.6.4 Cumulative Impacts

As described in Section 3.0, *Introduction and Approach to Analysis*, cumulative development and growth in population and employment is projected to be gradual toward 2040 with some change in agricultural uses and crop types. Concurrent development of residential and commercial land uses with commercial cannabis cultivation and manufacturing could potentially result in increased demand for public services

in the County. The potential for cumulative development in the County could lead to increased demand for police, fire, public schools, and parks services in the area. However, it is anticipated that restrictions and regulations of the proposed Program, as well as review processes for Development Plans and projects would address public services impacts on a project-specific level before permit or cannabis cultivation/manufacturing license issuance. Development projects would be subject to development standards contained in the County Building Code (Section 12.10), the County Fire Code (Section 7.92) and regulations contained in the County Ordinances (Sections 16.10, 16.20, and 16.22) that prevent exposure to fire hazards. Development projects would also be subject to policies within the County General Plan, which require inspection related to fire hazards prior to permitting and approval of any development. Therefore, cumulative impacts to public services are anticipated to be *less than significant*.

3.12.1 Introduction

Cannabis cultivation and manufacturing permitted under the proposed Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program), including the Project and More Permissive Project scenarios, may result in increased population and employment and associated increase in housing demand. This analysis evaluates potential impacts related to population, employment, and housing that would result from the Program. Where potentially significant impacts are identified, mitigation measures are also identified.

Program Impact Analysis
At a Glance
The Program could adversely impact housing availability due to increased demand from cannabis cultivation and manufacturing employment. Some additional housing would be for cultivators (farmworkers). Additionally, the Program would reduce potentially unsuitable housing associated with unlicensed cannabis activities.

As described in Chapter 2, *Project Description*, as part of this EIR the County has been divided into four general regions for planning purposes: North Coast, Mountain, Urban, and South County Regions. Distribution of population is highly variable throughout these regions of the County, but is generally evenly split between the unincorporated area and incorporated cities, as described further herein. Key resources of data used in the preparation of this chapter include the Santa Cruz County General Plan (particularly the Housing Element), Santa Cruz County Code (SCCC) including but not limited to its Measure J growth management provisions, U.S. Census Bureau, Association of Monterey Bay Area Governments (AMBAG), 2016 County License Registration data, and cultivation and manufacturing data collected by the County to inform the regulatory Program in 2016 and 2017.

3.12.2 Environmental Setting

Population and Employment

The U.S. Census Bureau and AMBAG provide population and employment estimates and projections for Monterey, San Benito, and Santa Cruz Counties. The U.S. Census Bureau provides official population and housing counts every 10 years, which are typically used by other agencies to develop their own estimates and projections. The most recent decennial Census (U.S. Census) was published in 2010.

As part of its long-range planning, AMBAG forecasts population, household, and employment growth for each jurisdiction within their planning region. The most recent adopted projections are included in AMBAG's 2014 Regional Growth Forecast, which is based on 2010 U.S. Census Data (*AMBAG 2014 Adopted Regional Forecast - Technical Documentation* 2014). These growth projections are reflected in AMBAG's Sustainable Community Strategy (SCS) and the Regional Transportation Commission's (RTC's) Metropolitan Transportation Plan (MTP), both of which were adopted in June 2014. AMBAG and RTC are currently involved with updating the SCS and MTP based upon updated projections; these documents are planned for adoption in June 2018. The draft updated projections of population,

employment and housing growth suggest that population may grow more slowly and employment may grow more quickly than in the 2014 projections.

United States Census

The U.S. Census Bureau publishes population and housing statistics based on the U.S. Census and the American Community Survey (ACS). The U.S. Census is published every 10 years and includes population and housing data for the entire country, including the official count of the entire U.S. population. These data are used as the baseline from which most demographic projections are calculated. The ACS is conducted every year for a small sample of the population to provide current information about various social and economic characteristics of communities, including housing, education, jobs, and more. The ACS also includes statistics that are not included as part of the U.S. Census.

According to the U.S. Census, the County as a whole has grown at a slower rate than the State of California over the last 10 years (Table 3.12-1). In the 2010 U.S. Census, the population of Santa Cruz County was 262,283 with the population evenly split between the unincorporated areas, 129,739, and incorporated cities, 132,544. As a whole, the County experienced 2.6 percent growth in population between 2000 and 2010; growing by 6,681 residents. The unincorporated part of the County, on the other hand, experienced a 4.1 percent decrease in population, losing 5,587 residents. This loss in population is potentially related to annexations of unincorporated areas, and their residents, into the incorporated cities of the County, namely the Freedom-Carey annexation to the City of Watsonville (*AMBAG 2014 Adopted Regional Forecast - Technical Documentation* 2014). For comparison, the State of California experienced 5.8 percent growth between 2000 to 2010; growing by 163,943 residents (U.S. Census Bureau 2010; U.S. Census Bureau 2000).

Table 3.12-1 U.S. Census Total Population 2000-2010

		2000	2010
Santa Cruz County (whole)	Total population	255,602	262,283
	Growth in previous 10 years	0%	+2.6%
Santa Cruz County (unincorporated)	Total population	135,326	129,739
	Growth in previous 10 years	0%	-4.1%
State of California	Total population	2,846,289	3,010,232
	Growth in previous 10 years	0%	+5.8%

Sources: U.S. Census Bureau 2010; U.S. Census Bureau 2000.

Association of Monterey Bay Area Governments (AMBAG)

AMBAG is the federally designated metropolitan planning organization for the Monterey Bay region, which covers three counties: Santa Cruz, Monterey, and San Benito. AMBAG develops socioeconomic estimates and growth projections, including population, households, and employment, for counties in the AMBAG region through enhanced forecasting methods and interactive public outreach. These estimates and projections provide the analytical foundations for AMBAG's and RTC's transportation planning and other programs. In June 2014, AMBAG and RTC adopted the 2035 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS), *Moving Forward,* which includes AMBAG's most recent Regional Growth Forecast (2014) as Appendix A. AMBAG is currently preparing an update to the 2014 MTP/SCS, and in October 2016 its Board of Directors accepted an updated forecast for the purposes of preparing the 2040 MTP/SCS, which will be adopted in June 2018.

The Regional Growth Forecast is an employment driven analysis, which represents the most likely growth scenario for the Monterey Bay area in the future, considering a combination of recent and past trends, reasonable technical assumptions, and local or regional growth policies. AMBAG seeks input from local cities and counties, including the County, to prepare the MTP/SCS and Regional Growth Forecast. According to AMBAG's 2014 Regional Growth Forecast, the population of the County as a whole is projected to increase by 17.61 percent from 2010 to 2035, for a total 2035 population of 308,582, while the population of the unincorporated area of the County is projected to grow by 11.17 percent over the same period, for a total 2035 population of 144,227 (Table 3.15-2) (AMBAG 2014). Similarly, the number of households is projected to increase by 15.05 percent (15,720 units) across the whole County and 9.46 percent (5,388 units) in the unincorporated area of the County. In the 2014 adopted forecast, employment is projected to increase by 18.98 percent (20,917 jobs) across the whole County and 15.19 percent (6,120 jobs) in the unincorporated part of the County. As seen, growth for all three categories – population, households, and employment - is projected to increase at a lower rate in the unincorporated areas of the County than across the County as a whole, including incorporated cities and unincorporated areas.

Table 3.12-2 AMBAG Projected Population, Households, and Employment

		2010	2020	2035	Change (2010-2035)
County of Santa Cruz (whole)	Population	262,382	279,381	308,582	17.61%
	Households	104,476	111,039	120,196	15.05%
	Employment	110,200	120,010	131,117	18.98%
County of Santa Cruz (unincorporated)	Population	129,739	132,318	144,227	11.17%
	Households	56,927	57,578	62,315	9.46%
	Employment	40,284	43,559	46,404	15.19%

Source: Association of Monterey Bay Area Governments 2014.

AMBAG Draft 2040 Projections for Agricultural and Manufacturing Employment

AMBAG has stated that the (draft) updated regional forecast for 2040 reflects stronger growth in both agricultural and industrial jobs in part due to growth related to the cannabis industry. The forecast is for 9,600 more agricultural jobs by 2035 than in the prior forecast; that is, 5,600 more jobs from 2015-2040, compared with only 4,000 more jobs in the prior forecast from 2010-2035. The trend in traditional agriculture is to use fewer workers and more technology, but projected cannabis industry growth is resulting in more robust job forecasts for both agricultural jobs and manufacturing jobs. For manufacturing, the forecast is for 4,200 more jobs by 2035 than in the prior forecast, which is an increase of 2,900 over the 25-year forecast horizon compared with a 900 loss of jobs that was in the prior forecast. As more is learned about the emerging cannabis industry, future forecasts, which are prepared every four years, will continue to be refined to reflect experience and trends (Heather Adamson 2017).

Existing Cannabis Employment

The County's Licensing Registration data reveals 760 registered cannabis cultivators who would seek a cultivation license. It is also estimated that there are up to 400 cannabis manufacturing operations of a range of sizes that are currently operating in the unincorporated area of the County, about half of which are located on sites where cannabis cultivation is also occurring.

Cannabis operations in the County range in employment levels. The estimated number of existing cannabis industry-related jobs in the unincorporated area is 1,500 FTE in cultivation, including trimmers and processers at grow sites, and another existing 600 FTE in manufacturing.

While there is no formally documented data related to employment associated with the existing cannabis industry locally in the County, the State of California released a consultant study in 2017 prepared by ERA Economics that contains extensive job analysis related to cannabis cultivation. For indoor and greenhouse growing, including trimmers, the study documents a full-time-equivalent (FTE) level of cannabis cultivation employment at 0.88 FTE per 1,000 square feet of canopy. For outdoor cultivation, the employment rate is 0.40 FTE per 1,000 square feet of canopy. Also, based on survey data collected by the County in March 2017, cannabis product manufacturing operations may employ three to six full time employees for larger or more intensive higher-yield processes, such as supercritical CO_2, while smaller lower-yield manufacturing operations may operate with one to two workers, which can include an onsite resident. Employees at sites that contain both cultivation and manufacturing activities typically engage in both types of work. As explained in Chapter 2, *Project Description*, and Section 3.0, *Introduction and Approach to Analysis*, it is projected that 400 new cannabis manufacturing businesses will establish within the first five years of the Program and that remains a stabilized level, and that 1,200 employees would be associated with these activities, with 600 (half) of the activities and employees being on cultivation sites, and the other 600 employees at other sites.

An estimate of the existing number of employees in the cannabis industry is difficult to determine. It is estimated that the 567 registrants who currently cultivate 36 acres of canopy employ 1,500 FTE cultivation employees, which includes onsite trimmers and processing/manufacturing workers. The projected 190.1 acres of future cannabis cultivation, including 147 acres of canopy within existing greenhouses, would result in additional employment of 6,810 FTE workers at cultivation sites. It is notable that some existing employment would serve the 147 acres of future canopy within existing greenhouses, but for a conservative analysis only two existing employees per acre are assumed (294 FTE), which is based on the County's traffic impact fee schedule for greenhouses. This EIR, therefore, assumes a future growth of 6,516 FTE employees at cannabis cultivation sites, with another 600 manufacturing workers located outside of cultivation sites, for a total industry growth of 7,116 FTE jobs. Some of those jobs would likely be filled by owners of homes either existing or built at cultivation sites. No additional jobs are projected from manufacturing associated with small, home-based manufacturers, because only a total of 40 such licenses are expected to be issued in the five years following Program adoption. Further, industry representatives indicate that these types of operations do not hire employees and are carried out by residents of the home who frequently also work elsewhere.

Housing

United States Census

According to the 2010 U.S. Census, the County as a whole had a housing stock of 104,476 units including 56,927 units in the unincorporated area of the County. This represents increases of 5,603 and 985 housing units or 5.7 and 1.8 percent, respectively, from the 2000 housing stock (Table 3.12-3).

Table 3.12-3 Housing Unit Stock in 2000 and 2010

	2000	2010	Change (2000-2010)
Santa Cruz County (whole)	98,873	104,476	+5.7%
Santa Cruz County (unincorporated)	55,942	56,927	+1.8%

Sources: U.S. Census Bureau 2000 and 2010.

The U.S. Census Bureau also tracks the number of households, which differs from the number of housing units that counts both occupied and vacant units. A household is defined by the U.S. Census Bureau as a group of people who occupy a housing unit. Table 3.12-4 shows housing and household characteristics for the County for the year 2010.

Table 3.12-4 Santa Cruz County Housing and Households

Jurisdiction	Year	Housing Units	Households (Occupied Housing Units)	Vacancy Rate (All Vacancies)	Population	Average Persons per Household
Santa Cruz County (whole)	2010	104,476	94,355	9.7%	255,602	2.7
Santa Cruz County (unincorporated)	2010	56,927	50,118	12.0%	135,326	2.7

Source: U.S. Census Bureau 2010.

As shown in Table 3.15-4, the U.S. Census Bureau reported that the County as a whole had 94,355 total households (occupied housing units) in 2010; whereas, the unincorporated area of the County had 50,118 households. The whole County's vacancy rate in 2010 was 9.7 percent, while the unincorporated area of the County's vacancy rate was higher at 12.0 percent. However, when seasonal, recreational, and occasional use units are removed from the total of vacant units, the vacancy rate drops to 4.5 percent (Santa Cruz County Department of Housing and Community Development 2016). In 2010, the County as a whole, had an average household size of approximately 2.7 people per household (pph) which was consistent with the unincorporated area of the County.

Association of Monterey Bay Area Governments

Cannabis operations in the County often occur on properties that have both agricultural and residential uses. Onsite homes are often occupied by cannabis operators and/or employees, but in some cases the homes are used as commercial space in support of the cannabis operation.

The State of California determines the need for additional housing in various affordability categories for each planning region in the State. AMBAG then assigns a portion of this regional need to each municipality and county within its jurisdiction, which includes the unincorporated part of the County, and publishes this determination as the Regional Housing Needs Allocation (RHNA). The RHNA does not encourage or promote growth, nor does it require local jurisdictions to build the number of housing units assigned to the jurisdiction by the RHNA. Rather, the purpose of the RHNA process is to anticipate population growth, and ensure that each jurisdiction is planning for its share of the associated housing so that collectively the region will provide sufficient opportunity for housing to meet population needs and address social equity.

AMBAG allocated 1,313 housing units to the unincorporated area of the County as the area's fair share for the 2014-2023 RHNA planning period. 58 percent of the 1,313 are designated as units for households with very low to moderate income levels (Association of Monterey Bay Area Governments 2014).

County of Santa Cruz Housing Element

California's Housing Element Law requires that each city and county, when preparing their state-mandated Housing Element of a General Plan, develop local housing programs designed to meet their "fair share" of existing and future housing needs for all income groups. The "fair share" allocation concept seeks to ensure that each jurisdiction accepts responsibility for the housing needs of not only its resident population, but also for those households who might reasonably be expected to reside within the jurisdiction, particularly lower-income households.

The adopted County Housing Element (certified on April 28, 2016) meets the requirement to provide suitable sites consistent with RHNA (Table 3.12-5). The number of available sites for each income category in the County are greater than the allocation defined in the RHNA. The adopted County Housing Element also includes policies and programs to protect existing housing and encourage the development of additional housing for farmworkers[1] and their families.

[1] Pursuant to section 13.10.631 of the SCCC, to be eligible as a farmworker (and household) must "earn at least 50 percent of his/her income from an agricultural operation, defined as employment by production agriculture (the art or science of cultivating the ground, including harvesting of crops, packing and loading of crops and driving them to the next point of handling, rearing and management of livestock, tillage, husbandry, farming, horticulture, and timber harvesting."

Table 3.12-5 Santa Cruz County Housing Allocation Relative to Available Sites

Jurisdiction	Total	Extremely Low Income	Very Low Income	Low Income	Moderate Income	Above Moderate Income
Santa Cruz County RHNA Allocation	1,314	159	158	207	240	550
Santa Cruz County Housing Element Available Sites	1,833	193	217	226	262	935
(Over)/Under Goal	(519)	(34)	(59)	(19)	(22)	(385)

Source: County of Santa Cruz 2016 Housing Element

The County's licensing registration and survey data documented 760 existing cannabis cultivators and up to 400 commercial cannabis product manufacturers of various sizes, with a total of 600 cannabis processing/manufacturing jobs that are not located at cannabis cultivation sites (another 600 jobs are assumed to occur co-located with cannabis cultivation with employees engaged in both activities). While there is no reliable data collected related to how much housing is currently demanded by the cannabis industry locally, the County's cultivation license registration process documented that 363 existing cultivation and/or manufacturing sites had a house on site. It is presumed that many of these existing houses are occupied by owners and/or employees of the cannabis business, but that most cultivation employees reside offsite in other housing in the surrounding community, including incorporated cities or adjacent counties.

3.12.3 Regulatory Setting

3.12.3.1 State

State Housing Element Law

State law (Government Code Section 65580-65589.8) recognizes the vital role local governments play in the supply and affordability of housing. Local governments in California are required to adopt a comprehensive, long-term general plan for the physical development of the jurisdiction, including a Housing Element. Housing Element law, enacted in 1969, mandates that local governments adequately plant to meet the existing and projected housing needs of all economic segments of the community. The law acknowledges that, in order for the private market to adequately address housing needs and demand, local governments must adopt land use plans and regulatory systems which provide opportunities for, and do not unduly constrain, housing development. Housing Element law also requires the California Department of Housing and Community Development (HCD) to review local Housing Elements for compliance with state law and to report its written findings to the local government.

3.12.3.2 Local

County of Santa Cruz General Plan and Local Coastal Program

Land Use Element

The Land Use Element contains the broadest scope of all components within the General Plan. It includes several goals and policies relating to population, housing, and economy and employment, some of which are listed below:

Goals

Population and Residential Growth Goals: To provide an organized and functional balance of urban, rural, and agricultural land use that maintains environmental quality; enhances economic vitality; protects the public health, safety and welfare; and preserves the quality of life in the unincorporated areas of the County.

Rural Residential Siting and Density: To achieve patterns of rural residential development that are compatible with the physical limitations of the land, the natural and cultural resources of the County, the availability of public services, and protection of the natural environment.

Urban Residential Siting and Density: To provide urban residential areas within the Urban Services Line which are protected from noise, traffic congestion, natural hazards, and other objectionable influences of nonresidential land use; and to establish a variety of residential land use categories and dwelling unit densities offering a diverse choice of housing opportunities.

Jobs/Housing Balance: To develop an efficient land use pattern which improves the area's jobs/housing balance and thereby reduces the total amount of vehicle miles traveled and reduces polluting emissions.

> **Policy 2.1.4 Siting of New Development:** Locate new residential, commercial, or industrial development, within, next to, or in close proximity to existing developed areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on environmental and natural resources, including coastal resources.
>
> **Policy 2.1.8 Population Growth Goals:** Maintain long range (10 year) and short range (yearly) population growth goals for Santa Cruz County which limit the County's growth rate to a fair share of the state's population growth and ensure that future growth and development adheres to the limits and carrying capacity of the infrastructure and environment.

Housing Element

The Housing Element is mandated by Sections 65580 to 65589.9 of the Government Code. State Housing Element law requires that each county identify and analyze existing and projected housing needs within its jurisdiction and prepare goals, policies, programs, and quantified objectives to further the development, improvement, and preservation of housing. The 2015 Housing Element adopts a range of housing goals, policies and programs for Santa Cruz County, including the following:

Goal 1: Ensure land is available to accommodate an increased range of housing choices, particularly for multi-family units and smaller-sized units

Goal 2: Encourage and assist in the development of housing

Goal 3: Remove unnecessary governmental constraints to housing

Goal 4: Preserve and improve existing housing stock and expand and preserve the continued availability of the County's existing affordable housing

Goal 5: Promote equal opportunity and production of special needs housing units

Goal 6: Promote energy efficiency in existing and new residential structures

Policy 1.1: Ensure that currently available sites that are able to accommodate a range of housing types continue to be zoned appropriately for housing and mixed use developments, so that opportunity to develop projects and provide affordable housing choices for all income levels is maintained throughout the planning period.

Policy 3.1: Maintain current polices that require affordable housing projects to receive priority processing through both the discretionary and building permit processes.

Policy 5.2: Continue to implement County Code provisions (currently in Section 13.10.631[c]4), which allow existing substandard farm worker housing to be reconstructed or rebuilt and maintained as affordable units for low and very low income households.

Santa Cruz County Code/Measure J

Section 17.01 (Growth Management)

SCCC Section 17.01 governs future growth and development of the County by enacting a growth management system to regulate the character, location, amount, and timing of future development as well as providing, along with Section 17.10, increased housing opportunities for persons with average and below average incomes who wish to reside in the County. Section 17.10 was enacted in response to a period of rapid population growth that had adverse environmental and economic effects including: loss of agricultural lands, loss of mineral and timber resource industries, loss of fish and wildlife resources, loss of marine habitats, degradation of water and air quality, degradation of scenic and aesthetic resources, and degradation of water supply and quality. Along with preserving agricultural lands and distinguishing between "Urban" and "Rural" areas, Section 17.01 includes annual population growth limits which represents the County's fair share of each year's Statewide population growth. Annual population growth limits are established by limitations placed on the annual number of building permits for residential units approved by the County. Since 2000, the County has not issued all of the annual allotment of building permits (County of Santa Cruz Planning Department 2016).

Section 17.10 *et seq*. (Affordable Housing Requirements)

Santa Cruz County citizens voted on and approved Measure J in 1978, codified in Section 17.10, *Affordable Housing Requirements*, of the Santa Cruz County Code. As mandated by Measure J, housing is to be made available to persons with average and below average incomes, and that such supply of housing remains affordable to subsequent purchasers. The Santa Cruz County Affordable Housing Guidelines (AHG) are the implementation mechanism for Measure J and Section 17.10. The AGH govern the sale or rental of residential properties by providing income and asset limits for participating households, sales prices, eligibility requirements for purchasing or renting affordable units, and development and marketing standards for affordable units (County of Santa Cruz 2016). In addition to setting standards for sale and rental of affordable housing units, the AHG establishes the Affordable Housing Impact Fee schedules for new residential and non-residential development as to

assist with impacts of new development on housing demand, and to assist the County in meeting its affordable housing goals.

3.12.4 Methodology and Assumptions

This section analyzes whether the Project and the More Permissive Project have the potential to create impacts related population, employment, and housing. Refer to Section 3.0, *Introduction and Approach to Analysis*, for a detailed discussion of projected cannabis activities in the County due to Program implementation.

Relying on the provision of the Program provision that "All licenses issued under this Chapter must be consistent with the County's policies, objectives, laws, regulations, and programs related to land use, including those related to the County's General Plan and Local Coastal Program", this analysis assumes that all development will be in conformance with all applicable County policies and regulations.

Many cultivators or manufacturers seeking a license within the County currently operate and contribute towards existing housing and residential services demand (see also, Section 3.11, *Public Services*). Based on the County's licensing registration data, an additional 193 cultivation operations may be licensed beyond the existing known cultivation sites, and existing operations have indicated intention to expand. Additionally, cultivation of approximately 147 acres of canopy within existing greenhouses located within the CA zoning district is projected by future licensees who have been involved with farming at least three prior years. This increase in operations would result in up to an estimated 6,516 additional full-time jobs at cultivation sites within the unincorporated area, with an additional 600 manufacturing/processing employees located at other sites not involved with cultivation. Therefore, the Program would be estimated to result in 7,116 new cannabis cultivation and manufacturing jobs. The manufacturing sector is expected to stabilize within about five years, while absorption of the 190.1 acres is projected to be a longer-term stabilization.

3.12.5 Significance Criteria

CEQA Guidelines Thresholds

Appendix G of the State CEQA Guidelines states that a project would be considered to have a direct, indirect or secondary significant impact related to population and housing if it would result in any of the following:

- Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

3.12.6 Environmental Impact Analysis and Mitigation

This section discusses the potential impacts to population and housing associated with the Program, which is induced by job growth in the cannabis industry. A detailed discussion of each impact follows. Where there are potentially significant or significant and unavoidable impacts, mitigation measures are proposed and the residual impact after mitigation is determined.

3.12.6.1 Program Impacts

Impact POP-1. Commercial cannabis cultivation and manufacturing under the Program could have adverse effects on the housing market due to population and employment growth and associated demand for housing that is above previously projected levels of agricultural and manufacturing job growth; and could indirectly cause an increased rate of construction of housing units on existing lots of record due to requirements of the Program. This impact would be less than significant with mitigation.

Impact POP-1.1 - Direct Cultivation/Manufacturing. The direct impacts of the Program relate to the adoption of regulations and policies that lead to licensed legal cultivation of cannabis plants and manufacturing/processing of cannabis products, which would generate net new future employment in the County. As described in Section 3.0, *Introduction and Approach to Analysis,* the Program would potentially result in an anticipated increase of 34.8 acres of cannabis canopy by the 193 (of the 760 total) registrants that are not currently cultivating. Considering this level of licensed cultivation, along with cannabis manufacturing/processing employment, the Program would potentially generate up to an estimated 6,516 additional FTE cultivation jobs. This total comes from 4,140 cultivators and 2,670 trimmers along with 600 processers, but with credit for an assumed existing 294 FTE jobs associated with the existing CA greenhouses. An additional 600 cannabis processers/manufacturing employees on other sites within the unincorporated area, which is a total industry growth of 7,116 cannabis workers within the projected 190.1 acres and 400 new manufacturing businesses. This represents a level that has not been anticipated by the adopted AMBAG regional growth projections.

For context, the total number of agricultural employees in the year 2010 within the unincorporated area was 6,380. While some of those employees could have been employed within the 147 acres of greenhouses that are projected to be used for cannabis cultivation, it is recognized that cannabis operations can be more employee intensive. Many employees would be farmworkers involved in the harvesting, processing, and packaging of agricultural products. Currently, the County's transportation impact fee is based on an assumption of two employees per acre within agricultural buildings, and at this rate the 147 acres would reflect 294 employees. Essentially, if cannabis cultivation does take place within the assumed 190.1 acres, and 88 percent of that occurs indoors and in greenhouses, the nature of associated employment would double 2010 levels of agricultural workers in the unincorporated area.

Because of its history, wages associated with cannabis cultivation remain somewhat speculative; however, it is likely that wages that were previously paid "under the table" will increase in the future for cannabis employees, as legal employees would be subject to labor laws. Wage levels are anticipated to be similar to vineyard harvest rates, currently at approximately $20 per hour (ERA Economics, LLC for CA Department of Food and Agriculture 2017). Assuming a 40-hour work week, over 52 weeks, $20 per hour is equivalent to $42,640 gross income per year. If the cannabis cultivator/worker were the only wage earner in a local family (three persons, rounded up from 2.7

average household size), that would qualify the household as "very low income" under the criteria established by the California Department of Housing and Community Development (California Department of Housing and Community Development 2017). Therefore, it is likely that many cannabis employees would live at or below the "low income" threshold. It is projected that employment growth created by the expanding cannabis industry will increase population and associated demand for housing, particularly for affordable and farmworker housing.

Based on outreach to the cannabis industry in January and February 2017, it appears that most of the 760 license registrants are existing County residents, particularly due to the requirement that licensees must have a history of cultivating in the County, including for farmers who were not required to register but are required to have farmed for at least 3 years prior to licensing. New employees from future growth of the industry, which are projected at a total of 7116 employees for cultivation and manufacturing, would contribute to increased demand for housing. Some of those new employees could also be existing residents of the County and adjacent counties, who are currently unemployed or who change jobs in the course of their careers. Also, the 147 acres of existing greenhouses in the CA zoned areas that have been assumed to convert to cannabis typically already have some level of associated employment (which may be more than the 294 FTE jobs being assumed by this EIR).

The County's housing unit vacancy rate, excluding seasonal, recreational, and occasional use residential units, is 4.5 percent of the County's existing housing stock, which would equate to 2,562 housing units available to new occupancy on an ongoing basis. Compared to the projected 7,116 additional full-time-equivalent cannabis cultivation and manufacturing employees (including trimming and processing/manufacturing at cultivation and other sites located within the unincorporated area), the existing 2,562 vacant housing units would not be sufficient to house these additional employees and their associated households.

The April 2016 Santa Cruz County Housing Element identified a capacity under existing General Plan land use designations and zoning to accommodate 2,379 new housing units in urban areas, 2,715 new units in rural areas, as well as 7,823 new accessory dwelling units and 2,423 new agricultural employee housing units, for a total capacity of 17,271 new units under the existing General Plan. Due to recent and upcoming changes in regulations related to Accessory Dwelling Units (ADUs) and agricultural employee housing, it is reasonable to project that production of these housing types will increase over former levels in the unincorporated area. Additionally, traditionally workers associated with the cannabis industry have included a high level of younger, less established employees who do not have families and are more willing to live in roommate or other non-traditional housing situations. Even considering these factors, however, the projected increase of employment due to growth in the cannabis industry will exceed existing adopted projections, and create additional demand for housing units beyond RHNA-projected levels of demand which were addressed in the 2016 Housing Element.

Taken together, there may not be sufficient affordable housing opportunities for the expected increase in employment and population associated with commercial cannabis cultivation and manufacturing in the unincorporated area of the County. Over half of the projected new employees would be cultivators (i.e., farmworkers). Construction of agricultural employee housing (which is considered an agricultural use) and accessory dwelling units is exempt from the building permit caps established by the annual growth goals adopted by the Board of Supervisors to implement Measure J. The Program's increased housing demand would not directly lead to demolition of existing dwellings, but would increase competition for available units and likely lead to higher household sizes and higher housing costs.

As observed during cannabis cultivation site visits in January and February 2017, in some existing cases residential units on cultivated property are used for other than residential purposes. However,

the Program ensures that cultivation operators or caretakers are also residents on a licensed site in RA, A, TP, and SU zoned properties. Additionally, the Program's proposed home occupancy regulations for limited cannabis product manufacturing within detached single family residential units ensures that manufacturing that occurs within homes would be secondary to residential uses.

While the increase in housing demand from cannabis industry employees may exceed existing projected levels of agricultural and manufacturing employment, the County and other agencies have adaptive capacity to modify plans and regulations to adjust to changing growth forecasts and changing projections of housing unit need. AMBAG updates regional growth forecasts by industry every four years, and the County is required to update its Housing Element every eight years. The County is currently working on updates to the General Plan/Local Coastal Program and modernization of the SCCC chapters that relate to land use and development, and "new tools" are planned that are intended to better accommodate workforce housing needs.

Additionally, the County has an existing affordable housing impact fee (AHIF) program (SCCC Chapter 17.10), which could be modified in the future to address housing needs created by growth in the agricultural industry. Currently, for non-residential projects, including industrial and manufacturing uses that result in a net increase in commercial floor area, the County collects a fee of $2.00 per sf of development. For non-habitable agricultural buildings located in CA and Agricultural (A) zoned land that result in a net increase in commercial floor area, the County currently collects a fee of $1.00 per sf of development. These fees generate local affordable housing funds that are leveraged with other resources (e.g., of federal, state, or other programs) to be used to increase housing supply to respond to demand for affordable housing. However, the levels of the current AHIF do not fully mitigate impacts (rates were set below supportable levels due to concerns about impacts on the local economy).

Ultimately, since the projected population associated with the licensed cannabis industry is expected to exceed local and regional growth estimates, the potential impacts related to population, employment, and housing are *potentially significant*.

Mitigation Measures

MM POP-1.1: Affordable Housing Fee for Agricultural Buildings Used for Commercial Cannabis. The County shall review and update its AHIF as needed to address agricultural buildings used for licensed commercial cannabis activities involving more employee-intensive crops or processes so that additional affordable housing resources are available to be leveraged with other resources to create new affordable housing, including for agricultural employee housing units.

Requirements and Timing. The County Planning Department shall review the AHIF Program as needed as part of Program implementation, and shall report recommended updates to the Board of Supervisors within one year of Program adoption.

Monitoring. The County Licensing Office and Planning Department shall ensure affordable housing impact fees are collected as required by SCCC Chapter 17.10, as may be amended.

Post-Mitigation Level of Impacts

Implementation of MM POP-1.1 would help address possible increased demands for housing, including affordable housing and agricultural employee housing, generated directly by the Program, but may not fully mitigate the potential impacts described above. However, as many cultivation sites would be required to provide a dwelling onsite, some demand for housing would

be met inherently by the Program. Additionally, continued implementation of plans and programs related to increasing housing supply would help meet housing demands that are created by the Program. Most of those efforts will take effect over longer timeframes, such as the 2015 - 2023 Housing Element implementation phase; however, the ADU SCCC amendments will help single family property owners to more easily create ADUs in the near future, which can provide workforce housing which is considered affordable by design. While implementation of the Program could increase upward pressure on housing costs, it will not directly displace people. Therefore, with implementation of MM POP-1.1 and existing Countywide housing programs, residual impacts associated with Impact POP-1.1 would be *less than significant with mitigation*.

Impact POP-1.2. Indirect Cultivation/Manufacturing. The Program would result in the construction of new housing units on some cannabis cultivation sites, which could have two different effects: the homes may serve cannabis industry employees, including farmworkers, in which case this has the beneficial impact of providing housing that mitigates the impacts of growth of the cannabis industry; or, if not occupied by cannabis industry employees, the employment growth due to the expanded cannabis industry could lead to increased demand for housing that occurs within an existing context of the County housing market that is already characterized by an insufficient supply. This could increase upward pressure on housing costs, result in higher household sizes, and could increase the rate of housing construction on existing legal lots of record over that which otherwise occur without expansion of the cannabis industry.

The Program would not grant a license to cannabis cultivation on parcels zoned parcels zoned RA, SU, TP, or A without a house also located on the site. If these homes are not occupied by the licensees or employees, the new population and employment may be particularly impactful in the remote areas of the County that would allow cannabis activities under the Program, such as TP, RA, and SU zoned areas within the Santa Cruz Mountains in the Mountain Region, Urban Region, and South County Region, where residential development is low density and scarce, and where residential development has greater potential to impact sensitive resources through the development of ancillary improvements and support services.

Since 2010, a total of 263 building permits, or 37 per year, for new residential units have been issued by the County (County of Santa Cruz Planning Department 2016). Most of these units have been within affordable housing developments that obtained County affordable housing funds prior to dissolution of redevelopment agencies in 2011/12. Over this same period since 2010, the average adopted annual limit for building permits for new residential units, as restricted by Measure J and associated SCCC sections that implement the County's growth management provisions, was 316 new residential units per year. Therefore, the County has issued just over 10 percent of the available building permits for new residential development each year since 2010. In recent years, the County has "carried over" prior years' unused allocations, such that the County is currently authorized to issue building permits for about 500 units a year, even though demand for building permits has been below this level. This does mean, however, that the County's growth management system is not considered a constraint to meeting housing needs of the emerging and growing cannabis industry.

As described in Impact POP-1.1, demand for housing is expected to increase, but would also be offset to some extent by the new homes that are required in order for a license to be issued at some cultivation sites. Additionally, current County efforts to modify regulations in order to facilitate construction of ADUs, agricultural employee housing, and workforce housing (especially along transportation corridors), are expected to support creation of new housing units that respond to housing needs of the workforce and community. Based on the anticipated number of licenses to be issued, the Program would result in an estimated 228 new detached single-family residences as a

direct impact, and would also have the indirect impact of increasing demand for housing by employees in the cannabis industry.

The projected 228 new housing units would constitute a 0.2-percent increase in the unincorporated County housing stock, and can be accommodated by existing zoning on existing legal lots of record that are developable. Based on the number of people per household (Table 3.12-4), the potential 228 new residential units would directly support 615 additional residents, a 0.3-percent increase in the population of the unincorporated parts of the County. While the Program would require the construction of new residential units, the total amount of new construction to meet Program requirements relative to the total housing stock of the County, including the unincorporated areas, would be small, less than a one percent increase.

The More Permissive Project may involve licensing of more eligible sites than the proposed Project within a larger area of eligibility, potentially increasing impacts from population growth, including ground disturbance and increased water demand, but would also require that cannabis operations are consistent with the SCCC and the County General Plan.

Additionally, the Program's indirect impacts could include additional induced rural residential development beyond that required to support licensed cannabis cultivation by actions taken by cannabis industry property owners to improve road and access in areas where access is currently constrained. Potential acreage of such future development is unknown, but may involve roughly 0.5 to 1.0 acre per home, including roads, driveways, utilities, and outbuildings, which is typical for rural home development. However, the development of new homes and ancillary uses to cannabis cultivation would occur incrementally over years or decades on existing parcels, and be distributed throughout the rural areas of the County. Clusters of induced residential development in rural areas have the potential to result in more acute and localized effects, particularly where the Program allows for licensing in the Mountain, Urban, and South County Regions. Given the geographic limitations of the Program, residential development would be limited to pockets of the County where cannabis activities have the potential to lead to growth inducement, as further discussed in Section 3.15, *Other CEQA Issues*. Therefore, indirect impacts to population and housing under the Program would be considered *less than significant*, including for the Project and the More Permissive Project.

3.12.6.2 Summary of Project Impacts and Proposed Mitigation Measures

Table 3.12-6 below provides a summary of the Program impacts related to population and housing and proposed mitigation measures.

Table 3.12-6 Summary of Population and Housing Impacts

Population and Housing Impacts	Level of Significance	Mitigation Measures	Post-Mitigation Level of Significance	
			Project	More Permissive Project
Impacts from Commercial Cannabis Cultivation and Cannabis Product Manufacturing				
Impact POP-1. Commercial cannabis cultivation and manufacturing under the Program could have adverse effects on the housing market due to population and employment growth and associated demand for housing that is above previously projected levels of agricultural and manufacturing job growth; and could indirectly cause an increased rate of construction of housing units on existing lots of record due to requirements of the Program. This impact would be less than significant with mitigation.				
Direct	Potentially Significant	MM POP-1.1: Affordable Housing Fee for Agricultural Buildings Used for Commercial Cannabis	Less than significant with Mitigation	Less than significant with Mitigation
Indirect	Less than Significant	None required	Less than significant	Less than significant

3.12.6.3 Secondary Impacts

Impact POP-2. Unregulated commercial cannabis cultivation and cannabis product manufacturing under the Program could potentially have adverse effects due to substantial population growth, could displace substantial existing housing, or displace a substantial number of people, which would be a significant and unavoidable impact.

Impact POP-2.1 - Secondary Cultivation/Manufacturing. Program implementation could create secondary impacts through Program-induced additional or expanded unlicensed and unregulated cannabis cultivation Countywide, as many potential cannabis cultivators would be excluded by Program standards. In addition, legalization of cannabis for adult recreational use may lead to a "green-rush" effect in the County, similar to what occurred with adoption of Ordinance 7.126 in 2014, which resulted in resource impacts attributed to non-permitted development. Such illegal cultivation would occur without grading or building code compliance. It is expected that the County would continue to experience a variable level of unregulated cannabis cultivation and manufacturing in unincorporated areas throughout the life of the Program. Impacts from unlicensed cultivation may include additional employees seeking housing within the County, as well as unpermitted residential development to house employees.

The Program's restrictions on cannabis cultivation, such as minimum parcel size, maximum canopy allowances, residential unit requirement, limit participation in the Program and may induce additional or expanded unregulated and illegal cultivation. Potential barriers to legal cultivation include costs such as taxes, development of a residence on site, infrastructure improvements, and road improvements, which also may reduce participation in the Program and increase the rate of unlicensed cultivation over the life of the Program. The More Permissive Project would reduce eligible parcel size requirements, thereby incrementally reducing unregulated cultivation within the County.

The location of unlicensed cultivation sites cannot be predicted. Unlicensed cultivation could occur in any of the countywide regions and could expand in areas unsuitable for cultivation or development of appropriately permitted housing. Given its illegal or unpermitted nature and need for concealment, such activities may occur in heavily forested areas without access to necessary public services. Furthermore, unpermitted residential habitation onsite would not be subject to plan check and inspection and would potentially have adverse effects on existing residents and neighborhoods due to unsafe and unpermitted nearby construction or reduction in property values due to proximity of unsafe and unpermitted construction.

With mitigation to address unlicensed cultivation on an ongoing basis, secondary impacts would be reduced over the life of the Program.

Mitigation Measures

Implement MM AT-1.3a. Sustained Enforcement Program. To reduce secondary impacts related to population, employment and housing associated with unregulated cannabis cultivation/manufacturing and related development activities, MM AT-1.3a, addressing County implementation of the Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program, shall apply to Impact POP-2.

Implement MM AT-1.3b. Annual Survey and Monitoring Report. To reduce secondary impacts related to population, employment and housing associated with unregulated cannabis cultivation/manufacturing and related development activities, MM AT-1.3b, addressing County criteria for an Annual Survey and Monitoring Report of licensed activities as well as illegal activities, including recommendations regarding enforcement staffing and resources, shall apply to Impact POP-2.

Post-Mitigation Level of Impacts

With implementation of MM AT-1.3a and MM AT-1.3b, unregulated cannabis cultivation would be reduced over time through enforcement/closure of the illegal grow sites which would reduce employee demand for housing and therefore would reduce secondary population and housing impacts, but the impacts to population and housing related to unregulated cannabis activities would be significant and unavoidable due to difficulty in planning for and accommodating unquantifiable housing needs of persons involved in illegal unregulated activities.

3.12.6.4 Cumulative Impacts

Program approval would contribute to cumulative impacts to population, employment and housing associated with pending development projects countywide, including two ongoing comprehensive planning studies, including the countywide update to agricultural policies and regulations and the Regional Water Quality Control Board's cannabis discharge permit program.

Cumulative direct and indirect impacts associated with the Program would include the increase of combined cannabis canopy up to 190.1 acres, with additional acreage for support development, as well as development of structures to support cannabis cultivation and manufacturing activities. This allowable cultivation in combination with proposed development under other the County General Plan would potentially induce population growth and increase housing demand. As discussed above, the likely increase in population and associated housing demand would represent a portion of the currently estimated population, employment and housing growth, but exceeds current adopted projections. However, since regional forecasts are updated every 4 years, Housing Elements are

updated every eight years, and the County's General Plan is also in the process of being updated, these increases can be considered and reflected in projections and plans as they are updated. The Program also requires that cannabis cultivation and manufacturing activities comply with existing County policies and regulations. Therefore, the Program's contribution to cumulative population growth and housing demand or displacement may be substantial. However, with payment of County affordable housing fees and ongoing implementation of the County General Plan and Housing Element, the Program's contribution to impacts of housing and population would not be considerable and, therefore, would be *less than significant.*

Section 3.13
Transportation and Circulation

3.13.1 Introduction

Program Impact Analysis
At a Glance
The Program could adversely affect performance of the circulation system and roadway safety and emergency access in the County from increased vehicle trips and use of rural roads. The County's Transportation Improvement Area Fee Program and mitigation to manage rural roads would only partially mitigate the impacts. The licensing program and unlicensed cannabis activities could have significant and unavoidable impacts.

This section evaluates potential transportation and traffic impacts from cannabis cultivation and manufacturing that would be permitted under the proposed Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program) for the County of Santa Cruz (County), including the Project and More Permissive Project scenarios. It includes a discussion of the existing traffic conditions in the County's unincorporated regions, as well as the applicable regulations that are part of the Program. As the Program may include cultivation or manufacturing sites distributed within eligible areas of the County, a Program-level, rather than site-specific, analysis was undertaken. Where available, data on existing conditions along key road corridors is provided along with a discussion of possible changes caused by the implementation of the Program, and a general discussion of alternative transportation, such as transit and bicycles.

As described in Chapter 2, *Project Description*, as part of this Environmental Impact Report (EIR) the County has been divided into four general regions for planning purposes: North Coast, Mountain, Urban, and South County Regions. The road network within these regions varies substantially, with differing levels of traffic volumes, congestion, road surface, and infrastructure, such as bridges. Information in this section was derived from the 2014 Santa Cruz County Regional Transportation Plan, the 1994 Circulation Element of the County's General Plan, Santa Cruz County Average Daily Traffic Counts (2010 to 2015), and Average Daily Traffic Volumes at Most Traveled Segments on State Highways in Santa Cruz County.

3.13.2 Environmental Setting

Existing Transportation Network

The transportation and circulation system within the County consists of nearly 1,135 miles of freeways, arterials, collectors, and local roads with connectivity within and between communities and regions, which are often limited by the varying geophysical character of the County, particularly the Santa Cruz Mountains and associated steep hillsides, ridges, and valleys (Santa Cruz County Regional Transportation Commission [SCCRTC] 2014) (see Figure 3.13-1). The County maintains over 607 miles of arterials, collectors, and local roads, with funding assistance provided by 35 County Service Areas (CSAs), while Caltrans maintains approximately 158 miles of State Highways (County of Santa Cruz 2017a; SCCRTC 2014). Generally, the coverage and condition of the transportation network

within the County varies by Region, with very limited distribution and connectivity of roads in the North Coast Region outside of Highway (State Route) 1, and limited connectivity and distribution in the Mountain Region. Bike and transit facilities outside of main highway corridors are also limited in these regions. The Urban Region and to a lesser extent the rural areas of the South County Region have greater road density, distribution, and connectivity, as well as more fully developed, yet limited and incomplete levels of transit service and bike path networks as discussed further below.

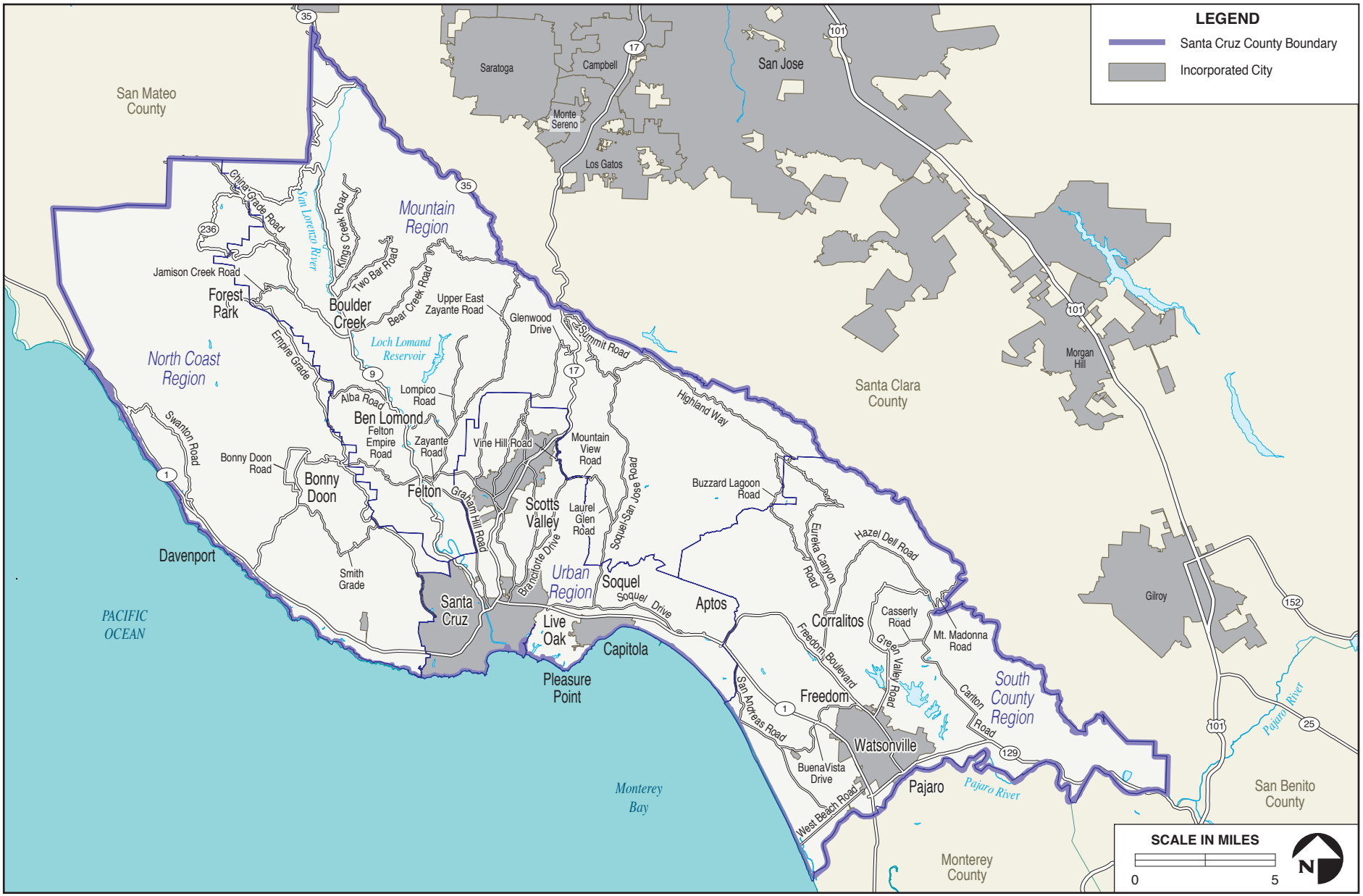
Very limited information exists on current levels of demand for transportation infrastructure, including vehicle trip generation, use of bicycle and transit facilities, heavy delivery trucks, or effects on the rural road system generated by the existing cannabis industry. Observations and anecdotal evidence gathered through meetings with cannabis cultivators and field inspections of cannabis cultivation sites offer approximate information on employment levels, annually recurring cultivation activities, and activities on rural roads. Anecdotal information exists on general employment levels as described in Section 3.0, *Introduction and Approach to Analysis*, although travel behavior of cannabis employees in the County and associated trip making characteristics are not well documented. Additional anecdotal information indicates that some cannabis operations rely on water delivery by heavy trucks along narrow rural roads, and that cannabis industry employees sometimes park along such roads with associated potential for hazards and wear and tear on sometimes substandard roads. Based on the County's license registration data, 40 percent of existing known cannabis operations are in the Mountain Region, 22 percent in the South County Region and 19 percent in the Urban Region; most cannabis operations are outdoor grows, followed by indoor and greenhouse operations (see Chapter 2, *Project Description*).

State Routes and Highways

Highway 1 provides the primary regional transportation route through the County, extending for 60 miles from Monterey County in the south, through the County's Agricultural and Urban Regions, and traversing the North Coast Region to San Mateo County in the north. From the South County Region to Highway 17 in the Urban Region, Highway 1 is a developed freeway with two north-bound and two south-bound lanes separated by center dividers. From Highway 17 through the City of Santa Cruz, Highway 1 becomes a four-lane major arterial which transitions to a two-lane state highway at the North Coast Region boundary and extending to the San Mateo County line.

Highway 9 serves as the primary transportation route from the Urban Region through the Mountain Region and extending into the County of Santa Clara. Highway 9 is a mountainous two-lane state highway connecting the City of Santa Cruz to the communities of Felton, Ben Lomond, Brookdale, and Boulder Creek. Within these communities, traffic along Highway 9 is subject to reduced speeds and is controlled by signaled intersections.

Second to Highway 1, Highway 17 serves as one of the primary transportation routes into and out of the County. Highway 17 extends from Highway 1 in the City of Santa Cruz through the City of Scotts Valley and north, through the rugged Mountain Region. Highway 17 provides the primary access road between the County of Santa Cruz and the County of Santa Clara and is a major commuter route for Silicon Valley. Along its entire length, Highway 17 is developed as a freeway with two travel lanes in each direction and separated by a center divider.



amec foster wheeler

Santa Cruz County Roadway Network

FIGURE 3.13-1

Highway 35 is a two-lane road providing primarily scenic and recreational opportunities for motorists in the Mountain Region. This roadway branches west from Highway 17, traversing the ridges of the Santa Cruz Mountains along the County boundary and extending north into the mountainous region of San Mateo County.

Highway 129 connects the southern portion of the South County Region and the City of Watsonville to San Benito County. Highway 129 is developed as a two-lane state highway traversing agricultural areas of the South County Region, and serves as a major transportation corridor for the movement of goods, primarily agricultural products.

Highway 152 is a 105-mile-long, generally two-lane state highway that begins in the City of Watsonville and terminates at Highway 99 in Merced. In the County, Highway 152 is a winding two-lane highway that crosses the Santa Cruz Mountains through Hecker Pass to reach Gilroy in Santa Clara County and connect to Highway 101.

Highway 236 consists of a total of 18 miles of winding mountain roads beginning in Boulder Creek at Highway 9 and looping into Big Basin Redwoods State Park before reconnecting with Highway 9 in the north near Castle Rock State Park.

Local Roadways

The County classifies urban streets under Chapter 3, Circulation, of the County General Plan and Local Coastal Program (LCP). Per Figure 3-4 of the Circulation Element, roadway classifications are broken into five designations:

- Major arterials, consisting of three to six travel lanes designed for speeds of 35-45 miles per hour (mph) and typically carrying greater than 15,000 average daily traffic (ADT) trips. Roadways are developed with bicycle and transit facilities.
- Minor arterials, consisting of two to four travel lanes designed for speeds of 25-45 mph and typically carrying 10,000 to 15,000 ADT. Roadways are developed with bicycle and transit routes.
- Collectors, consisting of two travel lanes designed for speeds of 25 to 35 mph and typically carrying 3,000 to 12,000 ADT. Roadways may possibly include bicycle and transit routes.
- Select roads, consisting of two travel lanes designed for speeds of 25 mph and typically carrying less than 3,000 ADT. Roadways may possibly include bicycle facilities but transit services are unlikely.
- Locals, consisting of two travel lanes designed for speeds of 25 mph and typically carrying less than 2,000 ADT. Roadways may possibly include bicycle facilities but transit services are unlikely.

Table 3.13-1 Traffic Volumes along Most Traveled Highways and Roads in Santa Cruz County

Roadway	Segment	Region	Traffic Count (Average Daily Trips)	Date of Count
Highway 1	Freedom Blvd. to Rio Del Mar Blvd.	Urban, east of Aptos	82,348	2014
Highway 9	Graham Hill Rd. to Glen Arbor Rd.	Mountain, between Felton and Ben Lomond	21,727	2014
Highway 17	Scott Valley Rd. to Granite Creek Rd.	Urban, within the City of Scott's Valley	57,985	2014
Highway 35	S/O to SR 17	Mountain, along the Santa Cruz/Santa Clara County boundary	6,488	2015
Highway 129	Rogge Ln. to Pescadero Creek Rd.	South County, east of City of Watsonville	11,916	2014
Highway 236	Junction Rd. to Fernwood Pl.	Mountain, through the rural community of Boulder Creek	6,366	2014
Bear Creek Road	W/O to Skyline Blvd.	Mountain, from Boulder Creek to the Santa Clara County boundary	2,724	2010
Empire Grade Road	S/O to Heller Dr.	Urban, west of UC Santa Cruz	10,689	2010
Freedom Boulevard	N/O to Soquel Dr.	South County, from Aptos to Watsonville	16,015	2015
Soquel Drive	W/O to Soquel-San Jose Rd.	Urban, primary route through Soquel	18,095	2014

Source: SCCRTC 2016a.

Transit and Railway Transportation

Transit and bus services within the County are provided by the Santa Cruz Metropolitan Transit District (METRO), and serve 480 miles of roadways primarily designated as arterial and collector roads within all regions of the County. METRO operates four transit centers located within the cities of Santa Cruz, Capitola, Watsonville, and Scotts Valley. These transit centers provide transfer services and fixed routes throughout both the urban and rural areas of the County for both daily commuters and visitors. While transit facilities and routes are more prominent and serve a greater number of users within the Urban Region, many transit routes are also established in the other regions of the County. Additionally, interregional bus services or connections are provided which connect the County with the counties of Monterey and Santa Clara. For instance, the Highway 17 Express Bus route

connects the cities of Santa Cruz and Scotts Valley with the cities of Los Gatos and San Jose in Santa Clara County (SCCRTC 2014).

In addition to transit services, the County transportation system includes a network of rail lines capable of providing both commercial freight and passenger services. This network consists of two railways: Santa Cruz Branch Rail Line, which extends from the Pajaro Station south of Watsonville to Davenport along the coast and provides primarily freight services; and the recreational visitor service for Roaring Camp and Big Trees Line, which extends from the City of Santa Cruz to Felton.

Bicycle and Pedestrian Transportation

In addition to the County's urban and rural transportation system, the County transportation and circulation system includes pedestrian, bicycle, and transit facilities and services. Generally, developed pedestrian and bicyclist facilities are limited to more developed areas of the County, along fully developed urban roads in the Urban Region and the agricultural collector roads surrounding the City of Watsonville in the South County Region. Many collector and arterial roads within these regions have been established as Class II bikeways with well-defined bicycle facilities. Currently, the County is developed with nearly 216 miles of bikeways, consisting of 191 miles of Class II bikeways with approximately 25 miles of separated protected Class I bike paths (SCCRTC 2014, 2015). In addition, while not specifically designated as bicycle facilities, several major roadways within the County have been identified as Alternative Routes for cyclists.[1] These routes include Highway 1 north of the City of Santa Cruz, Soquel Drive, Glen Canyon Road, and El Rancho Drive and Madonna Drive parallel with Highway 17. The pedestrian network of the County is developed in a similar pattern, with well-established pedestrian facilities in the developed urban areas, while little to no pedestrian facilities or connectivity exists in the rural coastal, mountainous, and agricultural regions of the County.

Types of Bikeways

Bikeways are facilities designated for use by bicyclists and are divided into three types:

- Bike Path or Bike Trail (Class I) – Separate right-of-way exclusive to bicyclists and pedestrians
- Bike Lane (Class II) – Striped and/or signed right-of-way for use by bicyclists and occasional vehicle parking.
- Bike Route (Class III) – Direct or scenic routes for bicyclist use which may be shared with pedestrians or motorists.

Source: County of Santa Cruz 1994.

North Coast Region

The North Coast Region covers the northwest portion of the County. It extends from the City of Santa Cruz to the northern border of Santa Cruz County and San Mateo County. Major transportation corridors within this region include Highway 1, and local County roads such as Bonny Doon Road/Pine Flat Road, Empire Grade Road, and Swanton Road. The North Coast Region is perhaps the least developed area of the County with the lowest density and connectivity of roads, as well as very limited bike paths and transit service, which are largely confined to Highway 1. The primary route of travel through this region is Highway 1, which traverses this region for approximately 20 miles and provides access to the town of Davenport and north to San Mateo County. From this route, narrower two-way County collector roads such as Bonny Doon Road and Swanton Creek provide access east into the mountains to the small rural communities of Bonny Doon and Swanton. Empire Grade Road

[1] "Alternative Routes" are defined as a route that is favorable to cyclists but is not striped and not necessarily signed (Santa Cruz County Regional Transportation Commission [SCCRTC] 2016).

provides access along the crest of the mountains, with limited links east to Felton and Boulder Creek in the Mountain Region and south to the Urban Region. A network of County collector streets and local roads provides access to rural residential and agricultural areas in and around Bonny Doon, and private paved and unpaved roads provide access to local neighborhoods, individual residences, and agricultural operations.

Personal vehicles are the primary mode of travel in the North Coast Region. However, limited transit service is available in this region. METRO Route 41 provides service to Bonny Doon along Empire Grade Road while Route 42 serves Davenport and Bonny Doon via a loop along Highway 1, Bonny Doon Road and Empire Grade Road. Highway 1 and segments of Empire Grade Road support wide road shoulders, but are not formally striped as Class II on-road bike paths. Several large-scale industrial uses also occur in this region and Highway 1 serves as the primary route for heavy-duty trucks and equipment associated with these facilities. These industrial uses include the City of Santa Cruz Resource Recovery facility, the Granite Rock Santa Cruz Sand Plant (Wilder Quarry), the Bonny Doon Limestone and Shale Quarry, the closed Davenport Cement Plant, and the Big Creek Lumber Company offices and sawmill. Logging trucks associated with timber operations also use portions of this road network.

Mountain Region

The Mountain Region is the north and northeastern portion of the County and primarily encompasses the San Lorenzo Valley, Skyline, and Summit planning areas. Major roadways and transportation corridors within this region include Highways 9, 35, 236, and Bear Creek Road. The Mountain Region supports several rural communities, state parks, and most the County's timber producing forests. Many of the roads within the Mountain Region are paved two-lane collector and local roads. State Highways 9, 35 (Skyline Boulevard), and 236 (Big Basin Way) are two-lane arterials providing access to the northern and northeastern mountainous areas of the County. Of the State highways in the County, Highways 9 and 236 experience the lowest amount of average daily traffic (SCCRTC 2016c). Rural roads make up a large majority of the transportation network within the region. Rural roads such as East and West Zayante Roads, Lompico Road, and Love Creek Road provide access into isolated rugged rural areas around Loch Lomond Reservoir, while County roads such as Bear Creek Road and Kings Creek Roads provide access into the rugged northeastern portions of the County. These extended rural roads provide access to and from rural residences and neighborhoods, often located along privately maintained roads. There is also a network of lightly maintained logging roads that are often used only several times every decade to support transport of logs and other forest products. These roads are primarily used by personal vehicles, but are also used by large commercial trucks and equipment associated with timber production, road maintenance, and construction.

Transit services within this region connect many of the smaller communities with one another and with the Urban Region. Transit within this region includes METRO Route 33, connecting the communities of Ben Lomond and Lompico, METRO Route 34, which services the small community of Felton, and METRO Routes 35 and 35 A, which provide service to much of the San Lorenzo Valley along Highway 9 and supporting service to the Cities of Scotts Valley and Santa Cruz. Of the four regions, the Mountain Region is developed with the least number of off-road bikeways which are primarily restricted to unpaved multi-use roads and trails within the Forest of Nisene Marks State Park and the Soquel Demonstration State Forest.

Urban Region

The Urban Region consists of the largely developed urban areas of the County surrounding the cities of Scott's Valley, Santa Cruz, and Capitola. The circulation network of this region consists of arterials, collectors, and local roads including segments of Highways 1, 9, and 17, Soquel Drive, and Soquel-San Jose Road. Unincorporated sections of this road network are largely maintained by the County, and support the largest volumes of traffic in the County as travelers move to and from adjacent incorporated regions, local urban neighborhoods, commercial centers, or major transportation corridors within this Region.

The Urban Region has the most developed transit and bicycle facilities within the County. Portions of all transit routes within the County, except for METRO Routes 72-79 which service the Watsonville area, provide service or route connections to both incorporated cities and unincorporated communities. Due to the well-established and maintained urban road network, the region support the largest extent and concentration of Class I bike ways and Class II bike lanes within the County.

South County Region

The South County Region constitutes the primary agricultural areas of the County. The major roadways within this region include Highways 1, 129, and 152, which provide access to and through this region, Freedom Boulevard, Eureka Canyon Road, and Green Valley Road in inland areas, and San Andreas Road which provides access closer to the coast. Many roadways are relatively narrow and primarily serve agricultural operations and support travel by large commercial trucks, farming equipment, and agricultural employees. As such, traffic segments of these roadways may be periodically disrupted by farm operations with reduced speeds and other potential disruptions associated with slower moving farm equipment operating along road corridors.

Within this region, METRO Routes 69A, 69W, 71, and 91X provide service to and from the City of Watsonville from the Urban Region via Freedom Boulevard, and five additional routes provide service in and around the City of Watsonville. Similarly, the bicycle network within this region is primarily limited to Class I and Class II bicycle facilities within the incorporated area of Watsonville, and Class II bike lanes provided along the length of San Andres Road and Freedom Boulevard.

Road Conditions and Hazards

The County Public Works Department and Caltrans have active maintenance programs to ensure that County roads and state highways are well maintained. However, many County roads in the Santa Cruz Mountains are older roads, often dating back 50-100 years, and were constructed to serve logging operations and rural uses. These roads are often damaged by annual storms and may not meet current engineering design standards. Undersized bridges and culverts, overly steep embankment slopes, and other features expose these roads to damage and maintenance issues. Within the

Annual storms often result in damage to and closure of local roads within the County. The 2016/2017 storm season was especially damaging mountain roads, resulting in the temporary closure of many roads, such as Highway 35 (pictured above).
Source: ABC Inc. 2017.

mountainous areas of the County, severe storms frequently result in landslides and washouts, resulting in partial or complete road closures. In addition, due to the mountainous and rugged form of much of the County, many roads are narrow with hairpin turns and poor line-of-sight. Bridges are often narrow and may also have low weight bearing capacity with some nearing the end of their design life. Further, heavy vegetation and forested areas alongside major roadways contribute towards reduced line-of-sight along many roads.

Rural Road Network

The rural road network carries small percentage of the County's total annual vehicle miles traveled compared to the entire road network in the County. These roadways are often difficult to maintain and segments are in poor condition due to erosion, collapse, and particularly damage from natural events.

Frequent maintenance and repair of local or rural roads create pauses in circulation and present additional roadway hazards from large equipment along narrow roads with poor line-of-sight.

To assist in maintenance of local rural roads, the Resource Conservation District of Santa Cruz County (RCD) established the Rural Road Erosion Control Assistance Program (RRECAP). RRECAP provides technical support and funding assistance to private road associations. Funding for these programs and projects is provided through grants issued to the RCD by state agencies, such as the State Water Resources Control Board and California Department of Fish and Wildlife, to provide support in implementing and achieving Total Maximum Daily Loads (TMDLs) and the protection of local watersheds. These projects have served to provide critical rural road repairs, as well as stream habitat and water quality protection, through construction or implementation of erosion control measures.

In addition to RRECAP, the County Department of Public Works (DPW) manages and supports the formation of CSAs which are established by residents and local land owners seeking to pay for the repair or maintenance of rural roads that are not actively maintained by local agencies. These CSAs allow for the collection of fees by DPW to provide special services not otherwise provided by the County or other local agencies. DPW oversees and manages approximately 39 CSAs that have been established by residents and local communities to provide road maintenance to rural or private roads (County of Santa Cruz 2017b).

3.13.3 Regulatory Setting

This analysis was conducted in conformance with the goals and policies of federal, state, and local regulations. The following list summarizes the policies and regulations which would relate directly to future cannabis cultivation and cannabis product manufacturing under the Project and More Permissive Project. Additional federal, state, and local policies and regulations are provided in Appendix A.

3.13.3.1 Local

Association of Monterey Bay Area Governments 2035 Metropolitan Transportation Plan/Sustainable Communities Strategy

The Association of Monterey Bay Area Governments (AMBAG) is the federally designated Metropolitan Planning Organization (MPO) and Council of Governments (COG) for the three-county region that includes Monterey, San Benito, and Santa Cruz County. To prepare for future growth, AMBAG adopted the 2035 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) in June 2014. The MTP/SCS strives to provide a regional investment framework to address the region's transportation and related challenges, while preserving and enhancing the existing transportation system and integrating land use into transportation planning. This approach to sustainably manage growth and transportation demand reduces the distance and barriers between new housing, jobs, and services – helping to reduce the demand for single occupancy vehicle travel and to reduce GHG emissions through integrated transportation, land use, housing, and environmental planning. The MTP/SCS outlines AMBAG's plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth to attain and exceed the GHG emission-reduction targets set forth by the California Air Resources Board (CARB). The MTP/SCS focuses primarily on the metropolitan areas of the County, such as within the incorporated areas of the cities of Santa Cruz, Scotts Valley, Capitola, and Watsonville, and within the unincorporated communities within the Urban Region.

Santa Cruz County 2014 Regional Transportation Plan

The Santa Cruz County Regional Transportation Commission (SCCRTC) is responsible for maintaining and improving the transportation and traffic environment within the County, and ensuring the safe, convenient, efficient, and reliability of the circulation network. SCCRTC develops and upholds the transportation goals and policies provided in the Santa Cruz County RTP. The SCCRTC adopted the most recent RTP in June of 2014 and is currently in the process of preparing the Draft 2018 RTP, which will provide a transportation plan through 2040. The 2040 RTP will be adopted into the AMBAG 2040 MTP/SCS.

Santa Cruz County General Plan and Local Coastal Program

Circulation Element

The Circulation Element, Chapter 3 of the County of Santa Cruz General Plan and Local Coastal Program (General Plan/LCP), consists of several sections which coordinate policies for different modes of travel and provide a framework for supporting the transportation needs resulting from implementation of the Land Use Element, Chapter 2 of the General Plan/LCP. These sections primarily relate to movement of persons or goods and include:

- Transportation System Management
- Parking
- Public and Special Needs Transit and Passenger Rail
- Bicycle/Pedestrian
- Streets and Highways

- Commodities Movement
- Air Travel

The following objectives and policies of the Circulation Element pertain to the Project. For a comprehensive list of all objectives and policies, see Chapter 3 of the General Plan.

Objective 3.1 - Vehicle Miles. To limit the increase in Vehicle Miles Traveled (VMT) to achieve as a minimum, compliance with the current Air Quality Management Plan.

Policy 3.1.1 - Land Use Patterns (Jobs/Housing Balance). Encourage concentrated commercial centers, mixed residential and commercial uses, and overall land use patterns which reduce urban sprawl and encourage the reduction of vehicle miles traveled per person.

Policy 3.1.5 - Flex Time. Encourage new developments, where appropriate, to implement strategies such as staggered or flexible work hours and/or restricted hours of operation in order to reduce traffic congestion, particularly during peak periods.

Objective 3.12 - Level of Service. To ensure that development shall not create traffic which will exceed acceptable levels of service on surrounding roadways.

Policy 3.12.1 - Level of Service (LOS) Policy. In reviewing the traffic impacts of proposed development projects or proposed roadway improvements, LOS C should be considered the objective, but LOS D as the minimum acceptable (where costs, right-of-way requirements, or environmental impacts of maintaining LOS under this policy are excessive, capacity enhancement may be considered feasible). Review development projects or proposed roadway improvements to the Congestion Management Program network for consistency with Congestion Management Plan goals.

Proposed development projects that would cause LOS at an intersection or on an uninterrupted highway segment to fall below D during the weekday peak hour will be required to mitigate their traffic impacts. Proposed development projects that would add traffic at an intersection or on highway segments already at LOS E or F shall also be required to mitigate any traffic volume resulting in a 1 percent increase in the volume/capacity ratio of the sum of all critical movements. Projects shall be denied until additional capacity is provided or where overriding finding of public necessity and or benefit is provided.

> Note that the volume/capacity ratio 1 percent threshold for intersections already operating at LOS E or F, which is contained in General Plan Policy 3.12.1 is no longer enforced due to past case law nullifying the approach to determination of significance for cumulative impacts. (i.e., *Kings County Farm Bureau v. City of Hanford* (5th District 1990); *Los Angeles Unified School District v. City of Los Angeles* (2nd District 1997); *Communities for a Better Environment v. California Resources Agency* (3rd District 2002). These court rulings invalidated the use of a "ratio theory" or "comparative approach" criterion because they improperly measure a proposed project's incremental impact relative to the existing cumulative effect rather than focus on the combined effects of the project and other relevant past, present, and future projects. Therefore, this threshold will not be applied in this analysis.

Objective 3.13 - Neighborhood Traffic Control. To protect residential neighborhoods from disruption caused by high traffic volumes and speeds through design, signs, and traffic control devices.

Policy 3.13.3 - Commercial Traffic. Whenever feasible, heavy commercial traffic should be routed away from residential neighborhoods.

Objective 3.17 - Commodities Movement. To provide a system for the efficient transport of commodities which serves the needs of residents and industry without degrading the environment or adversely impacting the rest of the transportation system.

Policy 3.17.1 - Peak Hour Goods Movement. Encourage minimum movement of goods by truck during peak traffic flow hours.

Policy 3.17.2 - Peak Hour Loading. Limit on-street loading and unloading of goods on arterials to non-peak traffic hours.

Policy 3.17.6 - Access. Require adequate loading facilities in developments.

Santa Cruz County Code, Title 9 – Roads, Vehicles and Traffic

Title 9 of the Santa Cruz County Code (SCCC) establishes general provisions and designations for local roads within the County, as well as regulates traffic, allowed routes of travel, and vehicle parking along local streets and highways. Chapter 9.08 designates the maximum speed of travel along County maintained roads. Chapter 9.16 designates limited-access thoroughfares for non-vehicular travel by the public. Chapter 9.48 establishes commercial vehicle weight restrictions for several roads within the County, and identifies permitted alternative routes for each restricted roadway. Chapter 9.50 establishes prohibition of the use of certain roads within the County by trucks over 45 feet in length and allowed exemptions.

3.13.4 Methodology and Assumptions

This analysis of potential impacts on the transportation and circulation system of the County provides a qualitative assessment of the effects of Program implementation on the existing transportation environment described in Section 3.13.2, *Environmental Setting*, including the Project and the More Permissive Project scenarios. Refer to Section 3.0, *Introduction and Approach to Analysis*, for a detailed discussion of projected cannabis activities in the County due to Program implementation. This analysis also assumes that cannabis structures would be required to meet Fire Code requirements, as described in Section 3.0, *Introduction and Approach to Analysis*.

While detailed data is not available on vehicle trip generation for Santa Cruz County cannabis operations, two studies were referenced to determine a typical cannabis cultivation vehicle trip generation rate of 1.64 average daily trips (ADT) per 1,000 square feet of canopy [(ERA Economics, LLC for CA Department of Food and Agriculture 2017), (RAND Drug Policy Research Center 2010)]. Trip generation rates during the morning and afternoon "peak hour" commutes were not documented in this study; however, one study documented plant nursery P.M. peak hour trip generation rates as 10 percent of total ADT. For comparison, typical employment centers, such as offices and industrial parks, have P.M. peak hour trip generation rates of 10 percent to 15 percent of total ADT. Therefore, it is assumed that cannabis operations would generate approximately 10 percent of their trips in the P.M. peak hour. This data is considered the best available to use for the cannabis industry.

Another emerging measurement of transportation-related impacts is VMT. In Santa Cruz County, the average trip length was assumed by CalEEMod to be 14.7 miles, with an estimated 5,378,830 VMT per

day (Caltrans 2014). The overall projected growth in employment in the cannabis industry under the Program is estimated to be 7,116 full-time equivalent jobs (see also, Section 3.12, *Population, Employment, and Housing*). This analysis projects total annual VMT for the Program based on the CalEEMod air pollutant emissions modeling, which assumes a trip generation rate of 1.64 ADTs per 1,000 sf of new cannabis cultivation canopy area (Appendix F). The model assumes that 100 percent of the trips are primary, non-residential, commercial-work trips with a trip length of 14.7 miles. Based on this analysis, Program adoption could result in direct generation of 13,580 ADTs across the County's road network, with 1,358 (approximately 10 percent) of this in the P.M. peak hour. These work trips would occur six days per week with a total increase of 62,285,329 annual countywide VMT or 170,645 daily VMT, which is approximately 3.2 percent of the County's total daily VMT. It should be noted that VMT estimates are based on a typical trip length; however, average trip length could be longer under the Program, as more than 60 percent of known locations are in the more remote Mountain and South County Regions.

The above analysis includes both full-time and seasonal employee trips, as well as the 1,200 additional employee trips (based on 600 employees) associated with manufacturing operations not co-located with a cultivation operation. The above analysis adequately characterizes transportation-related impacts for two reasons. First, the canopy area used in the calculations is considered a maximum amount resulting in a conservative estimate of ADTs. Actual canopy area may be less as a result of implementation of future requirement of the licensing process. Second, many future cannabis cultivation and manufacturing operations under the Program would go into existing buildings or greenhouses and there is an assumption that some existing employees would be retained, reducing the number of new employees and the number of new vehicle trips. Therefore, the analysis of transportation-related impacts conservatively and adequately characterizes the impacts from both cultivation and manufacturing under the Program.

Given the dispersed nature and generally small size of individual cannabis cultivation and manufacturing operations, substantial increases in traffic or demand for bicycle or transit facilities along any one road or intersection, bike path, or transit route are expected to be low.

Table 3.13-2 Projected Cultivation Increase in Vehicle Trip Generation and Vehicle Miles Traveled

Land Use	Vehicle Trip Generation			Annual Vehicle Miles Traveled (VMT)
	Weekday ADT	Weekday Peak Hour (10% ADT)	Weekend ADT (Saturday Only)	
Outdoor Cultivation	1,630	163	1,629	7,470,308
Indoor Cultivation	772	77	772	3,538,567
Greenhouse Cultivation	11,180	1,118	11,180	51,276,455
Total	**13,580**	**1,358**	**13,580**	**62,285,329**

See Appendix F for CalEEMod results and VMT outputs.

In addition to direct Program trip generation, because the Program requires a principal residence for eligible parcels in the Agriculture (A), Residential Agriculture (RA), Timber Production (TP), and Special Use (SU) zoning districts, this analysis also assumes construction of a maximum of 228 new residences, with an estimated increase of up to 2,280 ADT and 228 P.M. peak hour trips countywide

based on common trip generation rates for single-family homes. It is possible that some homes would be used by employees, which would reduce trip generation, but for a conservative analysis, it is assumed all employees would need to commute (see also, Section 3.12, *Population, Employment, and Housing*).

3.13.5 Significance Criteria

CEQA Guidelines Thresholds

The following thresholds of significance are based on Appendix G of the 2017 California Environmental Quality Act (CEQA) Guidelines. For this EIR, implementation of the Program may have a significant adverse impact on transportation and circulation within the County if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial risks;
- Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access; and/or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease performance or safety of such facilities.

Threshold (b) (*conflict with an applicable congestion management program*) would not apply to the Program. There is no applicable congestion management program adopted for the County. Within the County, conformance and consistency with applicable policies of Chapter 5 of the County General Plan and Local Coastal Program and design review and development standards of the SCCC ensure consistency with applicable transportation management goals and policies of the Santa Cruz County Regional Transportation Plan.

Threshold (c) (*air traffic patterns*) would not apply to the Program. This threshold regarding changes in air traffic patterns would not be applicable since the Program would not allow for the transport of cultivated or manufactured cannabis products by aircraft, nor does the Program include an airport facility. Licensed cannabis cultivation and manufacturing sites would not have any substantial impacts to surrounding airports, and anticipated development required to support cannabis cultivation or manufacturing operations would be subject to discretionary review by County staff to ensure conformance with existing County plans and policies regulating standards for development within airport approach and safety zones. Further, the proposed Program does not include or allow design features or land uses which would affect air traffic patterns at Watsonville Municipal Airport

or any other private airports and airstrips within the County, including Bonny Doon Village Airport, Las Trancas Airport, and the Monterey Bay Academy Airport.

Threshold (f) (*transit, bicycle, or pedestrian facilities*) would not apply to the Program. The Program does not include any features which would affect the directly performance or safety of transit, bicycle, or pedestrian facilities. These networks are generally located within the Urban Region and outside the primary areas of eligibility or areas currently proposed for expanded cannabis cultivation or manufacturing. Implementation of the Program would not result in substantial new development or increases in workforce populations requiring access to such facilities. Further, no adopted policies, plans, or programs regarding these facilities would apply to the proposed Program.

Caltrans Facilities Thresholds

Operations degrade from LOS C or better to LOS D, E, or F; or the addition of project traffic increases delay at an intersection or segment operating at LOS D, E, or F.

Senate Bill 743 was signed in 2013, requiring a move away from vehicle delay and LOS within CEQA transportation analyses. It also requires the Governor's Office of Planning and Research (OPR) to identify new metrics for identifying and mitigating transportation impacts. OPR identified VMT per capita and VMT per employee as the new metrics for transportation analysis. It is anticipated that regulatory language changes to CEQA will be adopted in late 2017 by the Natural Resources Agency and that statewide implementation will occur in late 2019.

County Facilities Thresholds

The County's General Plan/LCP policies provide guidelines for identifying transportation impacts. A development project or road improvement would have a significant impact if the project would cause LOS at an intersection or an uninterrupted highway segment to fall below LOS D during the weekday peak hour.

3.13.6 Environmental Impact Analysis and Mitigation

This section discusses potential transportation and circulation impacts from the proposed Program. A detailed discussion of each impact follows. Where there are potentially significant or significant and unavoidable impacts, mitigation measures are proposed and the residual impact is determined.

3.13.6.1 Program Impacts

Impact TRA-1. Program adoption would increase traffic on roadways and daily vehicle miles traveled within the County, incrementally affecting the performance of the circulation system, particularly roadways operations, with significant effects on existing congested roads, highways and intersections that operate below acceptable levels of service and lesser effects on transit and bicycle facilities. This impact would be significant and unavoidable.

Impact TRA-1.1 – Direct Cultivation/Manufacturing. Program approval would lead to increased generation of vehicle trips on roads and at intersections from permanent and temporary employees, as well as from movement of equipment or operational support vehicles. Licensed cannabis

cultivation and manufacturing sites could be located within areas of the County or along roadways currently subject to poor performance or that operate at LOS D or lower.

The 1994 General Plan Circulation Element includes a list in Figure 3-18 of planned urban roadway improvements necessary to relieve projected congestion problems at General Plan buildout (see side bar for abbreviated list). For nearly all the 25 intersection and highway segments on the list, level of service was projected to fall to LOS D or below at General Plan buildout. Since 1994, some of the improvements on the list have been completed as part of the County's ongoing Capital Improvement Program and former Redevelopment Agency work program. However, traffic volumes have continued to increase and these roads, intersections, and highway segments in the County function below LOS D. Even though it is assumed that impacts to the transportation and circulation system as a result of cannabis cultivation and manufacturing operations would be dispersed throughout the County, significant impacts on LOS would occur at existing impacted intersections and highway segments within the urban, and some rural areas, of the County.

Key Roadways Needing Improvements from the 1994 General Plan

- Highway 1
- Highway 1/17 Interchange
- Highway 17
- Highway 1/Soquel Drive/Soquel Avenue/Commercial Way Interchange
- 7th Avenue from Eaton to Capitola
- Capitola Road from 7th to 30th.
- Highway 1/41st Avenue Interchange
- Soquel Avenue from southbound ramps at Hwy 1 to Mattison Lane
- Eaton Street from 6th to 7th Avenue
- 17th Avenue from East Cliff Drive to railroad right-of-way
- Soquel Drive/Porter Street
- Highway 1/Bay Avenue/Porter Street Interchange
- Porter Street between Soquel Wharf Road and Dawn Lane
- Soquel Wharf Road
- Park Avenue from Highway 1 to Soquel Drive
- State Park Drive
- Soquel Drive from Porter Gulch Road to State Park Drive
- Rio Del Mar Boulevard at Soquel Drive
- Airport Boulevard from Ross Avenue to Green Valley Road
- Green Valley Road from Holohan Road to Arroyo Road
- Highway 152 (East Lake Avenue) from Watsonville City Limits to College Road
- Freedom Boulevard from Airport Boulevard to Green Valley Road
- Highway 9 from Graham Hill Road to Alba Road

The Program is expected to increase traffic on roadways countywide by 13,580 ADTs with 1,358 of these in the P.M. peak hour, incrementally increasing congestion on state highways and County roads. Manufacturing uses would also result in limited additional increases in traffic. However, the Program is not anticipated to substantially increase vehicle trips or traffic volumes along any one road or intersection, as proposed cannabis operations would be dispersed across a relatively wide area. For example, the Mountain Region, which currently supports an estimated 40 percent of planned cultivation activities by registrants, could potentially generate an increase of roughly 5,000 ADT and 500 P.M. peak hour trips over this entire 101,907-acre region. Although such trips would be generated along and dispersed over more than 150 miles of highways and roads within the Region, such increases in vehicle trips and potential congestion in the Mountain Region would be concentrated along County roads leading to Highway 9. Similarly, the South County and Urban Regions, which currently support roughly an estimated 40 percent of planned cultivation activities by registrants,

could generate an increase of roughly 5,200 ADT and 520 P.M. peak hour trips over these Regions. It should be noted that under the Program, 147 acres of greenhouse cultivation could be concentrated in the South County Region, primarily impacting Pajaro Valley and Watsonville area roads, such as Green Valley Road, Holohan Road and Highway 152/East Lake Avenue. Although such trips would be generated along and dispersed over more than 200 miles of highways and roads within the Regions, such increases in vehicle trips and potential congestion would be concentrated along County roads leading to Highway 1, which operates at LOS F during peak periods.

In addition, an increase of 62,285,329 in annual Countywide VMT would also reflect increased potential for congestion. This total would result in 170,645 daily VMT, which represents a small, but notable portion (3.2 percent) of the County's total daily VMT. Finally, although the dispersed and rural nature of potential cannabis operations argues against substantial impacts to pedestrian, bicycle and transit facilities, there would still be an incremental increase in demand for such transportation facilities under the Program.

While traffic impact fees, revenues from the recently approved Measure D sales tax measure, and increased gas tax monies will generate more funding for roads, it will not be enough to improve all congested intersections, roads, and highway to acceptable levels of service. Therefore, transportation impacts on intersections, roads, and highways would be *potentially significant*.

Mitigation Measures

MM TRA-1.1. Payment Transportation Impact Fees. To reduce direct impacts of the Program on the overall performance of the circulation system and potential for increased demand for transportation infrastructure and traffic congestion, the County shall update its impact fee program. The Cannabis Licensing Officer, in coordination with the County Public Works Department of Transportation, shall require all cannabis cultivation and manufacturing operations to pay into the County's Transportation Improvement Area Fee Program, at an appropriate level (e.g., industrial use) to help fund circulation improvements required to help improve performance of the circulation system.

Plan Requirements and Timing. Reasonable fee amounts shall be determined during Program adoption and shall be identified and applied during the license review process. The Licensing Officer shall submit findings and recommendations as part of the licensing application determination with payment based on the established fee program prior to issuance of a license.

Monitoring. County compliance monitoring staff shall verify that Licensees have paid fee prior to issuance of a license.

Post-Mitigation Level of Impacts

Even though it is assumed that impacts to the transportation and circulation system as a result of cannabis cultivation and manufacturing operations would be dispersed throughout the County, impacts on LOS would occur at existing impacted roads, intersections, and highway segments within the urban, and some rural areas, of the County. MM TRA-1.1 would not mitigate these impacts to a less than significant level because revenues from impact fees, Measure D sales tax revenues for roads, gas tax revenues and other potential sources of revenue would not be enough to improve each of these congested intersections, roads, and highways to acceptable levels of

service. Therefore, even with the implementation of MM TRA-1.1, direct impacts would be *significant and unavoidable* for both the Project and the More Permissive Project.

Impact TRA-1.2- Indirect Cultivation/Manufacturing. Indirect impacts of the Program would be similar to those discussed under Impact TRA-1.1 above. Improvements related to the County Fire Code would be non-habitable with no impact to transportation during operations. New development of 228 new single family homes for eligible parcels in the A, RA, TP, and SU zoning districts as part of cannabis cultivation would introduce up to 228 new P.M. peak hour vehicle trips dispersed across the County with similar potential for incremental impacts associated with increased congestion and demand for transit, bicycle and pedestrian facilities as described under Impact TRA-1.1 above. Only new homes in the urban areas of the County are required to pay into the County's Transportation Improvement Area Fee Program. Many of the assumed 228 new homes could be located in rural areas. Therefore, based on the same analysis as above, indirect impacts are also *significant and unavoidable*.

Impact TRA-2. Licensing of commercial cannabis cultivation could result in additional traffic safety hazards, inadequate emergency access, or impacts to road maintenance, particularly along rural County roads. Impacts would be less than significant with mitigation.

Impact TRA-2.1 – Direct Cultivation. Licensed cannabis cultivation sites would generate vehicle trips from permanent and seasonal employees, as well as from movement of equipment or operational support vehicles. Licensed cannabis cultivation sites could be located within areas of the County or along roadways currently subject to hazardous road conditions. These may include potential cultivation sites within the rural mountainous areas of the County where roads can be lightly maintained, subject to erosion or washout from storms, may have limited line-of-sight, or support older substandard bridges and thus have difficult emergency access. These may also include sites within the agricultural areas of the South County Region, where large trucks and farm equipment often travel along narrow agricultural roads, which can cause conflicts with vehicular traffic. Use of heavy trucks for supply delivery can also impact rural roads safety and maintenance, particularly unsurfaced roads and substandard bridges, or safety issues associated with limited passing areas. Although the proposed Program is not anticipated to substantially increase vehicle trips or traffic volumes along any one rural road or local County roadway due to the limited scale of proposed cultivation, increased traffic from employees and trucks could impact fragile rural roads. While all cannabis cultivation sites would be subject to County development standards and emergency access requirements, such requirements may not extend to ongoing maintenance obligations. Therefore, rural road maintenance issues and associated traffic safety and emergency access are considered *potentially significant.*

Mitigation Measures

MM TRA-2.1. Rural Road Management. Where cannabis related sites are located outside of an existing CSAs, but within a rural road maintenance association, the County Licensing Officer, in coordination with the County Department of Public Works, Transportation Division, shall require proof of registrant participation in the rural road maintenance association, if applicable, to ensure the safe access and compatibility of proposed operations, prior to issuance of a license to cultivate cannabis.

Plan Requirements and Timing: The location of a cannabis related site outside of County established CSAs but within rural road maintenance association site shall be identified

through canvassing during the license review or building permit process. The Licensing Officer shall ensure participation in the rural road maintenance association by requiring proof of resident membership and participation.

Monitoring: County Licensing Office compliance monitoring staff shall verify that Licensees and any development applicants have joined, and continue to be member of, the applicable rural road maintenance association.

MM TRA-2.2. Adequate Access Roadway Design. The County Licensing Officer, in coordination with the County Department of Public Works, Transportation Division and the County Fire Marshal, shall consider the adequacy of private access roads and driveways to each cannabis related site to ensure 1) that roadways are built and maintained to meet Santa Cruz County Code requirements, and 2) that roadways are designed to accommodate the vehicles required by the cannabis operations, including the type, number, size, and clearance requirements. If roadway improvements are needed to meet these requirements, the Licensee shall either perform the improvements or provide the County with a plan and timeline for improvement within the first 6 months following license issuance.

Plan Requirements and Timing: Review of existing private access road and driveways service the cannabis related site shall occur as part of license review by the County Licensing Official and the County Department of Public Works, Transportation Division and the County Fire Marshal. The Licensing Officer shall ensure either these access roads are adequate to serve the cannabis site prior to operations or within 6 months of license issuance.

Monitoring: Licensing Office compliance monitoring staff shall verify that Licensees and any development applicants have improved and maintained private access roads and driveways consistent with the License approval.

Post-Mitigation Level of Impacts

The County and the Fire Marshal would determine and ensure that adequate roadway designs suitable for proposed development and activities are provided on a case-by-case basis. The County Licensing Officer, in coordination with the County Department of Public Works, Transportation Division, shall consider adequacy of roadways in considering whether to grant licenses. With the implementation of MM TRA-2.1 and MM TRA-2.2, residual direct impacts would be *less than significant with mitigation* for both the Project and the More Permissive Project.

Impact TRA-2.2 – Indirect Cultivation New development, construction, and operation of 228 new single-family homes would be required for eligible parcels in the A, RA, TP, and SU zoning districts, as part of cannabis cultivation under the Project. These new homes would introduce approximately 228 new vehicle trips dispersed mostly across the County's rural road network, which would introduce associated safety and maintenance issues outlined in Impact TRA-2.1 above, but to a lesser degree. Homes in rural areas are not required to pay into the County's Transportation Improvement Area Fee Program. Though the homes may be located within a CSAs or rural road maintenance association, this may not adequately address maintenance and safety issue along private rural roads, and therefore, indirect impacts would be considered *potentially significant.*

Mitigation Measures

Implement MM TRA-2.1. Rural Road Management. To reduce indirect impacts of the Program for rural road maintenance, MM TRA-2.1, addressing the management of rural roads in the County, shall apply to Impact TRA-2.2.

Implement MM TRA-2.2. Adequate Access Roadway Design. To reduce indirect impacts of the Program for adequate site access, MM TRA-2.2, addressing the design of private roads and driveways, shall apply to Impact TRA-2.2.

Post-Mitigation Level of Impacts

With the implementation of MM TRA-2.1 and MM TRA-2.2, residual indirect impacts would be *less than significant with mitigation* for both the Project and the More Permissive Project. The County would determine and ensure compliance on a case-by-case basis.

Impact TRA-3. Licensing of cannabis product manufacturing could result in additional traffic safety hazards, inadequate emergency access, or impacts to road maintenance, particularly along rural County roads. Impacts would be less than significant.

Impact TRA-3.1 – Direct and Indirect Manufacturing. Implementation of the Program would not introduce new roadway safety hazards due to the licensing of new manufacturing uses throughout the County. Licensing of new cannabis manufacturing sites may result in the generation of new employee or commercial-vehicle trips to roadways with existing hazardous roadway conditions or sites with inadequate emergency access. However, vehicle trips associated with cannabis manufacturing not occurring at cultivation sites represent only 1,200 vehicle trips generated by the Program and these trips would be dispersed throughout the County. The majority of larger, higher-yield manufacturing operations would likely be located within the urban areas of the County, in existing industrial and manufacturing developments accessed by an urban road system that would support adequate emergency access and ensure compatibility between vehicle traffic from adjacent uses. In addition to commercial manufacturing in the urban regions, the Program would support licensing of home occupation cannabis product manufacturing. However, all forms of manufacturing proposed under the Program would be subject to the existing SCCC and County plans, and policies, which would address traffic safety issues and emergency access requirements. Therefore, direct and indirect impacts of the Program from licensing of manufacturing operations are considered *less than significant.*

3.13.6.2 Summary of Project Impacts and Proposed Mitigation Measures

Table 3.13-3 below provides a summary of the Program impacts related to transportation and circulation and proposed mitigation measures.

Table 3.13-3 Summary of Transportation and Circulation Impacts

Transport-ation and Circulation Impacts	Level of Significance	Mitigation Measures	Post-Mitigation Level of Significance	
			Project	More Permissive Project
Impacts from Commercial Cannabis Cultivation and Cannabis Product Manufacturing				
Impact TRA-1. Program adoption would increase traffic on roadways and daily vehicle miles traveled within the County, incrementally affecting the performance of the circulation system, particularly roadways operations, with significant effects on existing congested roads, highways and intersections that operate below acceptable levels of service and lesser effects on transit and bicycle facilities. This impact would be significant and unavoidable .				
Direct	Potentially Significant	MM TRA-1.1. Payment of Transportation Impact Fees	Significant and unavoidable	Significant and unavoidable
Indirect	Potentially significant	MM TRA-1.1. Payment of Transportation Impact Fees	Significant and unavoidable	Significant and unavoidable
Impacts from Commercial Cannabis Cultivation				
Impact TRA-2. Licensing of commercial cannabis cultivation could result in additional traffic safety hazards, inadequate emergency access, or impacts to road maintenance, particularly along rural County roads. Impacts would be less than significant with mitigation.				
Direct	Potentially Significant	MM TRA-2.1. Rural Road Management MM TRA-2.2. Adequate Access Roadway Design	Less than significant with Mitigation	Less than significant with Mitigation
Indirect	Potentially Significant	MM TRA-2.1. Rural Road Management MM TRA-2.2. Adequate Access Roadway Design	Less than significant with Mitigation	Less than significant with Mitigation
Impacts from Cannabis Product Manufacturing				
Impact TRA-3. Licensing of cannabis product manufacturing could result in additional traffic safety hazards, inadequate emergency access, or impacts to road maintenance, particularly along rural County roads. Impacts would be less than significant.				
Direct and Indirect	Less than significant	None required	Less than Significant	Less than Significant

3.13.6.3 Secondary Impacts

Impact TRA-4. Licensing of commercial cannabis cultivation and cannabis product manufacturing could affect the performance of the circulation system, and result in additional traffic safety hazards, inadequate emergency access, or impacts to road maintenance, particularly along rural County roads. Impacts would be significant and unavoidable.

Impact TRA-4 – Secondary Cultivation/Manufacturing. Currently, there is a significant but unquantified amount of illegal cannabis cultivation and manufacturing occurring in the County (see Section 3.0, *Introduction and Approach to Analysis*). There is potential for expansion of the existing,

baseline illegal activity as a result of the Program in that any licensing program may create the perception that, regardless of any restrictions and limitations of the program, there is opportunity for new cultivation and manufacturing businesses to become established and ultimately licensed within the County. This perception could lead to new cultivation and/or manufacturing activity that may not be licensed.

In addition, the Program would rescind SCCC Chapter 7.126, which offers limited immunity from prosecution to current cultivators if the cultivation is occurring in compliance with County regulations. When limited immunity is rescinded, it is foreseeable that some portion of the cultivators who are receiving limited immunity, and who may not be eligible for a license, will continue to cultivate and may expand cultivation beyond the 99-plant limit allowed in SCCC Chapter 7.126. The new cultivation would not necessarily conform to County regulations after limited immunity is rescinded and would represent an expansion of illegal activity in the County.

It is anticipated that ongoing operation of unlicensed operations would continue, relocate, or expand and generate increased traffic with potential effects on the performance of the circulation system. Secondary impacts also could result from traffic hazards due to the continued operation of unlicensed cannabis cultivation/manufacturing sites throughout the County. While small-scale unlicensed operations may be located within developed areas of the County and introduce little potential for increased traffic hazards, or may be located within areas with adequate emergency access, larger unlicensed cultivation/manufacturing operations may tend to be located within remote areas of the County along unmaintained roadways. These operations generate traffic from employees, and operations that use private undeveloped roads or access rural roads within the County may introduce or exacerbate traffic safety hazards and conflict with users of the same roadways. While the direct effects of unlicensed cannabis cultivation/manufacturing cannot be determined, it is anticipated that ongoing operation of unlicensed operations would continue to introduce traffic hazards or operate in areas with inadequate emergency access. Therefore, secondary impacts of the Program are considered *potentially significant*.

Mitigation Measures

Implement MM AT-1.3a. Sustained Enforcement Program. To reduce secondary impacts from roadway operations, safety, and emergency access within the County, MM AT-1.3a, addressing County implementation of the Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program, shall apply to Impact TRA-4.

Implement MM AT-1.3b. Annual Survey and Monitoring Report. To reduce secondary impacts from roadway operations, safety, and emergency access within the County, MM AT-1.3b, addressing County criteria for an Annual Survey and Monitoring Report of licensed activities as well as illegal activities, including recommendations regarding enforcement staffing and resources, shall apply to Impact TRA-4

Post-Mitigation Level of Impacts

While implementation of MM AT-1.3a and AT-1.3b would improve enforcement and result in declines in unlicensed cannabis cultivation and manufacturing, such enforcement could not effectively guarantee the elimination or reduction of impacts on roadway safety and emergency access. Therefore, secondary impacts of both the Project and More Permissive Project are considered *significant and unavoidable.*

3.13.6.4 Cumulative Impacts

As described in Section 3.0, *Introduction and Approach to Analysis*, the cumulative setting for the Program involves a variety of planning programs in the region of Santa Cruz County along with regional growth and ongoing development under the County's General Plan. Cumulative direct impacts associated with the Program would result from potential decreases in roadway and traffic safety, as well as inadequate emergency access, combined with proposed development under other County plans and projects that would also have the potential to result in increased roadway safety hazards or the provision of inadequate emergency access. Licensed cannabis cultivation and manufacturing operations under the Program, as well as other cumulatively proposed projects within the County, would be subject to compliance with existing policies and regulations of the County that are designed to ensure safe roadway operations and prevent the design of hazardous road features. However, even with mitigation, the impact from cannabis cultivation activities would remain significant and unavoidable. Therefore, the Program's direct contribution to cumulative impacts on traffic/roadway safety and emergency access is *significant and unavoidable.*

Cumulative indirect impacts associated with the Program would relate to construction of new homes, roads, site improvements, and supporting structures for cumulative projects that require adequate roadway design and emergency access requirements, including County Fire Code roadway design requirements. New development resulting in additional personal or commercial vehicle traffic, in addition to new traffic generated by new cumulative projects, may require access to and from a site by an unsafe roadway. Particularly, the implementation of new Timber Harvesting Plans in areas where cannabis cultivation and new ancillary development required under the Program may result in the use of narrow rural roads in the mountainous regions of the County, utilized to access cannabis cultivation or manufacturing sites by large timber harvesting equipment, could result in use conflicts or decreased roadway safety. New development occurring under the Program that may introduce new roadway hazards or potential roadway hazards presented by other cumulative projects or programs would be subject to existing and proposed policies, regulations, Licensing Officer review, and mitigations which would ensure the appropriate design of roadways to ensure the safety of users and adequate access by emergency responders, prior to issuance of licenses or permits. However, the impact from new homes required to support cannabis cultivation would remain significant and unavoidable. Therefore, the Program's indirect contribution to cumulative impacts on traffic/roadway safety and emergency access is *significant and unavoidable.*

Section 3.14
Utilities and Energy Conservation

3.14.1 Introduction

This section identifies and evaluates issues related to utilities and energy conservation, including water supply, wastewater, solid waste, and energy, that could result from cannabis cultivation and manufacturing permitted under the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program), including analysis of both the Project scenario and the More Permissive Project scenario. Existing utility and energy provision in Santa Cruz County (County) is described, as well as applicable regulations. Potential impacts to utilities and energy conservation in the County that would result from the Program are evaluated based on Appendix G and Appendix F of the state CEQA Guidelines, along with the effectiveness of relevant Program components in addressing utility demand and waste generation. Where potentially significant impacts are identified, mitigation measures are recommended. This section is based on information from recent environmental documents prepared for the County, Santa Cruz County Planning Department, Santa Cruz County General Plan and Local Coastal Program (General Plan/LCP), Pacific Gas & Electric Company (PG&E) service data, and use of the California Emissions Estimator Model Version 2016.3.1 (CalEEMod) to assist in calculating energy and water demands of the Program.

Program Impact Analysis
At a Glance

The Program could adversely affect utilities and energy conservation from increased demand on water, wastewater, solid waste, and energy services from new and expanded cultivation and manufacturing that is licensed under the Program. County regulations for utilities and mitigation to protect supplies would ensure direct and indirect impacts are less than significant. However, Program induced unlicensed cannabis activities could have significant and unavoidable impacts.

3.14.2 Environmental Setting

This section describes existing and planned utilities serving the County and analyzes the potential impacts that could result from cannabis cultivation and manufacturing permitted under Program. The utilities that are analyzed in this section include water, energy resources and conservation, solid waste, and wastewater (sewer and septic systems). Issues related to water quality and hydrologic resources, including groundwater and surface water resources, are discussed in Section 3.9, *Hydrology and Water Quality*. Analysis of public services, including fire protection, law enforcement, schools, and parks/recreation, is addressed in Section 3.11, *Public Services*.

Water Infrastructure and Supply

Municipal Water

Municipal water supply services within the unincorporated regions of the County are primarily provided by six water purveyors: San Lorenzo Valley Water District (SLVWD) [1], Scotts Valley Water District (SVWD), City of Santa Cruz Water Department (CSCWD), Soquel Creek Water District (SqCWD), City of Watsonville Department of Public Works & Utilities (CWDPWU), and the Central Water District (CWD). These municipal supplies and service agencies rely on local water sources only and derive County water supplies from surface water from local reservoirs or permitted stream diversions (34 percent), and from groundwater basins (65.2 percent), which are fed entirely by annual precipitation. A fraction of the total water supply is provided by recycled water (<1 percent); however, approximately 15 percent of the SVWD total water supply in 2015 was provided by recycled water (see Table 3.14-1). In addition to these main purveyors, municipal water services for smaller communities or service areas are also provided by over 20 individual public water systems, such as the Davenport Sanitation District which provides both municipal water and wastewater services to the town of Davenport in the North Coast Region.

Table 3.14-1 Municipal Water Supply and Demand in Santa Cruz County

Major Water Suppliers	Number of Customers/ Connections	Source of Water Supply (% of total supply)	2015 Water Supply (acre-feet per year [AFY])[1]	2015 Water Demand (acre-feet per year [AFY])[1]
SLVWD	7,403	Surface Water (58.4%) Groundwater (41.6%)	1,790	1,790
SVWD	4,220	Groundwater (85.0%) Recycled (15.0%)	1,333	1,333
CSCWD	24,534	Surface Water (94.2%) Groundwater (5.8%)	7,611	7,525
SqCWD	15,829	Groundwater (100%)	3,106	3,112[2]
CWDPWU	14,782	Groundwater (100%)	9,976	9,976
CWD[3]	815[3]	Groundwater (100%)[3]	372[3]	353[3]
Total	**67,583**	**Surface Water (34.0%) Groundwater (65.2%) Recycled Water (0.8%)**	**24,188**	**24,089**

[1] Total volume of potable and raw water, as well as recycled water.

[2] Approximately 6.1 AF of SqCWD water supply was sold to other water agencies which is not reflected in the total water supplied by the district in 2015.

[3] Reported for the July 1, 2015 – June 30, 2016 Fiscal Year.

Source: CWD 2016; CWDPW 2016; CSCWD 2016; SqCWD 2016; SVWD 2016; SLVWD 2016.

[1] In June 2016, the Lompico Water District merged with the San Lorenzo Valley Water District.

Table 3.14-2 Projected Future Municipal Water Demand and Supply

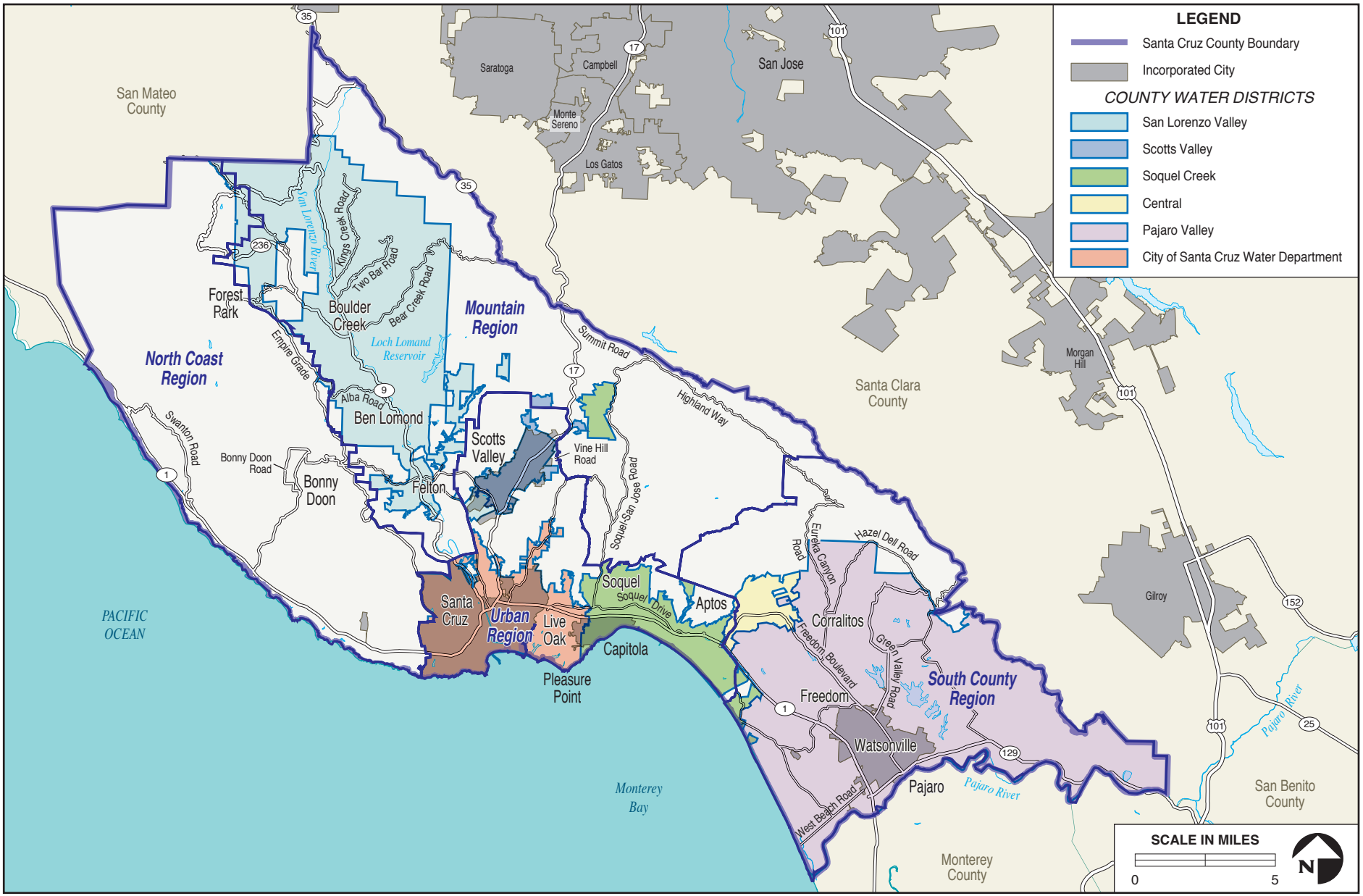
Water Supply Agency	2020 Projected (AFY)	2025 Projected (AFY)	2030 Projected (AFY)	2035 Projected (AFY)	Projected Increase in Supply and Demand 2015-2035 (% Increase)
SLVWD	1,708	1,728	1,766	1,795	5 (0.2%)
SVWD	1,558	1,584	1,610	1,635	302 (22.7%)
CSCWD	10,210	9,897	9,836	9,882	2,357 (31.3%)
SqCWD	3,900	3,800	3,500	3,400	288 (9.6%)
CWDPWU	11,934	12,132	12,340	12,560	2,584 (25.9%)
CWD[1]	--	--	--	--	--
Total	**25,310**	**25,141**	**25,052**	**25,272**	**5,536 (23.0%)**

[1] CWD does not report projected future water supplies or demand.
Source: CWDPW 2016; CSCWD 2016; SqCWD 2016; SVWD 2016; SLVWD 2016.

As the largest source of water supplies provided by municipal water agencies (approximately 65.2 percent of municipal water supplies in 2015), groundwater is provided by three major groundwater basins that underlay the County: the Santa Margarita Groundwater Basin, the Santa Cruz Mid-County Groundwater Basin, and the Pajaro Valley Groundwater Basin. As discussed in Section 3.9, *Hydrology and Water Quality,* all three basins remain unadjudicated and currently experience overdraft conditions. As such, these three basins are designated as medium and high priority basins. In addition, four smaller groundwater basins exist within the County which may provide private water services to rural development within the County. Refer to Section 3.9, *Hydrology and Water Quality*, for discussion of local groundwater basins.

Private and Small Water Systems

Unincorporated areas of the County not serviced by the larger water purveyors rely on private wells and stream diversions for their water supply. The County established the Drinking Water Program to ensure that small water systems deliver a reliable and adequate supply of groundwater or surface water to their customers. As such, the County acts as the Local Primacy Agency for the California Public Health Department and oversees private water systems. Currently, there are approximately 130 small water systems in the County serving approximately 2,500 households. Additionally, there are at least 8,000 private wells in the County that serve between one and four households (Santa Cruz County Environmental Health 2017b). In addition to groundwater wells, many residences, agricultural parcels, and other development within the unincorporated regions of the County rely on beneficial water supplies through permitted surface water (stream, spring, or pond) diversions. However, many users within the County may receive water supplies through unpermitted or illegal stream diversions. It is unknown what the exact amount of surface water diversions within the County account for total public and private water supply each year, and of the 17 watersheds in County, most surface water supplies for municipal or beneficial use are diverted from the San Lorenzo River Watershed, North Coast streams (i.e., Waddell Creek, Scott Creek, San Vincent Creek, and Laguna Creek), and Corralitos Creek. Of the surface water supply streams in the County, only Soquel Creek has been adjudicated (Santa Cruz County Environmental Health 2017b).



3.14-4

amec foster wheeler

Santa Cruz County
Major Water Districts

FIGURE 3.14-1

Existing Cannabis Operations

Commercial cannabis cultivation and manufacturing occurring within the County currently exists as unlicensed operations, ranging from small indoor home-occupations to large-scale outdoor growing operations, which use water from one or more sources primarily to irrigate cannabis crops. Based on results of the 2016 County Commercial Cannabis Cultivation License Registration Program, the majority of existing registered cannabis cultivators (approximately 63.7 percent) receive their water supplies from private or shared groundwater wells, 24.5 percent of operations are connected to and utilize municipal water, 4.4 percent utilize water from several sources, 3.0 percent import water onsite via water truck deliveries, 2.5 percent receive water from surface water diversions, 0.5 percent utilize captured rain water, and 0.2 percent of respondents indicated the use of water supplies from other sources (see Table 3.14-3).

Table 3.14-3 Existing Cannabis Cultivation Water Supplies

Water Source	Percent of Respondents
Municipal	24.5%
Private Well	56.8%
Shared Well	6.9%
Stream/Spring/Pond Diversion	2.5%
Rain Water	0.5%
Imported/Trucked Water	3.0%
Mixed Source	4.4%
Other	0.2%
Undisclosed	1.2%
Total	**100%**

Based on interviews with existing cultivators and registration data, a typical cannabis cultivation operation existing within the County may range in size from smaller than 100 square feet (sf) in size to over 5,000 sf. As described in Section 3.0, *Introduction and Approach to Analysis*, the County estimates an average water demand of 0.03 gallons per sf of canopy per day for outdoor operations, and 0.1 gallon per sf of canopy per day for indoor and greenhouse operations. There is a minimum of approximately 36 acres of cannabis canopy currently cultivated in the County, based on the 2016 License Registration data. Total annual water demand for that minimum existing cultivated cannabis is estimated at 98.22 AFY (see Table 3.14-4). When considering a reported 24.5 percent of operations are connected to municipal water supplies, the existing cannabis operations of registrants may account for approximately 0.5 percent of the total 2015 metered municipal water demand (see Table 3.14-1). This estimate does not include existing water demand from any cultivation not captured in the County's registration data, including residential or garage growers, or the water demands from existing cannabis product manufacturing. It is important to note that there is a significant amount of cannabis cultivation occurring in the County, and that this represents only the water use of the cultivation that was reported by registrants. Actual baseline water use exceeds this minimum amount by an unknown but potentially substantial amount. Demands for water in cannabis product manufacturing appear to be low and limited to hash washing and other processing that requires cleaning/filtering.

Table 3.14-4 Existing Cannabis Cultivation Water Demand

Existing Cultivation Type	Existing Canopy* (Acres)	Daily Average Water Demand (gal/day/sf)	Annual Water Demand (AFY)	AFY per Acre
Indoor	7.81	0.1 – 365 days/year	38.11	4.88
Outdoor	16.57	0.03 – 180 days/year	11.96	0.72
Greenhouse	6.73	0.1 – 270 days/year	24.3	3.61
Multiple Types	4.51	0.1 – 365 days/year	22.00	4.88
Undisclosed	0.38	0.1 – 365 days/year	1.85	4.88
Total	**36.00**		**98.22**	

Notes: 0.00112 AFY = 1 gallon per day
* 2016 License Registration data.

Energy Resources and Conservation

Electricity and Natural Gas

PG&E provides electrical and natural gas services to the County for both residential and non-residential use. Beginning in 2018, electrical energy will also be offered by Monterey Bay Community Power (MBCP) using the community choice energy model provided for in the Public Utilities Code. MBCP intends to provide electricity with a higher renewable and carbon-free content compared to PG&E at competitive rates. PG&E will continue to provide transmission and distribution services. Facilities and infrastructure providing electrical service include transmission, distribution, and communication lines. Electricity is delivered to the County via two 115 kilovolt (kV) transmission lines, both of which run through the South County and Urban Regions. Additionally, one 60 kV power line runs through the City of Watsonville from Monterey County, before connecting to the Green Valley substation north of Watsonville. Smaller distribution lines operating between 4,000 and 21,000 volts bring electricity from local substations into neighborhoods for both residential and non-residential use. Natural gas supplies are delivered to the County via several transmission lines traversing the South County and Urban Regions, and extending along Highway 1 to the community of Davenport in the North Coast and along Graham Hill Road to the community of Felton in the Mountain Region. In the unincorporated areas of the Mountain and Urban Regions, propane is a common fuel source, and is provided by private companies such as Felton-based Mountain Propane Service, which provides propane delivery services to San Lorenzo Valley and the greater Santa Cruz County area (Mountain Propane Service 2017).

PG&E estimates electric demand within the County to peak at about 146 megawatts (MW) in the summertime, and about 170 MW in the wintertime (PG&E 2014). In 2015, the County used a total of 1,221 gigawatt hours (GWh) of electricity, approximately 54 percent of which was associated with residential use. In the same year, the County natural gas usage totaled nearly 50.3 million therms, of which 58.4 percent was associated with residential natural gas demand. Total demand for PG&E electricity and natural gas supplies in 2015 throughout its service area totaled 85,988.7 GWh and 4,408.3 million therms, respectively (California Energy Commission [CEC] 2017b).

Petroleum and Transportation Fuel

The California Department of Transportation (Caltrans) reported that approximately 24.4 million automobiles, 5.6 million trucks, and 880,588 motorcycles were registered in the state in 2016, resulting in a total estimated 334.7 billion vehicles miles traveled (VMT) (Caltrans 2016a) and 15.3

billion gallons of gasoline consumed (CEC 2017a). Within the County, an estimated 1.9 billion vehicle miles were traveled in 2015-2016, accounting for less than 0.006 percent of the state's total VMT (Caltrans 2016b).

Renewable Resources

The State of California strongly supports production and use of renewable energy sources, including solar photovoltaic (PV), wind, hydrologic, and biomass. For example, in-state operating capacity of renewable resources was 26,300 MW as of October 31, 2016. This total includes a little more than 5,200 MW of self-generation capacity, almost 5,100 MW of which is self-generation solar PV. The state's renewable energy portfolio includes wind (6,000 MW), solar PV (13,000 MW), geothermal (2,700 MW), small hydrologic (1,800 MW), solar thermal (1,300 MW) and biomass (1,300 MW) (CEC 2016).

Existing Cannabis Operations

Types of equipment and total energy demands depend upon the type of cannabis operation: 1) outdoor cultivation (minimal equipment and energy demand), 2) greenhouse cultivation (moderate equipment and energy demand), and 3) indoor cultivation (intensive equipment and energy demand). Existing indoor cannabis operations typically require a large amount of electricity to power equipment used throughout the cultivation process and manufacturing process. Equipment which is commonly used during cultivation of cannabis includes lights, fans, heating, air ventilation, and air conditioning (HVAC) systems, water pumps, and CO_2 enrichment systems. In addition, manufacturing may require additional limited amounts of electricity to power equipment common in both volatile and non-volatile extraction and manufacturing processes such as rosin presses, closed-loop CO_2 extraction systems, cold washing machines, blenders, and ovens. Commercial cannabis cultivation and manufacturing processes do not typically require the demand for natural gas supplies, and it is assumed that such activities would represent a diminutive portion of the County's total annual natural gas demand. Depending on the site, cultivation and manufacturing operations may range in measures that promote the conservation of energy resources. For instance, several current operators are known to engage in practices that promote energy conservation and reduce overall energy demands using high efficiency lighting or through generation and use of solar energy. However, many other operations have been observed to engage in activities which are highly inefficient and may result in the wasteful use of energy resources.

Wastewater

The collection, conveyance, and treatment of wastewater within the unincorporated areas of the County are managed by the Sanitation Division of the County Department of Public Works. The Sanitation Division oversees three County sanitation districts, which include the Davenport County Sanitation District, the Santa Cruz County Sanitation District, and the Freedom County Sanitation District. These three districts provide a total of 206.3 miles of gravity sewer lines, 16.5 miles of force mains, and 46 pump stations (DPW 2011). Where County sanitation districts are unable to provide sanitary waste services to unincorporated communities, County Service Areas (CSAs) have been formed by residents to pay taxes or fees for sanitary waste management services in addition to other services such as road maintenance, street lighting maintenance, and fire protection. In total, five CSAs provide municipal wastewater services for their communities. These CSAs (CSA No. 2, 5, 7, 10, and 20) dispose of treated waste through independent wastewater treatment systems maintained and

operated by the County, which do not discharge to any of the three County sanitation district facilities (Table 3.14-5; DPW 2017a).

Communities located within the rural areas of the County, primarily in the San Lorenzo Valley which contains the highest density of septic systems of any comparable area in the state, are not connected to municipal wastewater infrastructure and instead dispose and treat sanitary waste through individual private septic systems. Countywide septic system services (permitting, inspections, maintenance, and fee collection) are provided by the County through the Septic System Maintenance and Management CSA No. 12. This CSA provides service to over 22,000 septic systems, 13,000 of which are located within the San Lorenzo Valley in the Mountain Region alone, which are separately managed through the San Lorenzo Watershed Septic System Management CSA No. 12A (Santa Cruz County Environmental Health 2017a).

Table 3.14-5 Sanitary Sewer Service Providers within Santa Cruz County

Agency	County Area Served	Region
Davenport County Sanitation District	Community of Davenport, along State Route (SR) 1	North Coast
Freedom County Sanitation District	Community of Freedom, north of Watsonville	South County
Santa Cruz County Sanitation District	City of Capitola and unincorporated communities of Aptos, Soquel, and Live Oak	Urban
Salsipuedes County Sanitation District	Northeast of Watsonville along SR 152	South County
Place de Mer CSA No. 2	Place De Mar subdivision, south of San Andreas Road	South County
Sand Dollar Beach and Canon del Sol CSA No. 5	Sand Dollar Beach and Canon del Sol subdivisions, north of Manresa State Beach	South County
Boulder Creek CSA No. 7	Community of the Boulder Creek Golf and Country Club area	Mountain
Rolling Woods CSA No. 10	Rolling Woods Subdivision along Graham Hill Road, east of SR 17	Urban
Septic System Maintenance and Management CSA No. 12	All unincorporated areas of the County not serviced by other CSAs	All Regions
Trestle Beach CSA No. 20	Trestle Beach subdivision, north of La Selva Beach	South County

Source: DPW 2017a.

Table 3.14-6 Wastewater Treatment/Reclamation Facilities in Santa Cruz County

Treatment/ Reclamation Facility	Service Area	Serviced Sanitation Districts[1,2]	Permitted Capacity	Average Daily Throughput	Remaining Capacity
Watsonville Waste Water Treatment Facility	City of Watsonville, Freedom, Salsipuedes, Amesti, Interlaken,	Freedom County Sanitation District Salsipuedes County Sanitation District Pajaro Valley Sanitation District[3]	12 MGD	6.7 MGD	5.3 MGD
City of Scotts Valley Water Reclamation Facility	Scotts Valley, San Lorenzo Valley (portions)	Santa Cruz County Sanitation District	1.5 MGD	0.91 MGD	0.59 MGD
City of Santa Cruz Wastewater Treatment Facility	City of Santa Cruz, City of Capitola, Live Oak, Soquel, Aptos, Rolling Woods, and University of California Santa Cruz	CS # 10	81.0 MGD	8.4 MGD	72.6 MGD
Boulder Creek Gold and County Club Wastewater Treatment Plant	Community of Boulder Creek Golf and Country Club area	CSA # 7	100,000 gpd	20,000-40,000 gpd	60,000-80,000 gpd
Canon del Sol and Sand Dollar Beach Wastewater Treatment Plant	Canon del Sol and Sand Dollar Beach subdivisions	CSA # 5	55,000 gpd[4]	11,019 gpd	43,981 gpd
Trestle Beach Wastewater Treatment Plant	Trestle Beach subdivision	CSA # 20	10,000 gpd	--	--
Total			**94.6 MGD**	**16.1 MGD**	**78.5 MGD**

Notes: gpd = gallons per day, MGD = million gallons per day

[1] Wastewater treatment for the CWD service area is provided entirely by private septic systems.

[2] Several Waste Disposal County special service districts (e.g., CSAs) provide independent wastewater disposal or treatment through individually operated treatment facilities or private septic systems.

[3] Pajaro Valley Sanitation District is in northern Monterey County and does not contribute towards the total waste water generated within Santa Cruz County.

[4] Treatment capacity of Sand Dollar Beach wastewater treatment facility = 25,000 gpd; Treatment capacity of Canon del Sol wastewater treatment facility = 30,000 gpd
Sources: Santa Cruz County LAFCO 2005; CWDPW 2016; SVWD 2016; SqCWD 2016; SLVWD 2016; CSCWD 2016; California Water Quality Control Board 2004; Freitas Plus Freitas Engineering and Planning Consultants, Inc. 2009.

Solid Waste

Santa Cruz County Recycling and Solid Waste Services (SCRSWS) is responsible for the operation and administration of solid waste diversion and disposal in the unincorporated areas of the County. Solid waste generally refers to garbage, refuse, sludge, and other discarded solid materials that come from residential, industrial, and commercial activities. Construction, demolition, and inert wastes are also classified as solid waste. Agricultural waste can be generated by agricultural areas, but typically is disposed onsite (composted, mulched, chipped, or burned) rather than entering the municipal waste stream. The general waste classifications used for California waste management units, facilities, and disposal sites are Nonhazardous Solid Waste, Special Waste, Designated Waste, Hazardous Waste, and Industrial Waste. Within the unincorporated areas of the County, waste is diverted directly to the Buena Vista Landfill or the Ben Lomond Transfer Station, both of which are owned by the County and operated by SCRSWS DPW 2017b).

Table 3.14-7 County Solid Waste Facility Capacity

Waste Facility	Peak Daily Throughput (tpd)[1]	Permitted Daily Capacity (tpd)[1]	Remaining Daily Capacity (tpd)[1]
Buena Vista Landfill	686	1,062	376
Ben Lomond Transfer Station	240	300	60
Total	**926**	**1,362**	**436**
GreenWaste MRF[2]	--	3,500	--

[1] Tonnage reported from first quarter report of 2017.
[2] The GreenWaste MRF receives and processes recyclable material at the Materials Recovery Facility located in the City of San Jose.
Source: CalRecycle 2017b, 2017a, 2017c.

The Buena Vista Landfill is a 126-acre solid waste landfill facility with permitted composting or green waste operation located west of the City of Watsonville. The Buena Vista Landfill is permitted to receive a total of 7,537,700 cubic yards (cy) of nonhazardous solid waste, including agricultural, contaminated soil, construction, and green wastes. The facility has a maximum permitted daily solid waste throughput capacity of 1,062 tons, and a maximum permitted green waste throughput capacity of 12,500 cy. Based on the most recent facility capacity evaluation in 2010, the Buena Vista Landfill has a remaining capacity 3,303,649 cy, with a cease operations date set for August of 2031. As of the early 2017 quarter, the facility had a peak disposal of 686 tons per day (tpd) and approximately 7,368 tons, or 27.7 percent of the total quarterly waste received was diverted for re-use, recycling, or composting offsite or diverted for beneficial use onsite (CalRecycle 2017b; DPW 2017c).

The Ben Lomond Transfer Station is a 3.5-acre large volume solid waste transfer/processing facility located east of Ben Lomond in the San Lorenzo Valley. The Ben Lomond Transfer Facility is permitted to receive and process a total of 300 tpd of mixed municipal, green materials, tires, construction/demolition, and industrial waste. Processed waste from this facility is either diverted for re-use, recycling, or composting offsite or is transferred to the Buena Vista Landfill. As of early 2017 quarter, the facility had a peak disposal of 240 tpd and received approximately 3,512 tons of

refuse; 37.7 percent of the total quarterly waste received was diverted for re-use, recycling, or composting offsite or diverted for beneficial use onsite (CalRecycle 2017a; DPW 2017d).

Residential and commercial waste collection services are provided to the unincorporated areas of the County by GreenWaste Recovery. Garbage collected in the northern part of the County, primarily in the Mountain Region, is delivered to the Ben Lomond Transfer station for sorting and processing prior to disposal at the Buena Vista Landfill. Yard trimmings are disposed of directly at the Buena Vista Landfill composting facility. Recyclable materials are collected and taken to the 9-acre GreenWaste Material Recovery Facility (MRF) located in the City of San Jose, which is permitted to receive and process a total of 3,500 tpd. Approximately 95 percent of the recyclable material processed by the Greenwaste MRF is recovered for re-use or recycling (GreenWaste Recovery 2017; CalRecycle 2017c). In rural areas, many properties are not served by waste haulers; these properties are required to manage solid waste independently using techniques such as self-hauling, composting, and burning.

3.14.3 Regulatory Setting

This analysis was conducted in conformance with the goals and policies of federal, state and local regulations. The following list summarizes the most applicable policies and regulations which would relate directly to future cannabis cultivation and product manufacturing under the Program and their associated impacts. Additional federal, state, and local policies and regulations are provided in Appendix A.

3.14.3.1 Local

County of Santa Cruz General Plan and Local Coastal Program

Parks, Recreation, and Public Facilities Element

The Parks, Recreation, and Public Facilities Element, Chapter 7 of the County General Plan/LCP, combines numerous policies and programs related to the provision of public facilities to support existing and future populations. The following objectives and policies of the Parks, Recreation, and Public Facilities Element highlight the objectives and policies that are pertinent to the Program. For a comprehensive list of all objectives and policies, see Chapter 7 of the General Plan/LCP.

Objective 7.18a – Domestic Water Service. To ensure a dependable supply of high quality domestic water to meet the needs of communities that obtain water service from municipal water systems, County water districts and small water systems.

Objective 7.18b – Water Supply Limitations. To ensure that the level of development permitted is supportable within the limits of the County's available water supplies and within the constraints of community-wide goals for environmental quality.

Objective 7.18c – Water Conservation. To maximize the County's water conservation potential through a coordinated program with water purveyors and water management agencies involving public education, financial incentives to conserve, voluntary and mandatory conservation measures, retrofit programs, run-off management and water waste regulations and enforcement.

Policy 7.18.1 – Linking Growth to Water Supplies. Coordinate with all water purveyors and water management agencies to ensure that land use and growth management decisions are linked directly to the availability of adequate, sustainable public and private water supplies.

Policy 7.18.2 – Written Commitments Confirming Water Service Required for Permits. Concurrent with project application, require a written commitment from the water purveyor that verifies the capability of the system to serve the proposed development. Projects shall not be approved in areas that do not have a proven, adequate water supply. A written commitment is a letter from the purveyor guaranteeing that the required level of service for the project will be available prior to the issuance of building permits, or in the case of a subdivision, prior to filing the Final Map or Parcel Map. The County decision making body shall not approve any development project unless it determines that such project has adequate water supply available.

Policy 7.18.3 – Impacts of New Development on Water Purveyors. Review all new development proposals to assess on municipal water systems, County water districts, or small water systems. Require that either adequate service is available or that the proposed development provide for mitigation of its impacts as a condition of project approval.

Policy 7.18.4 – Improvement of Water Systems. Support water system improvement programs for storage, treatment and distribution facilities to meet necessary water supply and fire suppression requirements.

Objective 7.19 – Sanitation Facilities Within the Urban Services Line. To provide necessary and adequate sanitation services to areas of urban development within the Urban Services Line based on a trunk-line sewage collection, treatment and disposal system.

Policy 7.19.1 – Sewer Service to New Development. Concurrent with project application, require a written commitment from the service district. A written commitment is a letter, with appropriate conditions, from the service district guaranteeing that the required level of service for the project will be available prior to issuance of building permits, or in the case of a subdivision, prior to filing the Final Map or Parcel Map. The County decision making body shall not approve any development project unless it determines that such project has adequate sewage treatment plant capacity.

Policy 7.19.2 – Development Linkage to Downstream Sewer System Improvements. Require new development to pay its full fair share of downstream sewer system improvements needed. In areas where cumulative sewer capacity is a problem, as indicated by the Department of Public Works, require all development to make required downstream improvements or be appropriately limited until downstream improvements are made.

Policy 7.19.3 – Sizing Sewer Facilities. Require developers, including public agencies, to locate and size new collection systems to best serve all areas inside the Urban Services Line.

Objective 7.20 – Sanitation Facilities within the Rural Services Line (LCP). To provide for adequate sewage collection, treatment, and disposal on a community basis for areas within the Rural Services Line.

Policy 7.20.1 – Community Sewage Disposal Systems, within the Rural Services Line (LCP). Allow new development to occur at designated urban densities within the Rural Services Line (RSL) where served by a community sewage disposal system and where operated by a public agency or an operator under contract to a public agency. Community sewage disposal systems

should be built in such a way as to allow potential tertiary treatment and reclamation for irrigation, and shall be sized to serve only the buildout densities for lands within the Rural Services Line.

Policy 7.20.2 – Rural Services Line Areas Without Community Sewage Disposal Systems (LCP). Require new development within the Rural Services Line to meet individual sewage disposal system standards set forth in the Sewage Disposal ordinance unless served by a community sewage disposal system as described in 7.20.1. Densities shall be calculated using suburban land use designation standards until a community sewage disposal system is provided.

Objective 7.21 – Sanitation Facilities in Rural Areas. To ensure adequate maintenance and operation of rural sanitation facilities based on individual sewage disposal systems to prevent environmental degradation from development not served by public sewage disposal systems.

Policy 7.21.1 – Rural Development on Individual Sewage Disposal Systems. Plan for intensities of use and density development to be limited to those levels supportable by individual sewage disposal systems where public sanitary sewer systems are not available.

Policy 7.21.2 – Minimum Parcel Sizes and Maximum Densities with Individual Sewage Disposal Systems. Where individual sewage disposal systems are used, require a minimum parcel size to be based on the Rural Density Matrix for the land use designation, but in no case smaller than one net acre for parcels created from new land divisions. Allow a maximum density based on the Rural Density Matrix and not to exceed one dwelling unit per net acre for such parcels.

Policy 7.21.3 – Maximum Slopes for Individual Sewage Disposal Systems. Prohibit the placement of individual sewage disposal systems on sites with slopes greater than 30 percent (except system repairs on slopes up to 50%) to prevent downhill surfacing of effluent from sewage disposal drainage fields.

Policy 7.21.4 – Alternative Sewage Disposal Systems. Allow alternative individual sewage disposal systems, which provide an environmentally acceptable level of treatment, as an alternative to conventional individual sewage disposal systems in rural areas. Such alternative systems must be approved by the Regional Water Quality Control Board (RWQCB) and the County Environmental Health Services.

Policy 7.25.1 – Requiring Space for Refuse Collection. Require all new projects, except for single family dwellings, to provide sufficient and accessible space for the storage and collection of refuse separate from, and in addition to, space for recyclable materials collection.

Community Design Element

The Community Design Element, Chapter 8 of the General Plan/LCP also contains objectives and policies that provide guidance for the provision of new utility infrastructure and services. This chapter gives guidance to development activity to enhance and preserve the integrity of the existing land use patterns and to integrate high quality physical design which is consistent with the scale and magnitude of development within the County. Policy 8.2.3 of the Community Design Element highlights the objective most pertinent to the Program. For a comprehensive list of all objectives and policies, see Chapter 8 of the General Plan.

Policy 8.2.3 – Design Criteria for Utilities. Require new development to meet County adopted criteria and standards for the design of utilities, water service and sewage disposal requirements and drainage systems. All new power line distribution systems, where practical, and all services to new subdivisions shall be placed underground.

3.14.4 Methodology and Assumptions

This analysis of potential utilities and energy impacts reviews the existing setting described in Section 3.14.2*, Environmental Setting*, and determines the Program's potential impact on the utilities' abilities to serve the demands of new and expanded cannabis cultivation and manufacturing that may be licensed under the Program, as well as the Program's impact on energy conservation, including the Project and the More Permissive Project scenarios. Refer to Section 3.0, *Introduction and Approach to Analysis*, for a detailed discussion of projected cannabis activities in the County due to Program implementation. This analysis also assumes that structures in which cannabis is grown or processed would be required to meet County Fire Code requirements, as described in Section 3.0, *Introduction and Approach to Analysis*.

The analysis takes into consideration the existing General Plan/LCP policies that require avoiding impacts to utilities and service systems, regulations that provide for building and human safety, including the California Building Code (CBC) and Santa Cruz County Code (SCCC). The analysis also accounts for the provision of the Program that requires: "All licenses issued under this Chapter must be consistent with the County's policies, objectives, laws, regulations, and programs related to land use, including those related to the County's General Plan and Local Coastal Program."

This analysis of the Program's direct impacts on utility services and energy resources and conservation is based on estimates of net new square feet of cannabis canopy that may be licensed under the Program and utility demand factors specific to the cultivation and manufacturing of cannabis, as well as factors which may affect utility demands and which are included in modeling of Program air emissions using CalEEMod (see Appendix F). Based on the County's Licensing Registration data, an additional 193 cultivation operations may be licensed by the Program, beyond those currently cultivating. Additionally, the Program is assumed to result in conversion of 147 acres of greenhouses on CA zoned parcels to cannabis cultivation. For a conservative analysis, it is assumed that those greenhouses employ an average of 2 full-time workers per acre, or 294 employees. The increase of cannabis cultivation and manufacturing would result in up to an estimated 7,116 additional full-time cannabis industry employees Countywide (see Section 3.12, *Population, Employment, and Housing*). It is possible that some employees and residents may currently work or live in the County, but this analysis assumes all projected employment and population is new. In addition, this analysis includes discussion of the effects on utility services and energy resources that would indirectly result from the Program. Based on the anticipated number of licenses to be issued, the Program would induce up to 228 new detached single-family residences with an associated residential population of 616.

Water demand factors used to calculate new cannabis cultivation water demand estimates under the Program were determined by the County for the sake of analysis based on observed conditions and literature research (County of Santa Cruz 2017). Average cannabis water demand factors were determined to be approximately 0.03 gallons of water per day per sf of cultivated canopy for outdoor operations, and 0.1 gallons of water per day per sf of cultivated canopy for indoor and greenhouse operations. Where cultivation type is unknown or undisclosed by registrants, this analysis assumes a

water demand rate of 0.1 gallons per day per sf of canopy to ensure a conservative impact assessment. These factors assume that all operations would utilize new water, and that no water would be recycled and reused onsite. However, it was observed during site visits to existing cannabis operations that cultivators commonly implement water saving techniques, such as recirculation, drip irrigation, and soil moisture monitors to limit consumption, therefore, the analysis provides a conservative impact assessment. Total water demands of the Program were calculated based on estimated new cultivation/canopy area for outdoor, indoor, and greenhouse operations, average water demand factors calculated for cannabis cultivation, and standard number of growing days based on type of operation. See Section 3.0, *Introduction and Approach to Analysis*, for a full discussion of water demand under the Program.

Electricity demand estimates used the Oregon Department of Energy's (ODOE) Indoor Cannabis Cultivator Energy Use Estimator (ODOE 2017). As a conservative estimate of energy demand for indoor cultivators, high energy usage was assumed, which includes high wattage high intensity discharge (HID) fixtures, unvented, high light density (less than 40 sf per light), significant supplemental cooling and/or heating to grow space, high volume ventilation and air circulation (high level of air changes) that operates majority of the time, as well as multiple other energy using equipment, including dehumidification, pumping and water temperature control, and CO_2 production. The calculations assume a typical 12 to 18 hour per day light operation for vegetative and flowering phases and a continuous grow cycle. The model estimates the energy demand for indoor cultivators would be 200,000 kilowatt hours (kWh) per year per 1,000 sf of canopy. For estimated energy demand from greenhouse cultivators, it was assumed that approximately one half of these operations would be medium-high energy users and one half would be medium-low energy users reflecting the assumption these operations would include a mixture of cultivation types. Medium-high energy use includes high wattage HID fixtures with medium light density (40-60 sf per light), significant supplemental cooling and/or heating to grow space, high volume ventilation and air circulation that is frequently on, and minimal dehumidification, pumping, CO2 production, or additional energy usages. Medium-low energy usage includes high wattage HID fixtures at low light fixture density (greater than 60 sf per light), very minimal or no supplemental cooling or heating to grow space, minimal mechanical ventilation and air circulation (ventilation only used minimally and not continuously to control temperature), and no dehumidification, pumping, CO_2 production, or additional energy usages. The model estimates medium-high energy demand would be 140,000 kWh/year/1,000 sf, and medium low energy demand would be 80,000 kWh/year/1,000 sf. The average of these two numbers is 110,000 kWh/year/1,000 sf (ODOE 2017).

Due to the agricultural nature of the proposed use, cannabis cultivation is expected to result in some solid waste similar to other agricultural processes, including plastic associated with greenhouse covers as well as irrigation and used pots, green waste, and soil. Due to the special nature of cannabis, green waste byproduct must be treated distinctly from other agricultural plant byproduct with regards to transportation and commercial composting. Wastewater that results from any growing, manufacturing, cleaning, or rinsing processes is considered an industrial waste (industrial wastewater) and is subject to local, state, and federal regulations. This includes water used in extraction, hydroponic irrigation, and the manufacture of edible products.

Utility and energy demands resulting from new home occupation-scale cannabis product manufacturing are not assessed, as demand for such supplies and services are likely already represented as part of the existing Countywide conditions and would represent a negligible increase over existing demands.

The More Permissive Project has the potential to result in more cultivation than under the Project, and utility and energy demands expected to occur under the More Permissive Project are expected to proportionally exceed estimated Project utility and energy demands. For the purposes of analysis, the direct and secondary impacts to utilities and energy conservation under both scenarios are considered to be similar in scope.

3.14.5 Significance Criteria

California Environmental Quality Act Guidelines

The following thresholds of significance are based on Appendix G of the 2017 CEQA Guidelines. For this EIR, implementation of the Program would be considered to have a significant impact related to utilities or system services if it would result in any of the following:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Have insufficient water supplies available to serve the project from existing entitlements and resources, thereby requiring new or expanded entitlements.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Fail to comply with federal, state, and local statutes and regulations related to solid waste.

In addition to the recommended thresholds for environmental analysis provided in Appendix G of the CEQA Guidelines, Appendix F requires that an EIR disclose and discuss the potential impacts of a project on energy resources and conservation. An EIR's discussion of impacts on energy resources should provide analysis and discussion of the project's potential to result in the wasteful, inefficient, or irretrievable commitment of energy resources, with particular attention towards electrical, natural gas, and transportation fuel supplies. While no specific thresholds are provided by the CEQA Guidelines, Appendix F offers several recommendations for inclusion in an analysis of impacts on energy resources to determine whether a project would result in any of the following:

- Use large amounts of fuel or energy in an unnecessary, wasteful, or inefficient manner.
- Constrain local or regional energy supplies, affect peak and base periods of electrical or natural gas demand, require or result in the construction of new electrical generation and/or transmission facilities, or necessitate the expansion of existing facilities, the construction of which could cause significant environmental effects.
- Conflict with existing energy standards, including standards for energy conservation.

3.14.6 Environmental Impact Analysis and Mitigation

This section discusses the potential utility and energy service impacts associated with the Program. A detailed discussion of each impact follows. Where there are potentially significant or significant and unavoidable impacts, mitigation measures are proposed and the residual impact after mitigation is determined.

3.14.6.1 Program Impacts

Impact UE-1. The Program could increase demand or result in the expansion of facilities for water, wastewater, or solid waste services within the County due to licensing of commercial cannabis cultivation and product manufacturing activities. This impact would be less than significant with mitigation.

Impact UE-1.1 – Direct Cultivation/Manufacturing. Implementation of the Program and operation of licensed cannabis cultivation and manufacturing sites throughout the County would result in additional new demand for utility services, supplies, and infrastructure, as described below.

Water Supply and Demand

Based on water demand factors described fully in Section 3.0, *Introduction and Approach to Analysis*, it is estimated that new commercial cannabis cultivation licensed under the Project scenario would increase Countywide water demands by up to 634.03 AFY (see Table 3.14-8). Approximately 12 percent of total cannabis cultivation water demands would result from licensing of new outdoor cultivation sites, nearly 6 percent would be associated with new indoor operations, and approximately 82 percent would be associated with new greenhouse operations (see Table 3.14-8). This estimate assumes a 365-day growing season for indoor cultivation, a 270-day growing season for greenhouse cultivation, and a 180-day growing season for outdoor cultivation. The high percentage of estimated of water use associated with greenhouses is based upon the potential expansion of the industry into the 147 acres of underutilized cut flower and potted plant industry greenhouses within the CA zone district. It is unknown what portion of these greenhouses may currently be in use, and any conversion of crops from an existing use to cannabis would reduce the estimated new demand. While the Program has the potential to result in an increase in water demands, anticipated demands are not dissimilar from other agricultural operations within the County. For instance, commercial cultivation of strawberry and other berry crops within the Pajaro Valley typically require an average of 2.6 acre-feet (AF)/acre/year (approximately 0.05 gallon/sf/year) of cultivated land (Pajaro Valley Water Management Agency [PVWMA] 2003), and based on total area of cultivated land in the County in 2015 (6,728 acres), irrigation of berry crops would have required an average of 17,493 AFY of water in 2015 (County of Santa Cruz 2015).

Table 3.14-8 Estimated Cannabis Cultivation Water Demand Increase

Type of Operation	Net New Cultivation/ Canopy Area (sf)	Water Demand Factor[1]	Water Demand (gpd)	Number of Growing Days per Year (Growing Season)	Water Demand (gallons per year)	Water Demand (AFY)
Outdoor	993,168	0.03	29,795	180	5,363,107	16.46
Indoor	470,448	0.1	47,045	365	17,171,425	52.70
Greenhouse	6,817,140	0.1	681,714	270	184,062,780	564.87
Total	**8,280,756**	--	**758,554**	--	**206,597,312**	634.03

See also Section 7.2 of the CalEEMod results for Program water demands (Appendix F).

[1] Water Demand Factor calculated as gallons of water/day/square foot of canopy, where: Water Demand = Cultivation/Canopy Area * Water Demand Factor * Number of Growing Days per Year. Water demand factors are described in Section 3.0, *Introduction and Approach to Analysis*.

Some new and current cultivation licensees will operate and expand within areas of the County or service districts with current or historic water supply issues. For instance, new cannabis cultivation may be licensed within the service area of the Soquel Creek Water District (SqCWD), which has expressed growing concerns over the availability of future water supplies due to the district's 100-percent reliance on groundwater supplies from the Santa Cruz Mid-County Groundwater Basin (SCMC Basin). Long-term overdraft conditions have led to the increasing threat of seawater intrusion into the SCMC Basin, as well as the Pajaro Valley Groundwater Basin, which serve the Urban and South County Regions, and projected increases in water demands for both municipal use and irrigation of legal commercial and private cannabis cultivation have raised concern for the sustainability of current water supplies within the SqCWD service area.

As much of the unincorporated County is not located within the service boundary of a municipal water agency, many rural regions of the County receive their water supplies through private or shared wells and surface water diversions. Currently, approximately 2 percent of Program registrants reported using springs or other surface water diversions, while approximately 59 percent of registrants indicated their reliance on groundwater from private or shared wells. Due to the high likelihood that new cannabis cultivation and manufacturing would occur outside of municipal service areas and would rely on local groundwater or surface water supplies, implementation of the Program has the potential to increase demand for such local supplies. The proposed Program would require licensees to demonstrate receipt of permission from appropriate agencies or owners of the rights to such water sources prior to issuance of a license. While obtaining permission to use these rights would not result in lessening any associated impacts on water supply, denial of that permission would result in protection of locally impacted municipal water resources through relocation of cultivation to a site that does have adequate water supplies. Please refer to Section 3.9, *Hydrology and Water Quality* for discussion of impacts to groundwater resources and basins.

Based on responses to the 2016 County Commercial Cannabis Cultivation License Registration Program, 3 percent of new registrants are planning to operate within the North Coast Region, 23 percent propose to operate within the Mountain Region, 21 percent propose to operate in the Urban Region, and 29 percent are proposing to operate in the South County Region. Approximately 24 percent of registrants propose to operate new cultivation sites in an undisclosed location. These percentages do not include the 147 acres of potential cultivation in the CA zone district, which are largely located in the South County region.

While the interests of the current industry can be anticipated and would have a broad impact Countywide, the potential for expansion and new cultivation in the agricultural industry would be limited to agricultural parcels and makes up the bulk of the potential increase in water use, predominantly into the under-utilized greenhouses within the Pajaro Valley Groundwater Basin. The Pajaro Valley Groundwater Agency has a proposed Basin Management Plan currently under review by the State. The Basin Management Plan has a goal of reducing groundwater draw by 5,000 AFY and uses an adaptive management strategy; if goals are not achieved in the early phase of the proposed projects and programs, the agency will evaluate and implement additional projects and programs until goals are met. Based on the historical data in the Basin Management Plan, the total agricultural land area has remained relatively constant from 1989 onward. Though crop rotation creates annual shifts in crop related land use, there have been significant shifts in the types of crops grown in the Pajaro Valley. The trend of replacing low water use crops with higher value, more water intensive crops may continue, and the transition to cannabis is consistent with this trend (PVWMA 2003).

Regarding direct impacts on groundwater supplies, the Program has the potential to result in licensing of sites that may require diversion of groundwater supplies from overdrafted basins, in which case, any additional withdrawals may result in substantial impacts to the supplies and resources of such basin. However, users of such water would be subject to compliance with appropriate policies and regulations for groundwater rights as maintained and authorized by the State Water Resources Control Board (SWRCB). Impacts to groundwater resources are more thoroughly discussed in Section 3.9, *Hydrology and Water Quality,* under Impact HYDRO-2.

In addition to cultivation operations, implementation of the Program would also result in the licensing of new manufacturing facilities to produce commercial cannabis products that would have associated water demands which would be similar to small-scale manufacturing operations. Specific cannabis product manufacturing processes, such as cold wash water tetrahydrocannabinol (THC) extraction, may result in more demand for water supplies; however, such processes do not typically comprise a large portion of manufacturing operations and do not require a considerable supply of water. Due to the incremental demand for water supplies in typical manufacturing operations, future water demands associated with licensing and operation of cannabis product manufacturing and potential of the Program to result in the need for construction or expansion of water infrastructure are considered low. Further, proposed SCCC Chapter 7.132, Cannabis Manufacturing Licensing Program, would require manufacturing licenses to comply with state and local laws and regulations related to water supply and water infrastructure.

Impacts of the Program from licensing and operation of cannabis product manufacturing and the associated demand on water supply and existing infrastructure are considered *less than significant.* However, since cannabis cultivation has the potential to result in increased demands for water supplies from municipal water service agencies that may be unable to meet future demands based on current and projected conditions, increases in water demands under the Program may result in *potentially significant* impacts to municipal water supplies within the County.

Wastewater Services

Impacts associated with wastewater services and infrastructure typically relate to municipal wastewater such as sewage. Under the Program, all wastewater generated from onsite employees would be subject to existing policies and regulations relating to the appropriate management of municipal wastewater, including disposal and treatment, either through separate onsite sewage

treatment or collection through municipal sewer services and treatment at local wastewater treatment facilities.

Given the agricultural nature of cannabis cultivation, it is not anticipated that the implementation of the Project or More Permissive Project would result in substantial new wastewater generation, as cannabis cultivation and other agricultural operations typically only result in the generation of agricultural runoff from outdoor cultivation sites and disposal of mineral-nutrient rich industrial wastewater used in hydroponic operations that are addressed and regulated separately from municipal wastewater (see Impact HYDRO-1 in Section 3.9, *Hydrology and Water Quality*). Industrial wastewater from manufacturing processes would be limited in quantity and type. For example, small amounts of water would be generated from hash washing processes. While the RWQCB has not yet adopted a program addressing discharge of waste and wastewater generated from cannabis cultivation/manufacturing, it is anticipated that new regulations will be in place by the time of issuance of the first cultivation license in the County; in which case, cannabis cultivators/manufacturers would be required to comply with such regulations, and wastewater from cannabis cultivation/manufacturing would be appropriately managed and would meet discharge and treatment requirements. In addition, while not required to mitigated this impact, the application of wastewater Best Management Practices (BMPs) required by MM LU-1.1.6, Cannabis Best Management Practices, during the licensing process would help to meet wastewater quality treatment standards. Therefore, direct impacts of the Program on wastewater services would be *less than significant*.

Solid Waste Services

The Program would generate solid waste during operation of commercial cannabis cultivation sites and manufacturing operations. During cultivation and manufacturing of cannabis, solid waste requiring disposal of at a local landfill would include soils that have been depleted of nutrients, light bulbs, fluorescent bulbs, or other bulbs containing mercury, fertilizers and soil nutrient supplements, pesticides, rodenticides, industrial wastes, fuels, oils, and residual plant matter not viable for processing by third-parties, such as stems, stalks, branches, trimmings, and roots. While typical commercial trash, plastic waste, such as drip lines, hoop house covers, netting, and pots, and cannabis plant debris is generated by all forms of cultivation, soil waste is typically only generated by operations that prefer cultivation in pots, as opposed to in-ground or hydroponic cultivation. Further, cannabis plant material typically cannot be mulched with municipal green waste. Currently, cultivators often dispose of cannabis plant wastes and soils illegally or accumulated waste is burned onsite, another illegal and highly hazardous activity. Given the variability in operations and preferred growing methods, it is uncertain and difficult to predict how much solid waste would be generated by operation of licensed cultivation and manufacturing sites. However, under the Program, licensees would be required to comply with existing state and local policies relating to the handling and disposal of municipal and commercial wastes, including universal and hazardous wastes that are regulated by the California Department of Toxic Substances Control (DTSC).

Locally, the Buena Vista Landfill and the Ben Lomond Transfer Station have an estimated existing capacity of approximately 32 percent, which is sufficient to handle the generation of conventional municipal, industrial, and commercial waste produced as a result of the Program. Operating under a Class III State of California Solid Waste Facilities Permit from the California Department of Resources Recycling and Recovery (CalRecycle), the County facilities accept non-hazardous residential, commercial, and industrial waste in compliance with federal, state, and local regulations. The disposal of cannabis plant waste, a medical waste product, is currently unregulated. The State Department of

Public Health has proposed California Code of Regulations, Title 17 Division 1 Chapter 13, Manufactured Cannabis Safety, §40290, Disposal of Cannabis Waste. While this code has not yet been adopted, it is anticipated that the final regulations adopted by the state will be consistent with this chapter. This code includes specific requirements for treating cannabis byproduct, including strict tracking requirements, weighing waste products on camera, isolating waste from public access, and mulching and blending the waste with at least an equal amount of some other non-cannabis green waste prior to transfer to a waste or composting facility.

The Buena Vista Landfill does not have the facilities to accept untreated cannabis waste, although a Monterey County-based company, Gaiaca, is currently operating the County as an option for growers to legally dispose of all waste associated with cannabis cultivation and manufacturing. This waste is currently hauled to a landfill in Monterey County for composting, due to a lack of composting facilities at the Buena Vista Landfill. The Buena Vista Landfill is in the process of establishing a composting facility that will be able to accept cannabis green waste. The proposed Program does not include any new additional regulations related to the disposal of cannabis products. Therefore, there is the potential that the handling, storage, and disposal of cannabis waste products could be inappropriately managed, and as there are no regulations in place which would ensure the appropriate management of such wastes, impacts are considered *potentially significant.*

Mitigation Measures

Implement MM AQ-1.3. Prohibit Cannabis Material Burning. To reduce direct impacts associated with future demand for solid waste disposal service under the Program, MM AQ-1.3, prohibiting burning of cannabis material, shall apply to Impact UE-1.1.

Implement MM LU-1.1-6. Cannabis Best Management Practices (Water Supplies). To reduce direct impacts associated with future demand for water supplies under the Program, MM LU-1.1-6, requiring the implementation of best management practices for water supply, shall apply to Impact UE-1.1.

Implement MM LU-1.1-6. Cannabis Best Management Practices for (Solid Waste Disposal). To reduce direct impacts associated with future demand for solid waste disposal service under the Program, MM LU-1.1-6, requiring the implementation of best management practices for solid waste disposal, shall apply to Impact UE-1.1.

Implement MM HYDRO-1.3. Sanitary Sewer Survey. To reduce direct impacts associated with hydroponic wastewater, MM HYDRO-1.3, requiring proof of acceptance of industrial wastewater, shall apply to Impact UE-1.1.

Implement MM HYDRO-2.1. Water Efficiency for Cannabis Cultivation. To reduce direct impacts associated with demand for municipal water source under the Program, MM HYDRO-2.1, requiring water efficiency to the maximum extent feasible, shall apply to Impact UE-1.1.

Implement MM HYDRO-2.2. Rainwater Harvesting for Cannabis Cultivation. To reduce impacts to groundwater quantity Countywide, MM-HYDRO-2.2, requiring harvesting of rainwater to offset groundwater and surface water demand, shall apply to Impact UE-1.1.

MM UE-1.1. Cannabis Soil, Plant Material, and Waste Management. Each Licensee shall prepare and submit a Cannabis Soil, Plant Material, and Solid Waste Management Plan for the cannabis site, which describes the type and amount of solid waste that would be generated by the

cultivation and/or manufacturing operation. The Plan shall maximize to the extent practicable composting of soil and cannabis plant waste onsite, and implement BMPs for solid waste handling. Transfer of cannabis plant waste material from the site shall only occur as allowed by state regulations, either through pre-treatment onsite to render the waste acceptable to licensed landfill or composting facilities, or using a commercial hauler that meets state regulations for the treatment and disposal of cannabis waste.

Plan Requirements and Timing. The Plan shall be submitted by the Licensee and reviewed and approved by the Cannabis Licensing Official prior to license issuance.

Monitoring. The County Cannabis Licensing Office shall ensure ongoing compliance with the Plan during annual renewals and inspections.

Post-Mitigation Level of Impacts

Regarding solid waste, implementation of MM AQ-1.3 would limit burning of cannabis material to complement implementation of MM UE-1.1, which would require licensed cultivators to create a Cannabis Soil, Plant Material, and Waste Management Plan, which would ensure that cultivators and manufacturers manage and dispose of cannabis waste products in an appropriate manner, consistent with similar agricultural waste management practices and standards. Implementation of MM LU-1.1-6 would require licensed cultivators and manufacturers to implement BMPs which relate to solid waste management in conformance with established policies and regulations. With implementation of these measures, direct impacts to municipal solid waste facilities would be *less than significant with mitigation*.

Regarding wastewater, although local sanitation facilities have not yet developed a strategy for dealing with an increase in concentrated nutrients contained in hydroponic wastewater, implementation of MM HYDRO-1.3, Sanitary Sewer Survey, would ensure sanitation facilities can adequately address this issue, and direct impacts to wastewater facilities would be *less than significant with mitigation*.

Regarding water supply facilities, with implementation of MM HYDRO-2.1, Water Efficiency for Cannabis Cultivation, MM HYDRO-2.2, Rainwater Harvesting for Cannabis Cultivation, MM LU-1.1-6, Cannabis Best Management Practices, and MM BIO-1.1h, Water Draw Restrictions, direct impacts to water supply facilities would be *less than significant with mitigation*.

Impact UE-1.2 – Indirect cultivation/manufacturing. Implementation of the Program may indirectly result in impacts to utility services, supplies, and infrastructure, due to implementation of licensing requirements under both the Project and More Permissive Project. Under the Program, an additional 228 new single-family residences may be constructed and occupied to meet the Program's requirements for an onsite residence. These new residential structures would require the extension of existing utility infrastructure, or the development of new septic systems, onsite water, and power to provide services to each residence. Security and onsite residential requirements of the licensing Program may be satisfied for some properties with the establishment of a Master Plan, allowing for a single residence to meet the requirements of the Program for multiple adjacent parcels.

Water Supply and Demand

Under the Project, new residences would increase demand for water by an estimated 67.7 AFY, based on average single-family residential water demands (see Table 3.14-9). This increased demand would be serviced by either onsite sources, such as private wells, or municipal sources if the residence is

located within a service district. In addition, new residences located in areas not serviced by municipal water connections would require the installation and filling of tanks to store water to meet fire code requirements. This water would be a one-time draw, staggered through the life of the Program as the industry expands, and assuming a 10,000-gallon requirement for the typical residence, this would result in an additional 2,280,000 gallons, or 7.0 acre-feet of water demand over the life of the Program. However, the residence would only be built if adequate water supplies can be demonstrated pursuant to state and County policies and regulations such as General Plan Policy 7.18.1, prior to the issuance of a building permit. The development of new homes would occur incrementally over several years or decades, would be distributed throughout the County, and would likely be more limited due to potentially remote/inaccessible parcel locations, and other constraints, including economics. Depending on the source of water proposed for new operations seeking a license under the Program, licensees would be required to receive necessary permits or approvals from the County for any proposed municipal water service connections, as well as any necessary entitlements for water rights from the SWRCB for stream diversions and groundwater withdrawals. As both the San Lorenzo River and Soquel Creek are deemed fully appropriated during the dry months, it is not likely that the SWRCB would approve any new water rights in these systems.

Table 3.14-9 Program Estimated Indirect Water Demand from Residential Units

Land Use	Land Use Element Proposed Development	Water Demand Factor[1]	Estimated Water Demand
Single-Family Residence	228 Units	265 gallons/household/day	67.7 AFY

Notes: 1 gpd = 0.00112014 AFY

[1] Water Demand Factor based on single-family water demand, assuming an average household size of four persons.

Source: SqCWD 2016.

In addition to residential water demands, cannabis operations would be required to adhere to the County Fire Code for commercial or industrial structures (see discussion in Section 3.0, *Introduction and Approach to Analysis*). This code requires any site which proposes storage, cultivation, or processing of cannabis in any structure larger than 120 sf that is not serviced by municipal water connections to develop, fill, and maintain adequate water flow for onsite fire suppression to meet requirements for F-1 occupancy, estimated on average to be approximately 120,000 gallons, although these numbers may be reduced at the discretion of the Fire Marshal based upon other fire safety factors. See Section 3.0, *Introduction and Approach to Analysis*, for a full discussion of Fire Code requirements. Based on the estimated number of sites seeking a license which would not be serviced by a municipal water agency, approximately 568 sites would be required to install and fill a 120,000-gallon water storage tank prior to being licensed to cultivate cannabis. To fill these water tanks, licensees would be required to utilize permitted groundwater wells and surface water diversions through legal water rights, or by importing water onsite. This would result in the additional demand for approximately 68,160,000 gallons, or an additional 209.2 acre-feet of water. As licensees would be required to install and fill tanks prior to being permitted to operate, this additional demand for water would likely occur over a short period following implementation of the Program, and could result in the demand for groundwater or surface water supplies that could not sustain water demands over a short period, resulting in potentially long-lasting drawdowns in local groundwater aquifers, decreased stream flows, and subsequently adverse effects on groundwater and surface water

resources.[2] Given the inability to predict where cannabis sites would be licensed and the availability of non-adjudicated water supplies to meet County Fire Code requirements, available water supply to meet these demands may not exist. When considering the number of proposed cannabis cultivators seeking a license under the Program, and the potential for these sites to be licensed in areas of the County that could not support such substantial short-term water demands, the indirect impacts of the Program as a result of compliance with this requirement are considered *potentially significant.*

Further, given that implementation of this requirement could require substantial amounts of new grading, economic cost of necessary site improvements, increased onsite constraints, and potential lack of availability of non-municipal water supplies, it is unlikely that the currently estimated number of cannabis cultivation sites could be licensed, especially within rural mountainous areas, and many cultivators may choose to either relocate (most likely to the South County Region) or withdraw from the licensing Program and continue to operate as unlicensed facilities (see Section 3.14.6.3, *Secondary Impacts*).

Wastewater Services

New residential development under the Program would generate an estimated 50,160 gpd of wastewater requiring disposal and treatment by public or private treatment facilities, primarily through onsite septic systems, which would comprise less than 1 percent of the County's remaining wastewater treatment capacity (Table 3.14-10). Further, these residences would be subject to existing state and local policies and regulations related to requirements for appropriate management of wastewater and construction of new wastewater facilities. Such policies include requirements for receipt of will serve letters from local wastewater management agencies which would ensure sufficient capacity exists to serve the new development, or acquisition of permits for any necessary onsite septic facilities (County General Plan Policy 7.19.1; County General Plan Objective 7.21). Therefore, indirect impacts of the Project on wastewater services and infrastructure are considered *less than significant.*

Table 3.14-10 Program Indirect Wastewater Generation

Land Use	Land Use Element Proposed Development	Wastewater Generation Factor[1]	Wastewater Flow	Remaining Wastewater Treatment Capacity
Single-Family Residence	228 Units	220 gallons/unit/day	50,160 gpd	78.5 MGD

[1] Wastewater Generation rates for Single-Family Residences based on City of Santa Cruz average single-family wastewater generation rates.
Source: City of Santa Cruz Public Works Department 2017.

Solid Waste Services

Debris and solid waste generated during construction of new residential structures or improvements required under the Program would be managed in conformance with existing state and local policies relating to construction waste management. Based on average solid waste generation factors for residential uses, 228 new residences would generate an estimated 1.4 tons/day of solid waste which

[2] Impacts to groundwater and surface water resources as a result of County Fire Code requirements are discussed in more detail under Impact HYDRO-1 and Impact HYDRO-2, in Section 3.9, *Hydrology and Water Quality.*

would require disposal at a local disposal facility during operation and occupation of these residences (Table 3.14-11). This estimated increase in solid waste would account for less than 1 percent of the County's remaining disposal capacity, resulting in a negligible increase in solid waste generation within the County. The solid waste could be received and disposed of by a local landfill in such a manner that established policies and regulations pertaining to the management of solid waste would not be neglected. Therefore, indirect impacts of the Program on solid waste services are considered *less than significant.*

Table 3.14-11 Program Indirect Solid Waste Generation

Land Use	Land Use Element Proposed Development	Solid Waste Generation Factor[1]	Solid Waste Generation
Single-Family Residence	228 Units	12.23 lbs/household/day	1.4 tons/day

[1] Solid Waste Generation Factor from CalRecycle Estimate Solid Waste Generation Rates.
Source: CalRecycle 2016.

Mitigation Measures

Implement MM HYDRO-2.3. Water Tank Supply Management. To reduce indirect impacts related water demand and groundwater resources, MM HYDRO-2.3, addressing management of required onsite water storage tanks for fire purposes, shall apply to Impact UE-1.2.

Post-Mitigation Level of Impacts

Implementation of MM HYDRO-2.3 would reduce water demand during the dry season when aquifers are most subject to stress, shifting the demand to the wet season when water supply is more available. Therefore, residual impacts of the Project and More Permissive Project would be *less than significant with mitigation.*

Impact UE-2. The Program would generate additional demand for energy resources within the County and may conflict with energy conservation policies and objectives through the operation of commercial cannabis cultivation and manufacturing facilities. This impact would be less than significant with mitigation.

Impact UE-2.1 – Direct Cultivation/Manufacturing. Implementation of the proposed Program would result in the commitment of additional electricity supplies from the operation of new licensed cannabis cultivation and manufacturing sites. As provided in Appendix F, operation of the Program is estimated to result in the demand for an additional 844 GWh/year of electricity for cannabis cultivation alone, approximately 69 percent of the 2015 total County electricity demand, and 0.98 percent of the total 2015 demand for PG&E electricity supply.

Table 3.14-12 Estimated Net New Energy Demands

Type of Operation	Net New Cultivation/ Canopy Area (sf)	Demand Factor[1]	Electricity Demand (kWh/year)	Electricity Demand (GWh/year)
Outdoor[2]	993,168	--	0	0
Indoor	470,448	200 kWh/sf/year	94,089,600	94.1
Greenhouse	6,817,140	110 kWh/sf/year	749,885,400	749.9
Total	8,280,756	--	843,975,000	844

Notes: 1,000,000 kilowatt-hours (kWh) = 1 gigawatt-hour (GWh)

[1] Refer to Section 3.14.4 for detailed discussion of Program energy demand rates and assumptions.

[2] Outdoor operations do not require the same amount or types of equipment required to support growth of cannabis plants in comparison to indoor cultivation operations and no electricity demands are assumed for new outdoor operations (see Section 3.14.4).

Source: See Appendix F, CalEEMod Worksheets, Section 5.0 Energy Details.

The Program is not anticipated to result in the substantial new demand for natural gas supplies, as natural gas is not typically required as part of cannabis cultivation or manufacturing operations, but may be utilized during processes not directly related to these activities. However, such demands would represent a negligible increase in demand for natural gas supplies provided by PG&E, which has the infrastructure and capability of meeting incremental increases in demand throughout its service area.

While the cultivation and manufacturing would not likely directly increase demand for natural gas supplies, many manufacturing operations within the County currently operate closed-loop butane, a liquefied petroleum gas (LPG) product, solvent extraction machines for the processing of "butane honey oil" (BHO) products. These machines require the use and storage of large volumes (typically 100 gallon tanks) of butane gas for each extraction machine. When operating this equipment, approximately 1 gallon of butane gas is consumed each day for each machine. It is currently estimated that approximately 100 closed-loop butane solvent extraction machines are operating within the County for BHO production, and it is anticipated that licensing of cannabis product manufacturing facilities under the Program would increase butane gas consumption by approximately 20 percent annually until the industry is assumed to stabilize during the 2023-2025 timeframe, or an increase in demand by approximately 94,286 gallons by the year 2025 (see Table 3.14-13). While the Program would increase demand for butane gas, total increases in demand over the next 8 years would constitute an increase in total state LPG demands by less than 0.001 percent.

Table 3.14-13 Estimated Program Butane Gas Demand

Existing Estimated BHO Manufacturers (2017)	Demand Factor[1]	Estimated Gas Demand (2017)	Projected Increase in Demand (2020)	Projected Increase in Demand (2025)	Increase in Demand (2017-2025)
100	1 gallon/day	36,500 gallons	63,072 gallons	130,786 gallons	94,286 gallons

In addition, operation of the Program would result in the daily consumption of vehicle fuel as employees would travel to and from licensed cultivation and manufacturing sites. As provided in Table 3.14-14 and Appendix F, operation of new commercial cannabis cultivation sites licensed under

the Program is anticipated to result in the generation of an additional 62,285,329 VMT annually, or approximately 3.9 percent of the County's 2016 annual VMT. Using vehicle fleet mix data provided in Appendix F and average fuel economy information provided by the Bureau of Transportation Statistics, new cannabis cultivation-generated annual VMT would result in the consumption of approximately 3,446,927.6 gallons of fuel per year, representing less than 0.02 percent of the statewide vehicle fuel demand. Additionally, registrants reported 133 existing generators to meet regular site energy demands (e.g., HVAC), which the Program would prohibit. Reduction of generators would reduce demand for nonvehicle fuel; however, as no data is available for the type and use of the generators, it is not possible to estimate the decrease in fuel demand.

Table 3.14-14 Estimated Program Fuel Demand

Vehicle Type	Percent of Vehicle Trips[1]	Estimated Annual VMT	Average Fuel Economy (miles/gallon)[2]	Total Annual Fuel Consumption (gallons)
Passenger Cars	54.9	34,194,645.6	23.3	1,467,581.4
Light/Medium Duty Vehicles	37.2	23,170,142.4	17.1	1,354,979.1
Heavy Duty Vehicles/Other	7.2	4,484,543.7	7.3	614,321.1
Motorcycles	0.7	435,997.3	43.4	10,046.0
Total	100	62,285,329	--	3,446,927.6

[1] Percentage of Vehicle Trips and Fleet Mix information provided in Table 4.4, *Fleet Mix* of Appendix F.
-Passenger Cars is the average sum of the LDA fleet mix trip percentage column.
-Light/Medium Duty Vehicles is the average sum of the LDT1, LDT2, and MDV fleet mix trip percentage columns.
-Heavy Duty Vehicles/Other is the average sum of the LHD1, LHD2, MHD, HHD, OBUS, UBUS, SBUS, and MH fleet mix trip percentage columns.
Motorcycles is the average sum of the MCY fleet mix trip percentage column.
[2] Average fuel economy based on average 2014 U.S. vehicle fuel efficiency (mpg) from Table 4-12: Average Light Duty Vehicle, Long Wheel Base Fuel Consumption and Travel, and Table 4-13: Single-Unit 2-Axle 6-Tire or More Truck Fuel Consumption and Travel of the *National Transportation Statistics.*
Source: Appendix F, CalEEMod Worksheets, Section 4.0. *Operational Detail - Mobile*; Bureau of Transportation Statistics 2016.

While the Program constitutes a significant increase of electricity demand in the County, the increase in demand on PG&E services throughout its entire service area is negligible. Further, as licensees under the Program would increase demand for the gas and electricity over a span of many years, the projected demand would be factored into PG&E's 10-year load forecasts and associated supply planning. Electric and natural gas services are provided upon demand from consumers and expanded as needed to meet demand, consistent with applicable local, state, and federal regulations. However, the increase in energy demand over baseline conditions in the County would be *potentially significant*.

Mitigation Measures

Implement MM LU-1.1-6. Cannabis Best Management Practices. To reduce direct impacts associated with future demand for electricity and natural gas under the Program, MM LU-1.1-6, encouraging the implementation of all best management practices to the maximum extent feasible, shall apply to Impact UE-2.1.

Implement MM GHG-1.1. Alternative Energy Sources. To reduce direct impacts associated with future energy demand under the Program, MM GHG-1.1, requiring alternative energy sources and energy efficiency measures, such as solar photovoltaics, to the maximum extent feasible, shall apply to Impact UE-2.1.

Post-Mitigation Level of Impacts

Implementation of MM LU-1.1-6 would encourage licensed cultivators and manufacturers to implement BMPs which relate to energy conservation in conformance with established policies and regulations. This would help to reduce the potential for high energy demand Countywide. Implementation of MM GHG-1.1 would maximize use of alternative energy sources and increase energy efficiency. With implementation of these measures, direct impacts to energy and energy conservation would be *less than significant with mitigation*.

Impact UE-2.2. Indirect Cultivation/Manufacturing. Implementation of the Program, including the Project and the More Permissive Project, would result in indirect impacts to energy resources and energy conservation through the construction and operation of 228 new single-family residences and ancillary development necessary to support new cannabis cultivation and manufacturing. Construction of new residential units would result in demand for and consumption of energy resources, primarily diesel fuel for the operation of diesel-powered construction equipment. However, the development of new homes and ancillary development would occur incrementally over several years or decades, would be distributed throughout the County, and would be subject to existing state and local policies and regulations pertaining to the use of energy resources during construction of a project.

During operation, new single-family residences would increase demand for electrical supplies, natural gas, and transportation fuels. Based on average statewide utility consumption factors by land use as documented in the California Energy Commission's California Commercial End-Use Survey (CEC 2006), implementation of the Program could increase demand for electricity and natural gas within the County by an estimated 1.386.4 MWh/year and 112,312.8 therms/year, respectively (Table 3.14-15). Based on average number of VMT per capita within the County, average trip rates for single-family residences from the Institute of Transportation Engineers (ITE), and average fuel economy information provided by the Bureau of Transportation Statistics, the indirect Program-generated annual VMT would result in the additional consumption of approximately 502,460 gallons of fuel each year (Table 3.14-16), representing less than 0.001 percent of the statewide vehicle fuel demand. This estimated demand for energy supplies from new residences would result in an incremental increase in demand for energy services and supplies within the County and service area of local utility providers. As such, it is not anticipated that the Program would indirectly result in the substantial increase in demand for energy supplies or result in the wasteful or inefficient use of energy resources. Further, new residences would be required to comply with the California Building Code regulations, including CalGreen, and County policies relating to the development of energy conservation features in new residential development, and would therefore not conflict with existing energy conservation standards. Indirect impacts of the Program related to energy conservation are therefore *less than significant.*

Table 3.14-15 Estimated Electricity and Natural Gas Demands from New Residences

Utility Type	Land Use	Potential Development	Generation Factor[1]	Generation
Electricity	Single-Family Residence	228 units	6,081 kWh/unit/year	1,386.4 MWh/year
Natural Gas	Single-Family Residence	228 units	492.6 therms/unit/year	112,312.8 therms/year

Notes: 1 kWh = 0.001 MWh

[1] Generation factors based on average California household electricity and natural gas consumption as documented in the CEC's California Commercial End-use Survey.

Source: CEC 2006. California Commercial End-Use Survey (p. 150).

Table 3.14-16 Estimated Project Transportation Fuel Demand

Land Use	Potential Develop-ment	Average Weekday Trip Rate[1]	Average Trip Length[2]	Estimated Daily VMT	Annual VMT	Average Fuel Economy[3]	Annual Fuel Demand (gallons)
Single-Family Unit	228 units	9.57 trips/unit/day	14.7 miles/trip	32,075 miles	11,707,306 miles	23.3 miles/gallon	502,460

[1] Average Weekday Trip Rate based on Single Family Home Rate Weekday Daily Traffic, as provided in the Trip Generation Rates table from the 8th Edition ITE Trip Generation Report.

[2] Average vehicle trip length based on modeled average Countywide vehicle trip length, as provided in the 2014 Santa Cruz County Regional Transportation Plan.

[3] Average fuel economy based on average 2014 U.S. vehicle fuel efficiency (mpg) from Table 4-12: Average Light Duty Vehicle, Long Wheel Base Fuel Consumption and Travel, and Table 4-13: Single-Unit 2-Axle 6-Tire or More Truck Fuel Consumption and Travel of the National Transportation Statistics.

Source: SCCRTC 2014; Bureau of Transportation Statistics 2016.

3.14.6.2 Summary of Project Impacts and Proposed Mitigation Measures

Table 3.14-17 below provides a summary of the Program impacts related to utilities and energy conservation and proposed mitigation measures.

Table 3.14-17 Summary of Utilities and Energy Conservation Impacts

Utilities & Energy Conservation Impacts	Level of Significance	Mitigation Measures	Post-Mitigation Level of Significance	
			Project	More Permissive Project
Impacts from Commercial Cannabis Cultivation and Cannabis Product Manufacturing				
Impact UE-1. The Program could increase demand or result in the expansion of facilities for water, wastewater, or solid waste services within the County due to licensing of commercial cannabis cultivation and product manufacturing activities. This impact would be less than significant with mitigation.				
Direct	Potentially Significant	MM AQ-1.3. Prohibit Cannabis Material Burning MM LU-1.1-6. Cannabis Best Management Practices MM UE-1.1. Cannabis Soil and Waste Management MM-HYDRO-2.1. Water Efficiency for Cannabis Cultivation MM-HYDRO-2.2. Rainwater Harvesting for Cannabis Cultivation MM-HYDRO-1.3 Sanitary Sewer Survey.	Less than significant with Mitigation	Less than significant with Mitigation
Indirect	Potentially Significant	MM-HYDRO-2.1. Water Efficiency for Cannabis Cultivation MM-HYDRO-2.2. Rainwater Harvesting for Cannabis Cultivation MM-HYDRO-1.3. Sanitary Sewer Survey.	Less than Significant with Mitigation	Less than Significant with Mitigation
Impact UE-2. The Program would generate additional demand for energy resources within the County and may conflict with energy conservation policies and objectives through the operation of commercial cannabis cultivation and manufacturing facilities. This impact would be less than significant with mitigation.				
Direct	Potentially Significant	MM LU-1.1-6. Cannabis Best Management Practices. MM GHG-1.1. Alternative Energy Sources.	Less than significant with Mitigation	Less than significant with Mitigation
Indirect	Less than Significant	None required	Less than Significant	Less than Significant

3.14.6.3 Secondary Impacts

Impact UE-3. The Program could increase demand or result in the expansion of facilities for water, wastewater, solid waste services, and energy resources within the County and may conflict with energy conservation policies due to licensing and operation of commercial cannabis cultivation and product manufacturing activities. This impact would be significant and unavoidable.

Impact UE-3 – Secondary Cultivation/Manufacturing. Program implementation would result in secondary impacts to water, wastewater, and solid waste services or infrastructure through changing or expansion of unlicensed cannabis cultivation and manufacturing operations throughout the County. Such illegal operations would occur without SCCC or County policy compliance, and could include unregulated groundwater or surface water diversion, improper disposal and treatment of wastewater generated onsite, or the improper storage, handling, and disposal of municipal solid waste, as well as cannabis plant waste products.

Water Supply

Continued operation of unlicensed cannabis cultivation and manufacturing sites by registrants who choose not to pursue licenses to cultivate or manufacture, and/or who expand their operations, would result in the unpermitted and unregulated use of water supplies. Within the County, unlicensed facilities may operate within existing development currently connected to municipal water services, or within the rural areas of the County that rely on groundwater and surface water diversions or importing water to the site by truck. Further, given the current site constraints and potential economic costs of acquiring a license, as imposed upon license registrants as part of the Program, it is anticipated that several Program registrants would become ineligible for a license, or would abstain from the currently proposed Program. New cultivators/manufacturers could also move to the County and begin to operate unlicensed cultivation and manufacturing activities. These cultivators that would be ineligible for a license or opt out of the Program would likely continue to operate and could expand as unlicensed and illegal facilities which would use existing water supplies in a manner which could not be regulated to ensure the adequacy of existing supplies or services.

Demand for water supplies from unlicensed cannabis operations could have a substantial effect on existing and future supplies, as unlicensed operations could illegally divert groundwater or surface water, affecting supplies otherwise used by municipal water service agencies or private users who have water rights to supplies of the underlying basin or are permitted to divert stream water downstream of the unlicensed cannabis operation, as currently experienced within the County. These withdrawals and unlicensed uses could result in increases in demand for water supplies beyond that which is available to service existing users, and could result in deficiencies in available water supplies. In addition, due to the inability to regulate unlicensed operations, it would be difficult for private and public users or agencies to anticipate and plan for the management of future water supplies, consequently resulting in further adverse effects related to the management of County water supplies. Secondary impacts of the Program to water supply are therefore considered *significant and unavoidable.*

Wastewater Services

Similar to secondary impacts on water supplies, continued operation of unlicensed cannabis cultivation and manufacturing operations by registrants who choose not to pursue licenses to

cultivate or manufacture, or new operators who move into the County to carry out unlicensed cannabis activities, within the County would generate municipal wastewater which would require disposal and treatment, potentially resulting in impacts to the sanitary system due to extreme nitrogen levels. Given the unlicensed and illegal nature of these operations, many facilities would likely be located within areas of the County which are not serviced by municipal wastewater infrastructure or permitted private septic systems. Therefore, it is anticipated that ongoing and potentially increased unlicensed operation of cannabis cultivation and manufacturing within the County could result in the inadequate disposal and treatment of wastewater. Due to the inability to predict the magnitude of secondary impacts under the Program and the inability to regulate such operations, secondary impacts to wastewater are considered *significant and unavoidable.*

Solid Waste

Under the Program, secondary impacts to solid waste management and disposal would result from ongoing and potentially increased unlicensed operation of cannabis cultivation and manufacturing by those registrants who choose not to pursue licenses or are not eligible for licenses to cultivate or manufacture throughout the County. As discussed under Impact UE-1.1, cannabis cultivation and manufacturing operations result in the generation of solid wastes, such as soil waste, plant debris, municipal waste, vegetation debris from land clearing, fuels, oils, pesticides, rodenticides, lights, and other waste generated by typical cannabis operations. Currently, many unlicensed cultivators have been known to dispose of solid wastes improperly (i.e., burning, burying, leaving in place, etc.). Given that these sites and potentially other new sites would operate unregulated within the County, it is anticipated that ongoing illegal operation of cannabis cultivation and manufacturing within the County would result in direct conflict with existing solid waste management regulations, and secondary impacts to solid waste are considered *significant and unavoidable.*

Energy Resources and Conservation

Program implementation could create secondary impacts through continued or accelerated unlicensed cannabis cultivation by Registrants who choose not to pursue licenses, or new operators who are not eligible for licenses to cultivate or manufacture cannabis. Unlicensed cannabis operations would not be regulated and could therefore engage in activities that may significantly affect energy supplies and conservation through the inefficient and negligent use of energy resources. The potential for impacts associated with the introduction of unregulated cannabis cultivation would depend upon the location and size of the grow site. Therefore, secondary impacts related to energy supplies and conservation from unlicensed cannabis cultivation would be considered *significant and unavoidable.*

The secondary impacts of cannabis manufacturing allowable under the Program relate to unregulated use of gas and electric services within the County, which would result in similar impacts as those related to unregulated utility use for cannabis cultivation. The unlicensed cannabis manufacturing that does not follow applicable regulations to maintain adequate electrical and gas services throughout the County would continue to occur under both Project scenarios. Therefore, both Project scenarios would have *significant and unavoidable* secondary impacts related to electrical and gas services and facilities.

Mitigation Measures

Implement Mitigation Measure AT-1.3a. Sustained Enforcement Program. To reduce secondary utilities and energy conservation impacts associated with unregulated cannabis

cultivation/manufacturing and related development activities, MM AT-1.3a, addressing County implementation of the Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program, shall apply to Impact UE-3.

Implement Mitigation Measure AT-1.3b. Annual Survey and Monitoring Report. To reduce secondary utilities and energy conservation impacts associated with unregulated cannabis cultivation/manufacturing and related development activities, MM AT-1.3b, addressing County criteria for an Annual Survey and Monitoring Report of unlicensed activities as well as illegal activities, including recommendations regarding enforcement staffing and resources, shall apply to Impact UE-3.

Post-Mitigation Level of Impacts

With implementation of Mitigation Measure AT-1.3a and AT-1.3b, unregulated cannabis cultivation/manufacturing would be reduced over time through enforcement/closure of the grow sites, which would reduce residual impacts to utility service systems as well as electricity, natural gas, transportation fuel, and other similar energy supply uses and conservation. However, due to the high likelihood for operation of unlicensed cultivation and manufacturing regardless of increased enforcement through the County, secondary impacts of the Program are considered *significant and unavoidable.*

3.14.6.4 Cumulative Impacts

As described in Section 3.0, *Introduction and Approach to Analysis*, the cumulative setting for the Program involves a variety of planning programs in the region of Santa Cruz County along with regional growth and ongoing development under the County's General Plan/LCP.

Cumulative utilities and energy conservation impacts are considered on a Countywide basis. As discussed above, the Program would contribute to impacts to the County's water conveyance systems, municipal and rural water supplies, wastewater collection and treatment systems, solid waste services and disposal capacities, and energy resources. The impacts of direct cultivation and manufacturing, along with site development and infrastructure, would be less than significant with implementation of Program mitigation measures. The Program's contribution to cumulative effects on utilities and energy in the County would be mitigated. Therefore, the Program would have a less than significant cumulative impact from direct and indirect effects.

Section 3.15
Other CEQA Issues

This section presents the evaluation of additional issues required by the California Environmental Quality Act (CEQA) that are not covered within the other sections of this Environmental Impact Report (EIR) for the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (Program) in the County of Santa Cruz (County). Section 15126 of the state CEQA Guidelines requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. Accordingly, in addition to the analysis provided in Section 3.0, *Introduction and Approach to Analysis*, this EIR must identify growth-inducing impacts and significant irreversible environmental changes that would potentially result from implementation of the Program. Accordingly, other CEQA issues include significant unavoidable environmental effects of the Program, significant irreversible environmental changes, growth-inducing impacts (including removal of obstacles to growth), and resource areas that are found not to be significant.

3.15.1 Significant Unavoidable Environmental Effects

CEQA Guidelines Section 15126.2(b) requires that an EIR describe any significant impacts that cannot be avoided, even with implementation of feasible mitigation measures. Where there are significant impacts, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described.

Based on the analysis presented in this EIR, implementation of the proposed Program would create significant and unavoidable direct or indirect impacts to air quality and transportation. The Program could increase the number of vehicle trips due to new employees, which would cause nitrogen oxides (NO_x) levels to exceed the applicable air quality thresholds. Since the County is currently in nonattainment for ozone, and NO_x is an ozone precursor, the Program's exceedance of the NO_x threshold makes this impact significant. Currently, there are no feasible mitigation measures that are available to reduce these impacts, so the impacts would be *significant and unavoidable*. See Section 3.3, *Air Quality*, for more detailed information. Additionally, increased vehicle trips associated with the Program would adversely affect level of service (LOS) roads, intersections, and highway segments within the urban, and some rural areas, of the County. Fee payment mitigation would not fully alleviate these impacts to a less than significant level because revenue sources would not be enough to improve each of these congested intersections, roads, and highways to acceptable levels of service. Therefore, even with the implementation of MM TRA-1.1, direct impacts would be *significant and unavoidable*. See Section 3.13, *Transportation and Circulation*.

Further, this EIR programmatically analyzes the secondary impacts of the Program on changing and expanding unregulated and unlicensed cannabis cultivation and manufacturing in the County. Secondary impacts of the Program would create significant and unavoidable impacts to all resource areas analyzed in Chapter 3, *Environmental Impact Analysis,* except for aesthetics and visual resources, which would have less than significant secondary impacts. This is because it is not possible for the County to completely eradicate all unregulated cannabis activity. These illegal activities would not necessarily adhere to existing County regulators and/or mitigation measures in this EIR, and could

therefore cause significant adverse impacts due to practices such as not following grading restrictions and causing erosion, using chemicals hazardous to biological resources, diverting streams and causing water supply and quality issues, and using diesel generators that contribute to air pollution and greenhouse gases (GHGs). Although this EIR introduces mitigation measures that would lessen these impacts through enforcement and surveys of unlicensed cannabis activities, as it is not possible to bring all unregulated cannabis activity into compliance with the Program, secondary impacts remain *significant and unavoidable*.

The reasons why the Program is being proposed, notwithstanding the significant impacts, are related to the Program objectives stated in Section 2.3.1, *Program Objectives*. As indicated, the Program is being proposed to regulate commercial cannabis cultivation and manufacturing of cannabis products within the County in a manner consistent with state law and encourages cultivators and manufacturers to operate legally and secure a license to operate in full compliance with County regulations, meet the local demand of cannabis products, improve the County's tax base, and prevent impacts of cannabis activities on children, sensitive populations, the natural environment, and public health and safety.

3.15.2 Significant Irreversible Environmental Changes

CEQA Guidelines Section 15126.2(c) requires a discussion of "*significant irreversible environmental changes which would be caused by the proposed project should it be implemented. 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*."

Analysis of environmental impacts of the proposed Program considers effects on the environment from future commercial cannabis cultivation and manufacturing activities anticipated under the Program. Construction and operation of cannabis cultivation and manufacturing facilities in the County would entail the commitment of non-renewable energy resources; human resources; and natural resources, such as lumber and other forest products, sand and gravel, asphalt, steel, copper, lead, other metals, and water resources, most of which are non-renewable or locally limited natural resources. Resources that would be permanently and continually consumed during the life of the Program include water, electricity, and fossil fuels, as well as landfill space; however, the amount and rate of consumption of these resources would not result in the inefficient or wasteful use of resources, as further described in Section 3.14, *Utilities and Energy Conservation*. Compliance with all applicable building codes and County ordinances, as well as General Plan and proposed Program mitigation measures, would ensure that natural resources are conserved to the maximum extent feasible. Additionally, it is possible that new technologies or systems will emerge in the future, or will become more cost-effective or user-friendly, to further reduce the reliance on nonrenewable natural resources. While future construction activities and operational activities anticipated to occur under the Program would result in the irretrievable commitment of nonrenewable energy resources (primarily in the form of fossil fuels, including fuel oil, natural gas, and gasoline for automobiles and construction equipment), consumption of such resources is associated with any development in the region, and are not unique or unusual to the proposed Program.

The Program would allow for cannabis cultivation and manufacturing within former quarry sites in the County. There are currently four closed quarries that may allow for cannabis licensing consistent with any applicable quarry restoration or management plan. As the quarry sites must be non-operational and all onsite activities would be subject to restrictions of quarry restoration or management plans, the Program would have no adverse effect on non-renewable quarry products (see also, Section 3.15.4, *Effects Not Found to be Significant*).

The Program would not be expected to result in environmental accidents that have the potential to cause irreversible damage to the natural or human environment. While cannabis cultivation and manufacturing activities anticipated to occur under the Program would result in the limited use, transport, storage, and disposal of hazardous materials, all activities would comply with applicable state and federal laws related to hazardous materials transport, use, and storage, which would significantly reduce the likelihood and severity of accidents that could result in irreversible environmental damage. See Section 3.8, *Hazards and Hazardous Materials,* for more detailed information. The Program's significant irreversible environmental changes would be *less than significant*.

3.15.3 Growth-Inducing Impacts

Section 15126.2(d) of the CEQA Guidelines requires consideration of a project's potential to foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. This potential economic or population growth is known as the project's growth-inducing impact and is distinguished from the direct economic, population, or housing growth of a project because it is an indirect result of implementation of a project that would not have taken place in the absence of the project. Growth inducement can be a result of new development that increases employment levels, removes barriers to development, or provides resources that lead to secondary growth. Growth-inducing impacts are caused by those characteristics of a project that tend to foster or encourage population and/or economic growth, either directly or indirectly. Inducements to growth include the generation of construction and permanent employment opportunities in the support sectors of the economy. Indirect inducements to growth include the establishment of infrastructure, increased service capacity, or other conditions that would potentially lead to growth in surrounding areas or growth of a certain type of use. Induced growth in any area should not be assumed to be necessarily beneficial, detrimental, or of little significance to the environment. It should, however, be analyzed for an understanding of how it could potentially affect the surrounding environment.

The proposed Program could result in three types of growth-inducing impacts: 1) the creation of short- and long-term employment opportunities which draw newcomers to the region; 2) the associated increase in housing demand; and 3) expansion of utilities and infrastructure.

As discussed in Section 3.12, *Population, Employment, and Housing*, the proposed Program would potentially generate up to 6,516 full-time equivalent (FTE) cannabis cultivation employees and approximately 600 FTE cannabis manufacturing employees, for a total of 7,116 new employees in the County cannabis industry. Standard operation of cannabis cultivation and manufacturing facilities would require a number of full-time employees depending on the size of the operation, as well as seasonal harvesting staff, some of which could be hired from the existing local labor market, but often mostly consist of a group of cannabis harvesters traveling from harvest to harvest throughout the region. Consequently, there would be an incremental increase of new workers that could commute to

cannabis sites and potentially relocate to urban areas in the vicinity of cultivation and manufacturing sites as a result of implementation of the Program. Secondary effects attributed to backfill of new employees' current jobs could result in a slight increase in employment generation. Further, as a result of a potential influx of new employees, related impacts would likely occur due to increased commuter traffic and associated air quality impacts, particularly generation of GHGs and ozone precursors.

This increase in employment due to the Program would have a potential commensurate increase in demand for housing within the County, although a portion of these jobs would potentially be absorbed by existing residents. While the increase in housing demand from cannabis industry employees may be substantial, the County maintains programs and policies to ensure adequate provision of housing to meet ongoing demands, particularly when the demand is generated from local industries, including Measure J and the Housing Element. The County's affordable housing impact fee program and MM POP-1.1, Affordable Housing Fee for Agricultural Buildings Used for Commercial Cannabis, would address increased demand for housing from new employment generated by the Program.

The Program would also potentially generate 228 new residential units, which would directly support 615 additional residents, under the Project scenario. While the Program does include new residential development, some new residences would be occupied by cannabis employees already residing in the County, which limits the growth-inducing effects of the Program. However, the commercial nature of the Program could generate an appeal for people to move to and permanently reside in the County.

The proposed Program would also result in development of new utility infrastructure, including potentially new wells and other water supply sources and energy infrastructure, to support cannabis cultivation and manufacturing operations in rural areas. The Program would also require the construction, widening, and extension of rural roads and driveways in relatively undeveloped areas to provide adequate emergency and non-emergency access. The construction of new homes in rural areas of the unincorporated County would also improve road, utility, and water supply access in areas where this infrastructure does not currently exist. These improvements in rural areas could introduce access to currently inaccessible and/or unbuildable areas of the County and, in doing so, remove physical barriers to development in these rural areas and facilitate improved access and circulation within the vicinity, thereby contributing to growth-inducing effects. New development in rural areas of the County could have adverse impacts related to erosion, water quality and supply, and biological resources, but existing County building and development regulations would ensure that new development adheres to County standards through the licensing process.

Ultimately, although there is potential for induced development and population growth within the rural areas of County, it is anticipated that the Santa Cruz County Code (SCCC) which applies to all development in the County would ensure that adverse effects are addressed on a site-by-site basis. Further, the Program does not include any changes to the land use under the General Plan and would not result in any increase in capacity for new development in the County through upzoning or lot splits. Additionally, development would incrementally increase in rural areas as individual property owners realize development potential on site by site basis, resulting in gradual growth-inducing impacts that would not create immediate significant expansion and demand; therefore, these effects would be *less than significant*.

3.15.4 Effects Not Found to be Significant

CEQA Guidelines Section 15128 requires a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. For this EIR, issues related to noise and minerals were found not to be significant as discussed below.

Noise

The proposed Program would not have the potential for significant impacts associated with noise. Chapter 8.30, *Noise*, of the SCCC serves as the County's Noise Ordinance, and restricts offensive noise within the County. The Noise Ordinance establishes noise thresholds during day and night hours, and describes the process for citations and misdemeanor charges if the ordinance is not adhered to. The Santa Cruz County General Plan (General Plan) Chapter 6, *Public Safety and Noise*, includes Objective 6.9, which aims to prevent new noise sources from increasing the existing noise levels above acceptable standards and eliminate or reduce noise from existing objectionable noise sources. Noise Policy 6.9.1, *Land Use Compatibility Guidelines*, establishes noise exposure standards for various land uses, shown in Figure 6-1 of the General Plan. Cannabis cultivation and manufacturing activities would fall under the land use category of "Industrial, Manufacturing, Utilities, and Agriculture" and would be required to conform to that category's noise exposure standard. These existing regulations would ensure that commercial cannabis cultivation and manufacturing activities do not produce noise levels exceeding the County's thresholds and standards.

Cannabis cultivation and manufacturing, by their nature, do not generate high levels of noise. Outdoor cannabis cultivation involves typical agricultural practices, including tilling soil, sowing seeds, irrigating soil, and harvesting mature plants. Noise could be generated by farm equipment and possible truck traffic during peak harvest activities, but these noise sources are generally compatible with the agricultural zoning and uses allowed on within the Program's area of eligibility, including the Project and the More Permissive Project. Similarly, greenhouse cultivation would generate noise from farm equipment, but noise levels would typically be reduced as activities would occur inside the greenhouse, which would buffer any noise to some degree. Greenhouses may use fans or blowers that could generate low levels of ambient noise that would not be perceptible beyond the building or property line. Indoor cultivation has few sources of noise other than heating, ventilation, and air conditioning (HVAC) and dehumidification equipment that can generate a low hum from fans or blowers. Typically, HVAC and dehumidification occurs within the structure and is not perceptible outside the building or property. Manufacturing noise is also very low and is associated with operation of extraction machinery, including rosin presses and carbon dioxide (CO_2) extraction machines. These machines are generally silent with low levels of hums or hisses during operation. Other forms of manufacturing, such as hash washing and infusions, have no substantial sources of noise.

The Program includes features that would ensure that any noise generated by cannabis cultivation or manufacturing would not adversely affect sensitive receptors. For cultivation, three or more citations for violation of SCCC Chapter 8.30, *Noise*, within a single year, or use of a generator for non-emergency purposes or illegal hazardous materials for cultivation of cannabis. would be grounds for license revocation. Cannabis cultivation must be set back from sensitive receptors, including schools, parks, and habitable structures, as described in Chapter 2, *Project Description*, which would ensure sensitive receptors are not adversely affected. For manufacturing, the facility shall not receive more than one

citation for violation of SCCC, Chapter 8.30, *Noise*, within a single year. Manufacturing would be licensed within buildings, which would sufficiently contain the low levels and incidences of noise. These requirements for licensing would reduce noise levels on sites currently utilizing generators to power their facilities or generating any noise in conflict with the County's noise ordinance. Considering that noise generated from cannabis cultivation and manufacturing is low and the Program includes requirements to minimize noise sources and noise impacts on sensitive receptors, the Program would have no impact related to noise.

Mineral Resources

The proposed Program would not have the potential for significant impacts associated with mineral resources. SCCC Chapter 16.54, *Mining Regulations*, serves as the County's Mining Ordinance, and regulates mining operations in the County. General Plan Chapter 5, *Conservation and Open Space*, includes a Mineral Resources Element. Objective 5.16, Mineral Resources, aims to ensure that the rehabilitation and future use of quarry sites are in accordance with safety, conservation, habitat preservation, restoration, and open space values and state mining laws. Mineral Resources Policy 5.16.2 denotes the compatibility of proposed land uses on Mineral Resource lands, and include agriculture as a compatible use. As described in Chapter 2, *Project Description*, the Program would allow cannabis cultivation and manufacturing within the M-3 industrial zoning district, which has an associated Quarry (Q) land use designation/overlay for existing quarries in the County and allows for mineral extraction. There are four closed and four active quarries in the County. Currently, the reclamation plans for each of the quarries in the County designate the end use as some form of open space. If uses other than open space are proposed, an amendment to the quarry's Reclamation Plan would be required, as well as other applicable permits and approvals. Consequently, quarries may accommodate cultivation and manufacturing following future closure and with amendments to quarry reclamation plans. These existing regulations and standards would ensure that commercial cannabis cultivation and manufacturing activities are consistent with quarry reclamation plans and do not adversely affect mineral resources in the County. Therefore, the Program would have no impact related to mineral resources.

Chapter 4
Alternatives Analysis

4.1 Introduction

Section 15126.6 of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) describe a range of reasonable alternatives to the project or to the location of the project that could feasibly avoid or lessen any significant environmental impacts while attaining the basic objectives of the project. This chapter describes three potential alternatives to the Commercial Cannabis Cultivation and Manufacturing Regulation and Licensing Program (Program), analyzes potential environmental impacts resulting from the alternatives, and compares the degree of impact relative to the Program. From this analysis, this section also identifies the Environmentally Preferred Alternative, consistent with CEQA. The purpose of this section is to provide sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the Program to inform the County's policy and decision-making process.

Key provisions of the state CEQA Guidelines (Section 15126.6) pertaining to the alternatives analysis are summarized below.

- The discussion of alternatives will focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project, even if those alternatives would impede to some degree the attainment of the project objectives or would be more costly.
- The "No Project Alternative" will be evaluated, along with its impacts. The No Project Alternative analysis will discuss the existing conditions at the time the Notice of Preparation (NOP) was published, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.
- The range of alternatives required in an EIR is governed by a "rule of reason"; therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. Alternatives will be limited to ones that would avoid or substantially lessen any of the significant effects of the project.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

Alternatives to the Program were identified, screened, and either retained for further analysis or discarded, as described below. Alternatives were developed based on: information provided by the County; input received from comments on the NOP; feedback from the local cannabis industry; and review of other agency cannabis regulations and industry sources. The Alternatives screening process consisted of the following steps:

Step 1: Define the alternatives to allow comparative evaluation.

Step 2: Evaluate each alternative using the following criteria:

- The extent to which the alternative would accomplish most of the basic goals and objectives of the Project (see Section 2.3.1, Program Objectives);
- The feasibility of the alternative, taking into account site suitability, economic viability, availability of infrastructure, General/Local Coastal Plan consistency, and consistency with other applicable plans and regulatory limitations; and
- The extent to which the alternative would avoid or lessen one or more of the significant environmental impacts of the Project.

Step 3: Determine the suitability of the proposed alternative for full analysis in the EIR based on Steps 1 and 2 above. Alternatives considered unsuitable were discarded, with appropriate justification, from further consideration. The state CEQA Guidelines require the consideration of a "no project" alternative and to identify, under specific criteria, an "environmentally superior" alternative. If the environmentally superior alternative is determined to be the "no project" alternative, state CEQA Guidelines §15126.6 requires that the EIR also identify an environmentally superior alternative among the other alternatives.

Feasible alternatives that did not clearly offer the potential to reduce significant environmental impacts and infeasible alternatives were removed from further analysis. In the final phase of the screening analysis, the environmental advantages and disadvantages of the remaining alternatives were weighed with respect to their potential for overall environmental advantage, technical feasibility, and consistency with Program objectives.

At the alternatives screening stage, it is not possible to evaluate potential impacts of the alternatives or the Program with any measure of certainty; however, it is possible to identify elements of the Program that are likely to be sources of impacts. A preliminary assessment of potential significant effects of the Program was also considered in development of alternatives. Additionally, the technical and regulatory feasibility of various potential alternatives was assessed at a general level. Specific feasibility analyses were not needed for this purpose. Any alternative with infeasible characteristics was disregarded. The assessment of feasibility was conducted by using "reverse reason" to identify anything about the alternative that would be infeasible on technical or regulatory grounds. CEQA does not require elimination of a potential alternative based on cost of construction and operation/maintenance. For the Program, characteristics used to eliminate alternatives from further consideration included:

- Limited effectiveness in reducing environmental impacts;
- Feasibility and safety;
- Permitting feasibility;
- Potential adverse effects on resources;
- Potential effects on public health and safety;
- Potential for inconsistency with adopted agency plans and policies; and
- Feasibility when compared to other alternatives under consideration.

The range of feasible alternatives is selected and discussed in a manner that fosters meaningful public participation and informed decision-making.

4.1.1 Alternatives Considered and Discarded

As discussed above, CEQA Section 15126.6(c) requires that an EIR disclose alternatives that were considered and rejected, and provide a brief explanation as to why such alternatives were not fully considered in the EIR. The following alternatives were considered but eliminated from further analysis by the County:

1. **Residential Cannabis (Garage Grow) Alternative –** Would allow commercial cannabis cultivation in single family (R-1) residential zoning district, per the Santa Cruz County Code (SCCC). Demand for this alternative currently exists in the County, as roughly 10 percent (25 applicants) of registrants with known locations are seeking licenses in R-1 zone districts (see Chapter 2, *Project Description*). There are likely more R-1 registrants that did not disclose a location in the License Registration data. Under this potential alternative, cultivation could occur within R-1 single family residential neighborhoods located throughout 13,230 acres of unincorporated area within the County, in communities such as Live Oak, Aptos, Soquel, Boulder Creek, and Felton. Commercial cannabis cultivation would be licensed within existing attached or detached garages that are constructed consistent with SCCC and County design guidelines and equipped with HVAC equipment. Multiple family zoning districts would not be considered under such an alternative as many such complexes do not have private garages, and use of HVAC units for ventilation, odor control and cooling and utilities within structures with shared walls could raise compatibility issues. To proactively address SCCC compliance, this alternative could build on the current Cottage Industry cultivation category to permit a limited level of residential cultivation (e.g., 500 square feet of canopy per site) while balancing environmental, public service, and quality of life concerns.

   This alternative was discarded in that it would not meet key Program objectives. This would include Program Objective No. 4, which states: "Prevent impacts of cannabis cultivation and manufacturing sites on children and sensitive populations." Interspersing cannabis grows within residential zones would likely expose children, seniors and other sensitive population to cannabis activities and odors. In addition, residential zones typically support many school sites, which even with required setbacks, would incrementally increase exposure of children to cannabis activities. Further, allowing residential "garage grows" could conflict with Program Objective No. 7, which states: "Ensure compatibility of commercial cannabis cultivation and manufacturing sites with surrounding land uses, especially residential neighborhoods, educational facilities…" Even accounting for the well managed nature of some known garage grows, allowing commercial cannabis activities in single family residential neighborhoods could lead to commercial-residential land use conflicts, exposure of children to cannabis activities, increases in odor complaints, and other impacts. In permitting cannabis cultivation proximate to large concentrations of residential units, this potential alternative could incrementally increase impacts related to safety, noise, and air quality beyond those of the Program. Finally, substantial early public comment on the NOP from residents of neighborhoods indicated strong concerns over the potential impacts of allowing grows in such locations. Therefore, this potential alternative was discarded from further consideration.

   No Commercial Cannabis Activities with Enhanced Enforcement Program – Would ban all commercial cannabis operations Countywide. While SCCC Chapter 7.126 currently includes a ban on medical commercial cannabis cultivation, it also provides immunity from enforcement if a cultivator meets the adopted siting and operation criteria. Under this alternative, no commercial cannabis activities (medical or recreational) would be allowed. In addition, this alternative would

involve an expanded law and code enforcement program to actively terminate unlicensed commercial cannabis operations. This alternative was discarded as it would not meet many of the key objectives of the Program. This would include Program Objective No. 2 which states: "Develop a program that encourages cannabis cultivators and cannabis product manufacturers to operate legally and secure necessary permits and licenses to operate in full compliance with County regulations, maximizing the proportion of activities within the program and minimizing unlicensed activities." An outright ban on all commercial cannabis activities would directly conflict with this key objective through the creation of a prohibition on all cannabis operations. As a likely result of implementation of this alternative, it is reasonable to assume that many existing commercial cannabis operations would relocate and continue to seek to operate as unlicensed operations prior to be enforced upon by the County, thereby resulting in a potential increase in the number of unlicensed activities within the County with related and exacerbated adverse environmental impacts, such as illegal grading and land clearing, traffic, use of hazardous materials, and unchecked demand for utilities and public services (i.e., fire protection and law enforcement services). Further, prohibiting cannabis could conflict with Program Objective No. 5 and 7, which are focused on the establishment of a regulatory program that would produce and meet current market demands for cannabis and improve the County's tax base. Under this alternative, unlicensed cannabis businesses may continue to meet some demand for cannabis products locally, but the County would see no fiscal benefit while carrying the burden of related environmental impacts. Further, demand of cannabis in the County would be met by supply outside of the County, which could exacerbate impacts related to traffic generation and circulation, air quality, and greenhouse gases, as well as public health and welfare. Therefore, this potential alternative was discarded from further consideration.

4.2 Alternatives Considered and Analyzed in this EIR

During the preparation of this EIR, the County considered several alternatives for the Program. The goal for developing possible alternative scenarios under CEQA is to identify other means to attain the Program objectives (Section 2.3.1) while lessening or avoiding potentially significant environmental impacts caused by adopting the Program. A reasonable range of alternatives with the potential to attain the basic objectives of the Project but avoid or substantially lessen significant impacts is analyzed below. Each alternative is discussed in relation to the objectives of the Program. In addition to the More Permissive Alternative addressed at a coequal level of detail in the main analysis in Section 3.0 of this EIR, alternatives selected for analysis include:

- No Project Alternative
- Alternative 1 — Most Restrictive Alternative
- Alternative 2 — Most Permissive Alternative

A description of environmental impacts under each alternative is also provided below. Table 4-3 provides a summary of the comparative impacts of each alternative to the Program.

4.2.1 No Project Alternative

In accordance with CEQA, the EIR includes a No Project Alternative. As the Program is long-term regulation of commercial cannabis activities, the No Project Alternative does not mean "no future growth or land uses," but rather that permitted development under existing adopted plans and

policies would occur as if no changes were made. As stated in CEQA Guidelines Section 15126.6(e)(3)(A), "typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan." The No Project Alternative considers environmental impacts if the proposed Program is not adopted and the goals, standards, policies, and actions of the Program are not implemented.

The No Project Alternative would assume that the Program is not adopted and licensed cannabis cultivation and manufacturing would not occur. The County would continue with the existing SCCC Chapters 7.126 and 7.128, which govern medical cannabis cultivation and licensing on an interim basis. The 2014 version of Chapter 7.126 prohibits medical cannabis cultivation business, but grants limited immunity for businesses that comply with this Chapter's regulations. SCCC Chapter 7.128 created an interim licensing program, but the program is not enforceable, does not have a clear expiration date, and would remain in effect until a Board of Supervisors action to repeal Chapter 7.128 or adopt a permanent program. No regulations would apply to cannabis product manufacturing as the County currently does not have preexisting SCCC sections addressing manufacturing.

The No Project Alternative would involve a continued ban on cannabis cultivation without an active enforcement program.[1] As described in Chapter 2, *Project Description*, the County Sheriff's Office currently maintains a complaint-driven enforcement approach to cannabis and does not actively seek out unlicensed cannabis operations; this approach would continue under the No Project Alternative. State agencies, including the California Department of Fish and Wildlife (CDFW) and the Central Coast Regional Water Quality Control Board (RWQCB) would provide some limited additional enforcement services focused on resource protection in the County under pending state programs to support licensed cannabis activities statewide. This alternative would also assume that the interim licensing program defined under Section 7.128 would be nullified and unenforceable.

Despite passage of regulations for cannabis and formation of a licensing program at the state-level, operators would be unable to obtain licensing from the state that would allow for the engagement in cannabis activities within the County, as proposed state regulations will require a local license from the jurisdiction in which they seek to operate as a prerequisite to state licensing. As such, the No Project Alternative would result in the inability for prospective licensees to operate within the County due to the lack of a local licensing program under this alternative. Therefore, this alternative would assume that existing unregulated cultivation and manufacturing activities would continue to operate and potentially expand under the No Project Alternative and would be subject to existing County enforcement, which is primarily based in response to complaints/calls for service, as well as pending state-level regulations and enforcement programs. However, over the more than three decades of strong law enforcement activities, such as the California Attorney General's Campaign Against Marijuana Planting (CAMP), have not eradicated cannabis cultivation and related activities. Even with strong local state and federal participation in cannabis law enforcement, the illicit cultivation of cannabis in California continues to be a major business.[2] Therefore, successful implementation of cannabis prohibition may not be realistic, with potential impacts of continued unregulated cultivation discussed below.

[1] As of 2015, the County Sheriff's Office currently investigates and enforces cannabis cultivation cases only in response to complaints.

[2] CAMP program partners local, state, and federal agencies to eradicate the large scale illegal cannabis cultivations from public and private lands – California Attorney General 2017 - https://oag.ca.gov/bi/camp

Per CEQA Guidelines Section 15126.6(e)(2), the No Project analysis includes discussion of existing conditions at the time the NOP is published (February 9, 2017 for the Program). The analysis of the impacts of the No Project Alternative would be compared to those of the proposed Project and the More Permissive Project.

Potential Impacts to Resource Areas

Under the No Project Alternative, regulations for commercial cannabis operations would not be adopted and licenses would not be issued in the County, thereby preventing local cannabis business from attaining state-level licenses. As described in Chapter 2, *Project Description* and Chapter 3, *Environmental Impact Analysis*, unregulated cannabis activities have potentially significant environmental impacts, particularly related to grading, land clearing, habitat, water resources, odor, traffic, hazards (fire and explosions), air pollution, and utilities, such as energy and water. Under the No Project, unregulated cannabis activates would continue and expand with commensurate impacts to the environment and would not necessarily comply with the County's General Plan, the SCCC, or any mitigation measures identified for the Program. Continued and increased impacts to environmental resources could include sensitive habitat degradation, cultural resource disturbances, erosion and sedimentation, and ground and surface water quality issues, given the dynamic nature of intensity, variability, and location of cannabis-related uses. Service demands, including water, wastewater, fire and police, solid waste, and utilities, would also increase. Continuing unlicensed cannabis activities would be expected to exacerbate land use compatibility and quality of life issues, as well as related code compliance enforcement issues. Impacts to specific resources are discussed further herein.

Aesthetics and Visual Resources

Under the No Project Alternative, no licensed cannabis activities would occur, and unregulated cannabis operations would continue to adversely affect aesthetic resources in new locations and in new ways Countywide. Impacts related to an increased amount of unregulated cannabis sites may be comparable to the Program given unlicensed cannabis development is typically located in more obscure settings to avoid detection and enforcement. Further, unregulated cannabis activities would remain subject to existing County enforcement in response to complaints and calls for service, as well as state-level enforcement programs, which may reduce adverse effects over time. Although cannabis-related activities within permitted structures may occur, unlicensed activities may also continue and expand in non-permitted structures. However, unlicensed activities generally conceal operations to avoid detection and are located in more remote and/or heavily screened areas. These operations would be difficult to detect and would not significantly degrade scenic resources in publicly visible areas. Therefore, impacts to aesthetics and visual resources under the No Project Alternative would be similar to those secondary impacts described in Section 3.1, *Aesthetics and Visual Resources.* While some new structural development related to unlicensed cannabis operations could occur in public viewsheds, visual impacts may be less than the Program as there would be no requirement to construct up to 228 residences or required site improves to meet the County Fire Code requirements, including up to 568 large water tanks, new roadways, and vegetation clearing. Therefore, impacts would be relatively less that the Project and More Permissive Project and would be *less than significant*.

Agricultural and Timber Resources

Under the No Project Alternative, no licensed cannabis activities would occur, and unregulated cannabis operations would continue to adversely affect agricultural and timber resources. Continued and accelerated unlicensed cannabis cultivation Countywide would potentially result in the loss of timberland through land clearing in remote areas, degradation or loss of farmland, degradation of soils (e.g., loss of top soil through clearing activities, related cannabis manufacturing activities upon prime soils, etc.), and adverse effects to lands identified as important farmland for the state or local level, and Williamson Act contract lands, especially within the South County and North Coast Regions. The areas with the largest potential for continued adverse impacts occur in the North Coast and Mountain Regions due to the greater amount of known unregulated operations in these areas. Adverse impacts would result from continued or accelerated unlicensed cannabis cultivation in heavily forested areas with steep slopes and tree cover, as opposed to open agricultural land typically within agricultural zoned land areas, and areas with dense tree cover would be affected by illegal cultivation practices involving clear cutting of trees and stepped mountainside grading, notably in the valleys and remote areas of the North Coast or South County Regions. Therefore, impacts to agricultural and timber resources under the No Project Alternative would be similar to those secondary impacts described in Section 3.2, *Agricultural and Timber Resources* and would be *significant and unavoidable*.

Air Quality

Under the No Project Alternative, no licensed cannabis activities would occur, and unregulated cannabis operations would continue to emit air pollution and objectionable odors. Potential increased operation of unregulated sites would not comply with local requirements and regulations compared to both Program scenarios. As such, air pollution and objectionable odor impacts would occur from operation of unregulated sites, including the use of diesel or gasoline generators, not using commercial air scrubbers on indoor cultivation or manufacturing operations, and not observing setbacks so that the strong odor associated with cannabis, especially during the flowering phase, do not disturb nearby sensitive receptors. Unregulated manufacturing operations may also engage in activities which have the potential to contribute to harmful air emissions from the release of combustion materials or other volatile gases. Unregulated cultivation and manufacturing sites may also engage in activities such as the illegal burning trees and brush for site clearance, in addition to burning agricultural waste rather than taking it to a landfill or composting it, which would further contribute to particulate emissions. Further, vehicle trips associated with cannabis activities would contribute significant amounts of NOx on an ongoing basis, similar to the Program. As emissions would occur unmitigated, operational impacts related to air emissions and objectionable odors would be *significant and unavoidable* under the No Project Alternative and greater than both the Project and the More Permissive Project. Construction-related impacts may be comparable to the Project and More Permissive Project related to site clearing for cannabis operations, such as greenhouse and outdoor cultivation; however, such impacts would not involve required site improvements such as residential development, water storage tanks, widened roads. Therefore, the No Project Alternative is expected to generate fewer construction-related emissions, including dust (particulate matter), diesel emissions, and volatile organic compounds. Construction-related impacts would be expected to be less severe than the Program and *less than significant*.

Biological Resources

Under the No Project Alternative, impacts of unregulated cannabis operations on biological resources would be more severe compared to both Program scenarios since unlicensed cannabis activities

would not be subject to the County's rigorous standards in the SCCC or proposed mitigation measures protecting sensitive biological resources. Existing and future operators may continue to clear-cut forests, remove sensitive habitats, expose hazardous materials into such habitats, adversely affect stream habitats, and engage in other non-permitted development activities that prevent the passage of wildlife or divert streams crucial to the life cycle of aquatic or riparian species. Due to the increased anticipated amount of unlicensed cultivation and manufacturing anticipated compared to both Program scenarios, impacts would be greater and considered *significant and unavoidable*.

Cultural Resources

Under the No Project Alternative, impacts of unregulated cannabis operations on cultural resources would be greater compared to both Program scenarios. The location of unregulated cannabis under this alternative would be variable and would occur throughout the County, including areas with known historical resources, archaeological resources, tribal cultural resources, human remains, or paleontological resources, or areas with a high potential to encounter unknown resources. Unregulated cannabis cultivators and manufacturers would not be regulated by state and County guidelines and regulations pertaining to cultural resources, or any mitigation measures identified for the Program to protect potentially historic structures. Therefore, unregulated cannabis activities could potentially have an adverse effect on archaeological resources, tribal cultural resources, human remains, and paleontological resources from unpermitted ground disturbance, site development, and reuse of existing structures. Because no cannabis operations would be regulated by adopted standards, potential adverse impacts are greater than both Program scenarios and impacts would greater and considered *significant and unavoidable*.

Geology and Soils

Due to the unknown nature of unregulated sites under the No Project Alternative in more remote areas screened from public view, such as remote mountainous properties and residential properties, cannabis operations would continue to operate without adherence to County policies or SCCC regulations pertaining to siting, grading, and erosion control. Therefore, unlicensed cannabis activities could contribute to increases in geological and soil hazards associated with extensive grading or clear cuts and related soil erosion, sedimentation, alterations of site topography, and exacerbated erosion. Potential adverse impacts to geologic and soil resources could be greater than both Program scenarios due to increased amounts of unregulated activities and the absence of SCCC compliance. Although this alternative would not involve the extent of required site improvements such as residential development, water storage tanks, widened roads, the potential for unchecked site grading and soil disturbance could have adverse effects on erosion and slope stability. Therefore, impacts would be greater than the Program and are considered *significant and unavoidable*.

Greenhouse Gas Emissions and Climate Change

Under the No Project Alternative, all potential cannabis activities would be unlicensed and would contribute to increased GHG emissions from high energy demand, including both from public utilities energy providers and the use of portable diesel and gasoline generators on a stationary basis for extended periods of time as a site's main energy source. Vehicles and water demand would also contribute to GHGs from unregulated cannabis activities. Therefore, impacts related to GHG emissions and produced by the construction and operation of future unregulated cannabis cultivation and/or manufacturing sites, and their associated infrastructure would be substantial and adverse, similar to the secondary impacts discussed in Section 3.7, *Greenhouse Gas Emissions*. Similar to the Air Quality

analysis above, since the locations and nature of these unregulated activities throughout the County would remain largely unknown and have no potential for mitigation, operational impacts would be *significant and unavoidable* and be greater than both the Project and the More Permissive Project; however, the No Project Alternative would not involve required site improvements such as residential development, water storage tanks, widened roads. Therefore, this alternative is expected to generate less construction-related GHG emissions than the Project or More Permissive Project. Construction-related impacts would be *less than significant*.

Hazards and Hazardous Materials

Impacts under the No Project Alternative would result from expanding and changing unregulated cannabis sites Countywide. Unlicensed cannabis operations have the potential to store or discharge hazardous materials, including fuels, oils, pesticides, and fertilizers. Unlicensed sites also have a high potential for activities that increase fire hazards, including use of machinery, faulty electric power, and increased human presence onsite in remote and heavily vegetated areas. Cannabis sites may also locate on contaminated sites, such as former oil and gas pipelines or tanks, that may release contamination during soil disturbance or excavation. Additionally, some types of cannabis product manufacturing involve storage and use of flammable and explosive materials (e.g., compressed liquefied petroleum gases). Further, risky butane honey oil (BHO) extraction labs within the rural mountainous regions where operations are less prone to discovery, and similar operations, may be concentrated in areas where adequate emergency response services or evacuation plans may not be available. These sites may continue to pose increased risk to workers and residents in the event of structure or wildfire. Unregulated facilities operating near sensitive receptors would have the potential for exposure of sensitive populations to hazards or hazardous materials. Given the uncertainty of the locations and nature of unlicensed cultivation/manufacturing and the inability to effectively ensure compliance with existing safety related policies and regulations, adverse impacts to hazards and hazardous materials would be greater than both Program scenarios and are considered *significant and unavoidable*.

Hydrology and Water Resources

Impacts under the No Project Alternative related to unregulated cannabis operations in remote areas of the County could occur related to inappropriate siting, grading, use of pesticides, runoff control, water source control, and erosion control that would adversely affect water resources, including streams and groundwater. The County's watercourses are a primary source of groundwater recharge; a reduction in stream flow volumes may reduce groundwater infiltration along the watercourse. Unlicensed sites may rely on existing and new wells that could draw groundwater so extensively that water resources would be adversely affected. Unlicensed sites may also rely on illegal stream diversions due to the lower expense of operating a portable pump compared to drilling a new well, or be sited in areas of inundation or mudflows. Unlicensed cannabis-related development may not adhere to existing County policies or SCCC regulations intended to protect water quality, nor would these sites go through a licensing process to ensure water quality is considered in site development, potentially introducing pollutants into water bodies. Hydrologic impacts related to site disturbance and runoff from unregulated operations would remain. Potential adverse impacts to hydrology and water resources within the County would be greater than both Program scenarios and impacts would be *significant and unavoidable*.

Land Use and Planning

Impacts to land use and planning policy consistency under the No Project Alternative would result from land use conflicts related to unregulated cannabis activities. With continued and future unlicensed cannabis activities, impacts to surrounding land uses, neighborhood character, and quality of life issues would likely expand under this alternative. Such impacts may involve but are not limited to non-residential activities within a residentially zoned neighborhood; high intensity commercial and manufacturing uses in low density or rural zone districts; nighttime activities generating light, noise, and traffic impacts in an area with sensitive populations; and intrusion of cannabis-related activities in recreational or educational areas heavily populated by children. Such neighborhood compatibility issues would also conflict with the County policy framework for orderly physical development as defined within its land use laws, policies, and the SCCC. Without a cannabis licensing program, as proposed within the Project and More Permissive Project, standards to ensure land use compatibility would not be implemented and therefore, impacts would be greater than both Program scenarios and would be *significant and unavoidable*.

Public Services

Under the No Project Alternative, all cannabis activities would occur unlicensed throughout the County and particularly in inaccessible rural areas. The potential impacts on public services would depend on the location and uses involved in cannabis operations, as well as the availability of public services in the area. Unlicensed cannabis development would not be subject to SCCC regulations or County policies addressing necessary emergency services. Enforcement and management of illegal cultivation and manufacturing would place increased demands upon police- and fire-related services. For example, since the Sheriff's Office responds to cannabis cases on a complaints-driven basis, it is expected that calls for service would increase commensurate with increased unregulated activates, which many adversely affect neighborhoods throughout the County. Unregulated cannabis manufacturing, including volatile extraction processes, could continue or expand in remote areas unsuitable for manufacturing, such as portions of the North Coast and Mountain regions, increasing fire and police response times with unknown adequacy of fire suppression services, thereby increasing fire and hazards risks for both residents and emergency response personnel. The population associated with unregulated cannabis would also demand other services, such as schools, libraries, and recreation, though these demands are expected to be similar to the Program. Given unlicensed cannabis cultivation would not be in compliance with SCCC regulations that address public service adequacy including acceptable emergency access, impacts related to public services under this alternative would be *significant and unavoidable* and greater than both Program scenarios.

Population, Employment, and Housing

Under the No Project Alternative, impacts from unlicensed operations include generation of additional but an unknown extent of employees seeking housing within the County, as well as non-permitted residential development at cannabis activity sites to house such employees and possibly their families. Such housing may not be developed in conformance with SCCC requirements to ensure safe and habitable housing, passable all season roads, emergency services, and proximity to needed family services, such as schools and retail centers. Non-permitted residential habitation could also affect neighboring land uses due to unsafe or otherwise improper site, structural, and utility improvements. Therefore, impacts to population, employment, and housing would greater than both Program scenarios and are considered *significant and unavoidable*.

Transportation and Traffic

Under the No Project Alternative, unlicensed cannabis operations would occur throughout the County, which would increase the number of cultivators and manufacturers who would operate in areas with inadequate emergency access and potential traffic hazards compared to both Program scenarios. Operations that generate traffic from employees and operations that use private undeveloped roads or access rural roads within the County may introduce or exacerbate traffic safety hazards and conflict with users of the same roadways, without standards to ensure adequate access. Trips generated from unlicensed cannabis operations would exacerbate traffic congestion on local roads and highways already operating at unacceptable levels. Therefore, unlicensed operations would exacerbate impacts to transportation and traffic more so than the Program and impacts would be *significant and unavoidable*.

Utilities and Energy Conservation

Under the No Project Alternative, a greater number of unlicensed cannabis activities would occur than under the Project or More Permissive Project, which would result in greater adverse impacts to water, wastewater, and solid waste services or infrastructure compared to both Program scenarios. Illegal operations would occur without SCCC or County policy compliance, and could include unregulated groundwater or surface water diversion, improper disposal and treatment /non-treatment of wastewater generated onsite, or the improper storage, handling, and disposal of municipal solid waste, as well as cannabis plant waste products and high levels of nonrenewable energy consumption. The No Project Alternative would result in greater impacts to utilities and energy conservation than under both Program scenarios, and impacts are considered *significant and unavoidable*.

Conclusion and Relationship to Project Objectives

This alternative would not reduce significant impacts of the Program related to a less than significant level, with the exception of construction-related air quality and GHG emissions. Essentially, this alternative would perpetuate the secondary impacts of the Program related to unlicensed cultivation, which would be greater than the Program since all existing and future commercial cannabis activities would occur without the benefit of the licenses. As such, adoption of the No Project Alternative could result in greater impacts related to all resources described above and would not reduce the significant Program impacts related to air quality and transportation. Similarly, significant and unavoidable impacts associated with unlicensed cannabis activities under the Project and More Permissive Project would be similar to this alternative for nearly all resources.

Additionally, this alternative would achieve none of the Project objectives (see Chapter 2, *Project Description*). This alternative would not develop any program to encourage cannabis cultivators and cannabis product manufacturers to operate legally, would not ensure compatibility of commercial cannabis activities with surrounding land uses, would not minimize adverse effects on natural resources or wildlife, and would not facilitate participation within the County or in accordance with recently-adopted state regulations.

4.2.2 Alternative 1 — Most Restrictive Alternative

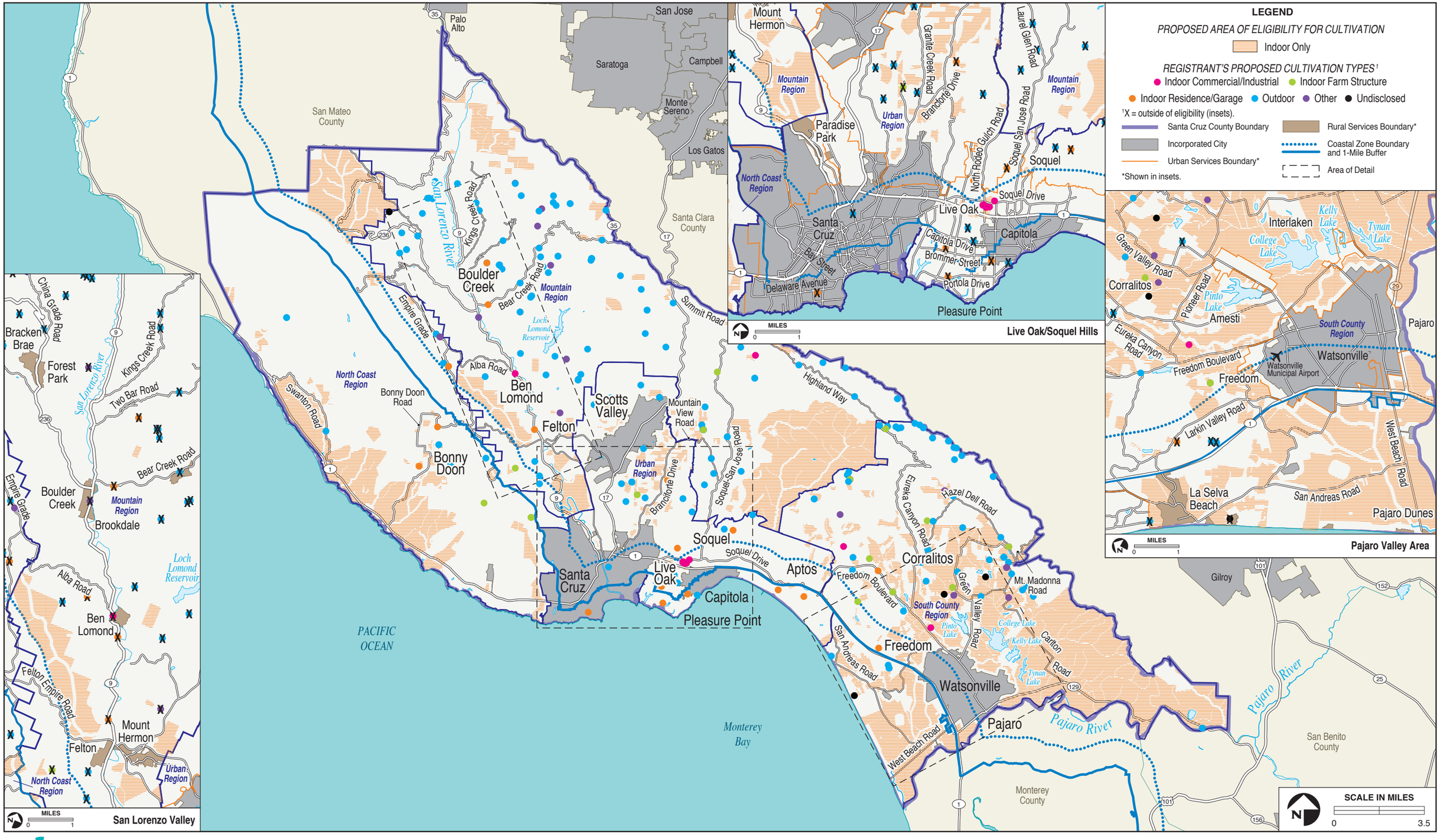
In almost all EIRs, there is some form of a reduced project alternative that is analyzed with the intent of reducing environmental resource, public service, and utility impacts. This alternative is often perceived to result in less environmental impacts than the main project analyzed in the EIR due to the

decreased amount of development permitted. The success of this approach varies by project type and the particular environmental circumstances that surround the project. However, regulatory programs must also consider the feasibility and appeal of the program in terms of participation and success in alleviated unregulated activities. The Most Restrictive Alternative considers environmental impacts under a modified set of licensing regulations that would severely reduce the areas of eligibility in the County where licenses may be issued for commercial cannabis activities (Figures 4.1a and 4.1b). The intent of this alternative is to reduce impacts by constraining the level of licensed activities to limited areas in the County, including commercial and manufacturing zone districts. Under the Most Restrictive Alternative, increased setbacks would be implemented, cultivation and manufacturing would not be allowed in rural mountainous or residential areas, and outdoor cultivation would not be licensed.

The Most Restrictive Alternative would modify the proposed Project scenario as follows:

- Ineligibility of cultivation within RA and TP zoning districts
- Consideration of two approaches to SU zoning district eligibility:
    - **Option 1**. Ineligibility of cultivation for only those SU zoned parcels with residential general plan land use designations
    - **Options 2**. Ineligibility of cultivation for all SU zoned parcels
- No outdoor cultivation; only indoor cultivation and indoor greenhouse cultivation allowed
- Within the Coastal Zone + 1 mile buffer area, cultivation only allowed in CA, A, M1, M2, M3, and C4 zoning districts
- A residence or caretaker units is required on cultivation sites within all eligible zoning districts, including CA
- Increased required setback to perennial stream, water body, or wetland from 100 feet to 200 feet
- Manufacturing would only be permitted on M1, M2, M3, C2 (only if in a licensed dispensary), and C4
- Increased setbacks between habitable structures and cultivation in the A zone district
- No cannabis activities licensed on public lands

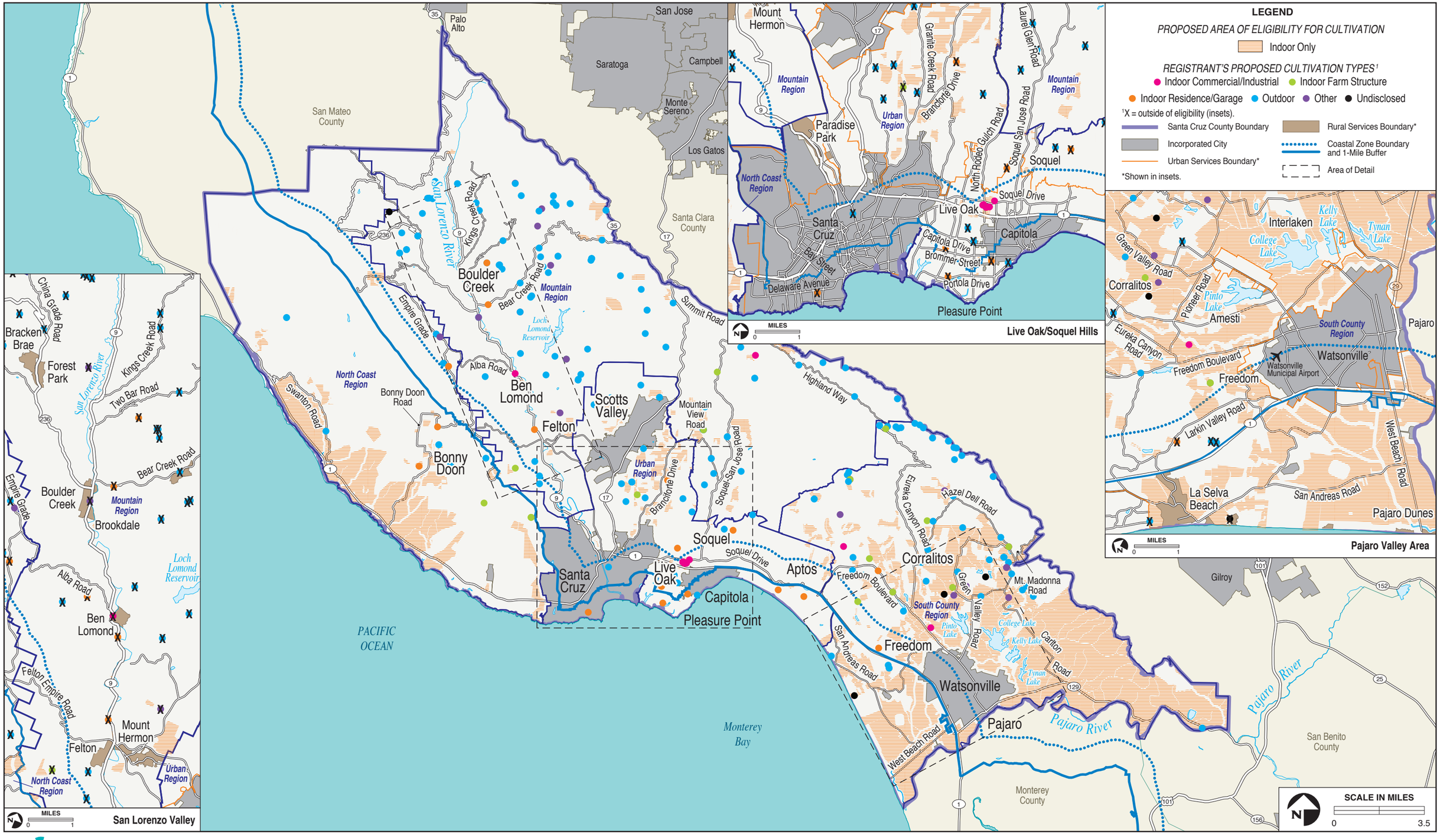
These restrictions would be implemented through development standards and zoning regulations included under this alternative to reduce the area of eligibility compared to the proposed Project scenario (Figure 4.1a and 4.1b).



Most Restrictive Alternative – Option 1: Area of Eligibility for Cultivation Licenses

FIGURE 4-1a

This page intentionally left blank.



Most Restrictive Alternative – Option 2: Area of Eligibility for Cultivation Licenses

FIGURE 4-1b

This page intentionally left blank.

Similar to both Program scenarios, the 2016 License Registration limits the total number of potential cultivation licensees to a maximum of 760, though the licensees may locate anywhere within the reduced areas of eligibility. Data collected indicated that 567 registrants currently cultivate, while 193 registrants propose new cultivation in the future under the Program. Data collected also provided the location of 259 potential sites for licensing, which allows for comparison between the Program alternatives for what portion of registrants may qualify. Under this alternative, data indicates that approximately 19 percent to 20 percent of registrants would be eligible for licensing based on site location within the Program's area of eligibility (Table 4-1). This comparison characterizes the relationship between the regulations and the desired locations of the cannabis industry.

Table 4-1 Comparison of Registrant-Provided Cultivation Sites Eligibility under the Program and Alternative 1

	Project	More Permissive Project	Most Restrictive Project Option 1	Most Restrictive Project Option 2
Total Registrant-Provided Sites	**259**	**259**	**259**	**259**
Potentially Eligible after Program Regulatory Constraints are Considered	145 (56 %)	165 (64%)	**53 (20%)**	**50 (19%)**
Potentially Ineligible Sites	114 (44%)	94 (36%)	**206 (80%)**	**209 (81%)**

Further, a summary of area of eligibility under Alternative 1 compared to the Program is provided in Table 4-2. The Most Restrictive Alternative would reduce the total amount of eligible area and sites compared to both Program scenarios. As indicated within the table, the Most Restrictive Alternative would have the least eligible area and would involve the most relocation to move the 760 existing and proposed cannabis businesses into eligible areas under the Program scenarios and alternatives. It would also concentrate cannabis business in focused areas of the County compared to the Program (Figure 4-1a and 1b).

Table 4-2 Alternative 1 Most Restrictive Alternative Area of Eligibility

	Project	More Permissive Project	Most Restrictive Alternative Option 1	Most Restrictive Alternative Option 2
Area of Eligibility for Cultivation Licenses				
Total Eligible Area (acres)	147,750	164,721	61,200	43,405
Total Eligible Sites	6,228	8,888	3,801	3,506

As with both Program scenarios, while it is possible that some registrants may not ultimately receive licenses to cultivate cannabis commercially, the County's goal is to assist all 760 registrants in finding a suitable location and configuration consistent with the Program. For this alternative, these 760 registrants would need to find locations within the reduced area of eligibility as depicted in either Figure 4.1a or 4.1b. While it may appear that many registrants are ineligible for cultivation licensing,

it is assumed that these sites would relocate under the Program; therefore, all registrants are considered as part of this EIR alternative.

As with the Project and More Permissive Project, the approximate total area of eligibility for cannabis product manufacturing under this alternative decreases substantially from both Program scenarios and manufacturing facilities would be centered into select areas of the County within commercial and manufacturing districts. This would result in a decrease in total number of cannabis manufacturing operations and associated developed area, as there is no registration process required for manufacturing licenses. The reduced area that would be eligible for manufacturing licenses would limit the opportunity for business to secure a license in the County.

While the reduction of current and future cultivation sites under this alternative would result in some direct natural environment and community benefits for regulated and licensed cannabis businesses, the Most Restrictive Alternative has the potential to result in increased secondary impacts associated with continued or increased non-permitted cultivation and manufacturing activities that would not be eligible for a license. Many potential licensees may abandon the Program if the proposed site of licensing is not eligible and would continue either in place or in a new location without seeking a license. Such operations would not be subject to licensing criteria requirements, development standards, and regulations associated with licensed facilities and could result in continued or increased adverse effects upon the environment, such as clear cutting of forests and sensitive habitats, unregulated volatile manufacturing, water diversions, non-regulated waste water effluence, sedimentation and erosion concerns, greater fire safety and security risks, degradation of neighborhood quality of life, as further described herein. By not accommodating a substantial proportion of existing and projected demand for commercial cannabis opportunities as represented in the License Registration data, the Most Restrictive Alternative may result in substantially greater secondary impacts than the Program.

Potential Impacts to Resource Areas

Aesthetics and Visual Resources

Impact AV-1: Under Alternative 1, no outdoor cultivation would be permitted, so fencing requirements would not be necessary. Developments standards related to visual resources, including scenic resources and vistas, existing visual character, and effects from nighttime lighting and glare would be focused on greenhouse and indoor cultivation development. Given that a portion of the 760 registrants may seek to relocate ineligible to eligible cannabis sites, a higher density of cannabis indoor and greenhouse development may occur within the reduced eligible zones (CA, A, M1, M2, M3, C4, and possibly limited areas in SU). Cannabis cultivation in new structures could result in grading, vegetation clearing, and construction on publicly visible slopes that could have adverse impacts on scenic resources; however, less licensed cultivation would occur in rural areas of the County given the removal of RA, TP, and some or all of SU zoned lands from eligible lands. Given the potential for additional greenhouse and structural development to alter the visual character of scenic areas of the County, direct impacts would be considered *potentially significant*. However, similar to the Project and More Permissive Project, limitations on signage/advertising, design review criteria, and limitations on lighting for security purposes, are designed to ensure compatibility with the surrounding landscape to reduce the visual impacts associated with cannabis activities so that the Program would not substantially degrade the visual character in the County. Therefore, Alternative 1 impacts would be *less than significant*.

Indirect impacts to aesthetic resources would be greater than both Program scenarios, with a similar range of impacts. While both Program scenarios would involve licensing of more eligible sites than Alternative 1, potentially increasing the spread of visual impacts throughout the County, the requirement of Alternative 1 to require permanent housing on all eligible districts similar to the Project scenario in addition to caretakers quarters on CA lands and associated visual impacts of grading, land clearing, and site improvements, would remain. Similar to both Program scenarios, impacts of this alternative would result from the construction of up to 228 new onsite residential units required to cultivate, along with additional residences on all other cannabis cultivation sites plus any associated roads, utility infrastructure, and site improvements, including up to 568 120,000-gallon water tanks for fire protection, to support onsite cannabis cultivation operations. With implementation of MM AV-1.2, *Visual Blending Plan for Cannabis Infrastructure*, MM LU-1.1.4, *Master Planned Cannabis Facilities,* and MM LU-1.1.5, *Avoid Excessive Grading and Disturbance Associated with Commercial, Industrial, and Manufacturing Cannabis Activities*, impacts would be reduced to *less than significant with mitigation*.

Impact AV-2: Since the manufacturing component of Alternative 1 would further restrict the locations for manufacturing facilities compared to both the Project and More Permissive Project, cannabis product manufacturing under Alternative 1 would have less adverse direct impacts on scenic vistas, existing visual character, and effects from nighttime lighting and glare than the two Program scenarios and remain *less than significant*.

Indirect impacts under Alternative 1 could change the existing character of scenic resources near each cultivation site, notably with the implementation of new buildings and related infrastructure, including 120,000-gallon water storage tanks for firefighting, which would be constructed for manufacturing operations in areas outside municipal water service districts. Impacts would be similar to both Program scenarios, and with implementation of AV-1.2, *Visual Blending Plan for Cannabis Infrastructure*, MM LU-1.1.4, *Master Planned Cannabis Facilities,* and MM LU-1.1.5, *Avoid Excessive Grading and Disturbance Associated with Commercial, Industrial, and Manufacturing Cannabis Activities*, impacts would be reduced to *less than significant with mitigation*.

Secondary Impacts: Alternative 1 would decrease the number of properties eligible for licenses and increase eligible parcel size requirements more than the Project scenario, thus increasing unregulated cultivation beyond both Program scenarios. Approximately 20 percent of registrants would be located on eligible parcels and, with licensing, would be required to mitigate impacts, including visual resource effects, but the remaining 80 percent may continue as unregulated activities. There is no feasible way to eradicate all unregulated cannabis activities in the County and unlicensed cannabis cultivation is not anticipated to comply with existing SCCC regulations or proposed Program regulations that address protection of scenic resources and reduced associated impacts. However, because unregulated cannabis cultivation operations are generally difficult to detect and would not significantly degrade scenic resources in publicly visible areas, secondary impacts would remain *less than significant*.

Agricultural and Timber Resources

Impacts AT-1 and AT-2: Direct impacts under Alternative 1 from cannabis cultivation and manufacturing would be similar to those described in Section 3.2, *Agricultural and Timber Resources*. Because cannabis is identified as an "agricultural product", conversion of outdoor cultivation to indoor or greenhouse cultivation would not lead to a conversion from agricultural soils or conflict with existing agricultural zoning or Williamson Act contracts. Unlike both Program scenarios,

manufacturing under Alternative 1 would not be allowed on CA or A zoned lands, though manufacturing activities are permitted as an ancillary use to agriculture on other lands, and impacts to agricultural and Williamson Act contract resources would be *less than significant* and similar to both Program scenarios.

Indirect impacts to important farmland, agriculturally zoned areas, and Williamson Act contract lands would be similar to the Program, as permanent residences and associated site improvements would be required, though much greater due to the additional requirement for caretakers quarters on CA zoned lands and permanent housing on all eligible districts. However, while there would more development of housing, there would be reduced requirements for site improvements for cannabis related structures, including water tanks, roads, and vegetation clearing. With application of existing SCCC regulations, impacts would remain *less than significant*.

Impacts AT-3 and AT-4: Direct impacts to existing zoning and use of forest land under Alternative 1 from both cultivation and manufacturing would be less than both Program scenarios, as this alternative would not allow cultivation on lands zoned for timber production (TP). For areas of the County with the potential for timber production, but not zoned TP, General Plan Policy 5.12.8 and state regulations would protect timber resource land eligible for TP. With implementation of MM AT-4.1a, *Siting Allowance for New Manufacturing Structural Development*, and MM AT-4.1b, *Land Clearing*, impacts would be less compared to the Program and remain *less than significant with mitigation*.

Indirect impacts to land zoned for timber uses and those lands used for timber harvesting under Alternative 1 would be similar to the Project scenario impacts for areas not zoned TP. Implementation of County Fire Code standards could result in significant loss of forested lands and trees due to required site improvements, though the area affected would be less than the Program. Implementation of MM LU-1.1.4, *Master Planned Cannabis Facilities,* and MM LU-1.1.5, *Avoid Excessive Grading and Disturbance Associated with Commercial, Industrial, and Manufacturing Cannabis Activities*, would reduce impacts to *less than significant with mitigation*.

Secondary Impacts: Alternative 1 would decrease the number of eligible licenses and increase eligible parcel size requirements more than the Project scenario, thus increasing unregulated cultivation beyond both Program scenarios. Approximately 20 percent of registrants would be located on eligible parcels and, with licensing, would be required to mitigate impacts, including agricultural and timber resources, but the remaining 80 percent may continue as unregulated activities. There is no feasible way to eradicate all unregulated cannabis activities in the County and unlicensed cannabis cultivation is not anticipated to comply with existing SCCC regulations or proposed Program regulations that address protection of agricultural and timber resources and reduced associated impacts. Therefore, secondary impacts would exceed that of both Program scenarios, and impacts to agricultural and timber resources would remain *significant and unavoidable*, despite implementation of MM AT-1.3a, *Sustained Enforcement Program*, and MM AT-1.3b, *Annual Survey and Monitoring Report*.

Air Quality

Impact AQ-1: Direct impacts would be similar to those discussed in Section 3.3, *Air Quality*, though incrementally reduced from both Program scenarios. Limiting the zoning districts and increasing setbacks in which cannabis cultivation may occur under Alternative 1 would lessen pollutant concentrations and objectionable odors on nearby sensitive receptors. However, concentrating cannabis cultivation and manufacturing facilities to areas primarily within the southern region of the County would increase the cumulative effect of these odors within this region. Taken together,

impacts would be similar to the Program. Implementation of MM AG-1.1, *Siting for Odor Abatement*, MM AQ-1.2, *Greenhouse Odors*, MM AQ-1.3. *Prohibit Cannabis Material Burning*, MM AQ-1.4. *Consistency of Pesticide Use Setbacks*, and MM AQ-1.5. *Open Air Extraction Area Setbacks*, would reduce impacts to *less than significant with mitigation*.

Indirect impacts from odors and site emissions would be similar in nature to both Program scenarios but reduced under Alternative 1, as permanent residences and associated site improvements would remain required for sites within the A zone districts in addition to a requirement for caretakers quarters on CA zoned lands and permanent housing on all eligible districts. However, RA, TP, and some or all lands zoned SU would no longer be eligible for cannabis cultivation and associated residential development would not be required, which would reduce these indirect impacts. Impacts would remain *less than significant*.

Impacts AQ-2 and AQ-3: Direct and indirect air quality impacts of cannabis cultivation and manufacturing under Alternative 1 would be similar to that of both Program scenarios and inconsistent with the Monterey Bay Unified Air Pollution Control District (MBUAPCD) Air Quality Management Plan (AQMP) due to the exceedance of 137 lbs/day of NO_x (see Table 3.3-7) and further exceedance due to indirect impacts from installation of permanent residences on all sites, caretakers quarters on CA zoned land, and associated site improvements. Additionally, as the County is in nonattainment-transitional for ozone, nonattainment for PM_{10}, and unclassified for CO, exceedance of NO_x also exceeds adopted thresholds. Implementation of MM AQ-2.1, *Implement TDM Measures*, would reduce impacts, however direct and indirect impacts would remain *significant and unavoidable*.

Secondary Impacts: Under Alternative 1, secondary impacts related to air emissions and objectionable odors would be more severe due to greater amounts of indirect impacts associated with unregulated cannabis activities. The area of license eligibility is much smaller than the Program, which may lead to registrants abandoning the Program and pursuing unlicensed cannabis activities. Approximately 80 percent of registrant would not be eligible for a cultivation licenses on their current site and would either need to relocate into the smaller area of eligibility or abandon the Program. Similar to both Program scenarios, unregulated commercial cannabis cultivation and cannabis product manufacturing under Alternative 1 could expose sensitive receptors to substantial pollutant concentrations and create objectionable odors affecting a substantial number of people, be potentially inconsistent with the MBUAPCD AQMP, and potentially violate an air quality standard or contribute to an air quality violation, and result in a cumulatively considerable net increase of a criteria pollutant for which the County is in nonattainment. Despite the implementation of MM AT-1.3a. *Sustained Enforcement Program*, MM AT-1.3b. *Annual Survey and Monitoring Report*, and MM AQ-1.3. *Prohibit Cannabis Material Burning*, secondary impacts would be greater than the Program and would remain *significant and unavoidable*.

Biological Resources

Impacts BIO-1 and BIO-2: Direct impacts under Alternative 1 would consist of limited disturbance of vegetation, individual species or populations, habitats or sensitive natural communities, and the disturbance, modification, or destruction of habitat due to the cultivation of cannabis canopy. Additionally, direct impacts from manufacturing and related structural development, and operations would be similar to both Program scenarios due to the same amount of manufacturing facilities anticipated under Alternative 1. Increased cultivation setbacks from perennial stream, water body, or wetland and prohibition of cultivation in RA, TP, SU zoning districts would reduce impacts upon special-status fish species, essential fish habitat, California listed species of special concerns, nesting

birds, threatened or endangered individuals and habitat, and special status plants. However, licensed cannabis activities would be consolidated into smaller areas of the County, which would increase the risk of impact to habitat areas. The eligible areas under this alternative are generally located in areas with lower habitat value in agricultural areas, but the potential for substantial effects persists in these areas. With the implementation of MM BIO-1.1a, *Special-status Species Habitat Assessment*, MM BIO-1.1b, *Habitat Compensation*, MM BIO-1.1c, *Worker Environmental Awareness Program*, MM BIO-1.1d, *Prevention of Spread of Nonnative Invasive Plants*, MM BIO-1.1e, *Roosting Bat Survey*, MM BIO-1.1f, *Nesting Bird Survey*, MM BIO-1.1g, *Pest Management Plan*, MM BIO-1.1h, *Water Draw Restrictions*, MM BIO-2.1a, *Sensitive Communities Habitat Assessment*, MM BIO-2.1b, *Avoid Oak Woodland*, BIO-2.1c, *Community Replacement*, and MM HYDRO-1.1, *Pesticide and Herbicide Control*, direct impacts would be reduced compared to both Program scenarios and remain *less than significant with mitigation*.

Indirect biological resource impacts would be similar in nature to both Project scenarios but reduced under Alternative 1, as permanent residences and associated site improvements would remain required for sites within the A zone districts in addition to a requirement for caretakers quarters on CA zoned lands and permanent housing on all eligible districts. However, RA, TP, and some or all lands zoned SU would no longer be eligible for cannabis cultivation and associated residential development would not be required. Alternative 1 indirect impacts related to manufacturing may be reduced due to required siting on existing commercial and industrial zoning districts with typically less existing biological resources. Overall, because the range of the Program area is reduced under Alternative 1, associated indirect impacts would likely decrease in comparison to both Program scenarios and implementation of MM BIO-1.1a through MM BIO-1.1f, MM BIO-1.1h, MM BIO-2.1a through MM BIO-2.1c, MM HYDRO-2.2, *Rainwater Harvesting for Cannabis Cultivation*, and MM HYDRO-2.3, *Fire Water Tank Supply Management*, would ensure indirect impacts are *less than significant with mitigation*.

Impact BIO-3: Direct impacts under Alternative 1 on the movement of any native resident or migratory species would be less than both Program scenarios, because of the reduced amount of both cultivation and manufacturing that would be permitted on or adjacent to wildlife areas and the avoidance of fencing enclosures due to the prohibition of outdoor cultivation sites. Direct impacts would remain *less than significant with mitigation*. Similar to both Program scenarios, indirect impacts attributed to development of residences, caretaker units, and related infrastructure would be subject to existing plans and policies designed to protect and ensure the movement of native or migratory species throughout the County, and preserve wildlife corridors. Therefore, this impact would remain *less than significant*.

Impact BIO-4: Direct and indirect impacts under Alternative 1 would remain similar to both Program scenarios on adopted local plans, policies, or ordinances oriented towards the protection and conservation of biological resources. Actions under Alternative 1 would require adherence to adopted plans such as the Interim Programmatic Habitat Conservation Plan for the Sandhills and SCCC tree protection ordinance. With implementation of MM BIO-4.1 *Avoidance of Conflict with an Approved HCP*, and MM BIO-4.2, *No Cannabis Activities Allowed within Sandhills Habitat or SCLTS*, direct and indirect impacts would remain *less than significant with mitigation*.

Secondary Impacts: Secondary impacts of cannabis cultivation and manufacturing under Alternative 1 would be increased compared to both Program scenarios due to the preclusion of approximately 75 percent of cultivators and producers that may resort to illegal activities throughout the County, such as clear-cutting, destruction of sensitive habitats, the introduction of hazardous materials, unpermitted development activities that prevent the passage of wildlife or divert streams crucial to the life cycle of aquatic or riparian species. Due to the increased anticipated amount of unlicensed

cultivation and manufacturing, and despite the implementation of MM AT-1.3a and MM AT-1.3b, secondary impacts would be greater than both Program scenarios and remain *significant and unavoidable*.

Cultural Resources

Impact CR-1: Under Alternative 1, commercial cannabis cultivation and cannabis product manufacturing could result in physical demolition, destruction, relocation, or alteration of built historical resources. As Alternative 1 would involve a smaller potential impact area than the Project and More Permissive Project scenarios, there would theoretically be a decreased potential for adverse effects upon built historical resources. Nevertheless, the potential remains for land clearing and modifications to existing structures near properties that are known to include significant historical built environment resources, which may have an adverse effect on the physical context for the historic structure and diminish its historic value. Therefore, impacts would be similar to the Program and MM CR-1.1, *Preliminary Historic Assessment of Structures 50 Years Old or More*, would remain necessary to reduce the impact of direct impacts of Alternative 1 on built historic resources to *less than significant with mitigation*.

Indirect impacts under Alternative 1 would remain *less than significant* and similar to both Program scenarios due to existing requirements for any new development on existing built historical resource properties, which would be subject to the guidelines and regulations set forth in the General Plan, Chapter 13.10 of the SCCC, Historic Landmark L Combining District, and Chapter 16.42 of the SCCC, Historic Resources Preservation Ordinance.

Impact CR-2: Alternative 1 would involve licensing of a smaller potential impact area than the Project or More Permissive Project, which would result in more focused areas under Alternative 1 and would decrease the potential area for disturbance of undiscovered archaeological or paleontological resources under the Program. Nevertheless, site preparation and grading activities for new developments could still inadvertently uncover archaeological, tribal, or paleontological resources. Impacts would be similar to the Program. Compliance with all County policies, SCCC, and guidelines that protect significant cultural resources would ensure that both direct and indirect impacts of Alternative 1 to archaeological resources, tribal cultural resources, human remains, and paleontological resources would remain *less than significant*.

Secondary Impacts: Due to the inability to predict the location of unregulated cultivation and manufacturing sites and the likelihood that future unregulated commercial cannabis cultivation would result in the damage or demolition of known or potential historic resources, in addition to the potential for more unlicensed cultivation and manufacturing sites, secondary impacts of Alternative 1 would exceed that of the Project and the More Permissive Project upon built historic resources. However, since the locations of all built historic resources in the County are known, with implementation of MM AT-1.3a, *Sustained Enforcement Program*, and AT-1.3b, *Annual Survey and Monitoring Report*, it is possible to enforce appropriate practices related to historic resources on these properties. However, as noted in Section 3.5, *Cultural Resources*, it is impossible to know where undiscovered sensitive archaeological and paleontological resources exist unless the person who discovers these resources alerts the County. Since unregulated cultivators are unlikely to alert the County if their ground-disturbing activities uncover such resources, adverse impacts would still occur under Alternative 1. Due to an anticipated increase of unlicensed growers operating under Alternative 1, even with implementation of MM AG-1.3a and AG-1.3b, residual secondary impacts to archaeological resources, tribal cultural resources, human remains, or paleontological resources

would exceed that of both the Project and the More Permissive Project and would remain *significant and unavoidable*.

Geology and Soils

Impact GEO-1: Direct impacts of Alternative 1 on geological stability, including landslides and erosion, would be similar to the Project and More Permissive Project. Potential geologic impacts associated with cultivation activities under the Program would be mitigated by existing County policies and regulations. With the application of existing regulations, direct Alternative 1 impacts associated with geologic hazards would be considered *less than significant*.

Indirect impacts upon geologic and soil resources would be increased under Alternative 1, as permanent residences and associated site improvements would be required for cannabis sites in addition to a requirement for caretakers quarters on CA zoned lands and permanent housing on all eligible districts. However, RA, TP, and some or all lands zoned SU would no longer be eligible for cannabis cultivation and associated residential development would not be required. To mitigate for increased impacts, MM LU-1.1.4, *Master Planned Cannabis Facilities*, and MM LU-1.1.5, *Avoid Excessive Grading and Disturbance Associated with Commercial, Industrial, and Manufacturing Cannabis Activities*, should be modified to include CA zoning district for potential alternate site development requirements. Therefore, indirect impacts associated with geologic hazards under Alternative 1 would be slightly less than the Program and would remain *less than significant with mitigation*.

Impact GEO-2: Cannabis product manufacturing under Alternative 1 in commercial and manufacturing districts only could be exposed to or create geologic hazards, including earthquakes. Direct impacts from geologic hazards would be less than both Program scenarios, as manufacturing facilities are anticipated to be centralized within existing commercial and manufacturing districts, largely located in the South County Region, and is generally flat without substantial geologic hazards other than liquefaction risk. Application of existing SCCC requirements would ensure impacts would be *less than significant*, and slightly reduced compared to both Program scenarios.

Indirect geologic impacts from manufacturing under Alternative 1 would be similar to both Program scenarios, however would be reduced due to the reduction of allowable areas for new manufacturing facilities. Impacts would be slightly less than the Program and remain *less than significant*.

Secondary Impacts: Secondary impacts from Alternative 1 could be created through continued or accelerated unlicensed cannabis cultivation Countywide as approximately 80 percent of potential cannabis cultivators would be excluded by the Alternative 1 standards and requirements. Given unlicensed cannabis cultivation would not comply with existing SCCC regulations that address geologic hazards such as siting, grading, and erosion control and reduced associated impacts, secondary impacts related to unlicensed cannabis cultivation and geologic hazards under the Program would remain substantial and would be greater than the Program, as more sites may continue as unregulated operations. Operational activities, including volatile extraction processes, may also occur in structures that are not designed to withstand exposure to unstable ground conditions, particularly ground failure during seismic events. Though MM AT-1.3a, *Sustained Enforcement Program*, and AT-1.3b, *Annual Survey and Monitoring Report*, would address unlicensed cultivation on an ongoing basis and reduce secondary impacts over the life of Alternative 1, potential adverse impacts to geologic hazards, soils, and minerals would be greater than both Program scenarios due to increased amounts of unregulated activities and impacts would remain *significant and unavoidable*.

Greenhouse Gas Emissions and Climate Change

Impact GHG-1: Direct and indirect impacts to GHGs would be similar to both Program scenarios, as direct cannabis activities from Alternative 1 would result in estimated emissions of 13.4 MT CO_2e/service population (SP)/year, exceeding the Bay Area Air Quality Management District's (BAAQMD) recommended GHG threshold of 4.6 MT CO_2e/SP/year. Additionally, indirect impacts would remain similar to both Project scenarios due to the necessity for permanent residences with associated site improvements, and incrementally greater due to the requirement for a residence or caretakers quarters on CA zoned lands. Implementation of MM LU-1.1.6, *Cannabis Best Management Practices*, and MM GHG-1.1, *Alternative Energy Sources*, would reduce the impacts of cannabis cultivation and manufacturing through the increase of energy efficiency, consistency with the County's Climate Action Strategy (CAS), and the County's and state's goals for GHG reduction. Impacts would therefore be similar to both Project scenarios and *less than significant with mitigation*.

Secondary Impacts: Though MM AT-1.3a, *Sustained Enforcement Program*, and AT-1.3b, *Annual Survey and Monitoring Report*, would address unlicensed cultivation on an ongoing basis and reduce secondary impacts over the life of Alternative 1, potential adverse impacts from greenhouse gas emissions would still occur, and greater than both Program scenarios due to decreased amounts of regulated activities and increased amounts of illegal operations. Impacts would remain *significant and unavoidable*.

Hazards and Hazardous Materials

Impact HAZ-1: Under Alternative 1, direct impacts from construction and operation would result from the use, storage, transport, or discharge of potentially hazardous materials. Cannabis cultivation would be consolidated into a smaller area of the County, which could increase risks of upset in some areas but reduce risk in others; however, commercial cannabis cultivation would be subject to existing laws and regulations governing the cultivation of commercial food products and associated hazardous activities. Therefore, direct impacts would be similar to both Program scenarios and remain *less than significant*.

Indirect impacts from handling or release of hazardous materials during construction and operation of residential units than the Program and associated roads, driveways and infrastructure, as well as onsite fire water tanks would also be greater than both Program scenarios due to the anticipated residences, caretaker units, and ancillary features anticipated. The permit review process, review by the Licensing Office, and application of existing federal, state, and local regulations governing the use of hazardous agricultural chemicals and activities would ensure impacts remain *less than significant*.

Impact HAZ-2: Direct impacts from commercial cannabis product manufacturing and associated use of hazardous materials would be reduced compared to that of both Program scenarios. Because Alternative 1 limits manufacturing to industrial and commercial areas, there exists limited potential for the construction of new facilities with hazardous uses on lands primarily used for residences or agriculture (such as prohibiting manufacturing on residential and agricultural zoning districts) and limited potential for the introduction of hazardous materials to areas without existing hazardous materials use. Therefore, impacts would be less than both Program scenarios and remain *less than significant*.

Indirect impacts of Alternative 1 from utility and ancillary facility manufacturing activities and their associated hazards would be managed by federal, state, and local regulatory requirements, and this alternative impact would not require mitigation to remain *less than significant*.

Impact HAZ-3: Direct impacts from cannabis cultivation and manufacturing located in high fire hazard, wildland areas would be reduced compared to both Program scenarios, primarily due to the prohibitions of outdoor cultivation and cultivation on TP and some or all of SU zoning districts. Because TP and SU zoning districts contain a large amount of high fire hazard and wildland areas (due to associated timber resources contained within these districts and their associated fire and access hazards), restricting cultivation and manufacturing outside these locations would reduce the risk of associated exposure of people and structures from wildland fires and interference with emergency evacuations. Nevertheless, compliance with CalFire defensible space requirements, County Building Code, and County Fire Code regulations on other eligible parcels within fire hazard areas within CA, A, M, and C4 zoning districts would ensure protection of proposed facilities from wildfire hazards and impacts would remain *less than significant*.

Indirect impacts from new homes and site improvements to support cannabis business may occur when located within high fire hazard areas, exposing people or structures to significant risks involving wildland fires, would be similar to both the Project and More Permissive Project, notably in the requirement for County Fire Code compliant ancillary structures such as requiring a 120,000-gallon water tank, a 20-foot wide road, and 100 feet of vegetation clearing around the structure that would increase hazards to environments and habitats throughout the County. Alternative 1 requires the Licensing Official to ensure that operations comply with the County Fire Code prior to issuance of a license, therefore impacts are considered *less than significant* and similar to both Program scenarios.

Secondary Impacts: Secondary impacts under Alternative 1 on the use, transport and disposal of hazardous materials would be greater than that of the Project and More Permissive Project due to the higher number of unlicensed cannabis cultivators that would not adhere to permit requirements, review by the Licensing Office, or application of existing federal, state, and local regulations governing the use of hazardous agricultural chemicals. Limiting cultivator access to the use of manufacturing facilities would result in a need that may be pursued in illegal and dangerous alternatives (i.e., some forms of BHO extraction labs). With the lack of enforcement and regulations of these operations, there is a greater chance that these sites may not comply with policies or regulations designed to reduce fire hazards, especially those concentrated in the mountains and forested regions of the County not covered by this alternative (such as those within TP and SU areas). With implementation of MM AT-1.3a, *Sustained Enforcement Program*, and AT-1.3b, *Annual Survey and Monitoring Report*, to implement surveying and sustainable enforcement mitigations, secondary impacts would be reduced over the life of the Program, though would remain worse than both Program scenarios and *significant and unavoidable*.

Hydrology and Water Resources

Impact HYDRO-1: Direct impacts from commercial cannabis cultivation under Alternative 1 related to sedimentation and other pollutants to surface flows and groundwater, groundwater supplies, and groundwater recharge would be similar in nature to both Program scenarios. Alternative 1 would also allow licensed cannabis cultivation in accordance with existing water quality regulations, and application of surface runoff requirements, hazardous material control, and use of pesticides, herbicides, and rodenticides would require adherence to existing regulations. Similar to both Program scenarios, the potential use of pesticides and rodenticides and related water and groundwater contamination would remain. MM HYDRO-1.1, *Pesticide and Herbicide Control*, MM HYDRO-1.2, *Cleanup and Restoration Plan for Relocated Cultivation Sites*, and MM HYDRO-1.3, *Sanitary Sewer Survey*, would remain necessary, resulting in direct impacts that *less than significant with mitigation*.

Indirect impacts would be similar in nature to the Project and More Permissive Project but would require either a residence or caretaker unit for all sites. Similar to Impact HYDRO-1 above, existing regulations would protect water quality from degradation associated with associated residential site improvements, including sedimentation and discharge of pollutants to water resources. For other ancillary structures, integration of MM LU-1.1.4, *Master Planned Cannabis Facilities*, and MM LU-1.1.5, *Avoid Excessive Grading and Disturbance Associated with Commercial, Industrial, and Manufacturing Cannabis Activities*, would ensure impacts remain *less than significant with mitigation*.

Impact HYDRO-2: Direct impacts to groundwater supplies and groundwater recharge would be incrementally greater than both Program scenarios. Because the area of eligibility for licensing focuses on the South County and Urban Regions, a higher number of cannabis cultivators could relocate to this area. The increase in groundwater use within these Regions, which overlies groundwater basins that are in a stage of overdraft and serve agricultural demands, increases in groundwater resource demands have the potential to exacerbate overdraft conditions and adversely affect groundwater resources, including increased rates of seawater intrusion. Groundwater resources may therefore be more intensively affected by this alternative than either Program scenario. With implementation of MM HYDRO-2.1, *Water Efficiency for Cannabis Cultivation*, and MM HYDRO-2.2, *Rainwater Harvesting for Cannabis Cultivation*, impacts would be *less than significant with mitigation* and incrementally greater than both Program scenarios.

Indirect impacts to groundwater supplies and groundwater recharge would be similar to both Program scenarios. Under Alternative 1, required ancillary facilities would include 120,000-gallon water tanks for nearly all sites proposing cannabis cultivation, storage, or processing. Implementation of MM HYDRO-2.3, *Water Tank Supply Management*, would ensure impacts are similar to both Program scenarios and *less than significant with mitigation*.

Impact HYDRO-3: Direct and indirect impacts of commercial cannabis cultivation under Alternative 1 on existing drainage patterns, including the alteration of the course of streams or rivers and the potential to place people or structures in areas of inundation or mudflows, including 100-year floodplains, would be less than both Program scenarios. Due to the relatively small size of cultivation operations compared to many other agricultural operations, limitations of building within floodplains and increased setbacks from streams and high-water mark areas, and adherence to the County's Grading and Erosion Control Ordinances (Chapters 16.20, 16.22, and 7.79 of the SCCC), direct and indirect impacts would be reduced. Additionally, with application of existing regulations to maintain drainage patters and hydraulic capacity, impacts to drainage patterns would remain *less than significant*.

Impact HYDRO-4 and HYDRO-5: Direct and indirect impacts of manufacturing under Alternative 1 associated with sedimentation and discharge of other pollutants to surface flows and groundwater; groundwater supplies and groundwater recharge; alteration of existing drainage patterns (e.g., stream course, river flow, etc.); and the potential to place people or structures in areas of inundation, mudflows, or 100-year floodplains would be similar to both Program scenarios. With application of existing regulations, impacts would remain *less than significant*.

Secondary Impacts: Secondary impacts would be greater than both Program scenarios due to a greater anticipated amount of unlicensed cannabis cultivation development and associated unpermitted grading and development practices that may interfere with groundwater infiltration and introduce sediments and pollutants to receiving water bodies. Additionally, a greater number of unlicensed cannabis cultivators would result in unpermitted discharges of fill material to water courses,

diversions of streams, and obstructed drainage patterns. County enforcement data demonstrates that poorly operated unlicensed grow operations in watersheds have erosion and sedimentation impacts on receiving waters. Despite the implementation of MM AT-1.3a, *Sustained Enforcement Program*, and AT-1.3b, *Annual Survey and Monitoring Report*, impacts would remain *significant and unavoidable* and greater than both Program scenarios.

Land Use and Planning

Impact LU-1: Direct and indirect impacts to land use and planning policy consistency would be similar than both the Project and More Permissive Project scenarios. Similar to the Program scenarios, Alternative 1 would involve site development requirements including installation of large water storage tanks (e.g., 120,000 gallon) and related clearing and grading, additional County Fire Code requirements (e.g., 20-foot wide roads in remote rural lands, 100-foot radius vegetation clearing), and exclusion of rural towns in the USL/RSL outside the Coastal Zone + 1-mile buffer area. However, this alternative does not contain a land use conflict in SU zoned parcels, as consideration for underlying land use designations would prevent cultivation on parcels intended for non-agricultural or manufacturing uses (i.e., residential). Implementation MM LU-1.1.3. *USL + RSL Allowances*, MM LU-1.1.4. *Master Planned Cannabis Facilities*, and MM LU-1.1.5, *Avoid Excessive Grading and Disturbance Associated with Commercial, Industrial, and Manufacturing Cannabis Activities*, and MM LU-1.1-6, *Cannabis Best Management Practices*, would ensure impacts are similar to the Program and *less than significant with mitigation*.

Impact LU-2: Direct and indirect impacts could occur under Alternative 1 from cannabis cultivation and manufacturing upon existing communities due to traffic, odors, noise, or other quality of life issues. Unlike both Program scenarios, manufacturing would not be allowed within residential zoning districts, reducing potential neighborhood compatibility issues or perceived change in quality of life. However, introducing a greater concentration of cannabis cultivation and manufacturing facilities to the South County and Urban Regions would increase associated amounts of traffic, odor, and noise that may detrimentally affect quality of life issues in that area. Increased setback requirements from A zoned sites from neighboring habitable structures would further reduce potential land use conflicts. Potential adverse effects on the surrounding neighborhood, and direct and indirect impacts to existing communities would be slightly more adverse, but would remain *less than significant*.

Secondary Impacts: Impacts to land use and planning policy consistency under Alternative 1 would result from land use conflicts related to unregulated cannabis cultivation and manufacturing activities, as unregulated cultivators and manufacturers would likely continue to operate illegally, or would not be able to obtain a license, as only 20 percent of registrants would be eligible for a cultivation license under this alternative. Impacts to neighborhood compatibility and plan inconsistency would result from land use conflicts related to unregulated cannabis cultivation and manufacturing activities within or adjacent to existing communities, especially in areas of the County known for cultivation such as the Mountain and North Coast Regions. Alternative 1 would not allow additional registration opportunities to become legally licensed, and so impacts would be similar to the Project scenario as unregulated cannabis cultivators and manufacturers would not be offered future opportunities to comply with land use and zoning. With the implementation of MM AG-1.3a, *Sustainable Enforcement Program*, and MM AT-1.3b, *Annual Survey and Monitoring Report*, the quantity of illegal operators may be reduced over time, however the practice would still occur and impacts would be greater than both Program scenarios and become *significant and unavoidable*.

Public Services

Impacts PS-1 and PS-2: Direct and indirect impacts from cannabis cultivation and manufacturing under Alternative 1 would increase demand for fire protection, police protection, public schools, parks, libraries, and other public facilities, similar to both Program scenarios.

Fire Protection: Because Alternative 1 restricts cultivation and manufacturing areas from RA, TP, and US zoning districts, the potential for population increases in high fire risk zones would also be reduced. Nevertheless, implementation of this alternative could potentially consolidate cannabis sites and related population into other high fire risk zones containing eligible zoning districts, which would increase service demands. Licensees must comply with Fire Protection Policies 7.16.1 and 7.16.2 to ensure emergency access, evacuation routes, and appropriate structural development. With compliance with fire safety inspections for new residences, building inspections, fire code investigations, and code compliance, overall risk of fire would be reduced and direct and indirect impacts would be *less than significant* and less than both Program scenarios.

Police Protection: Impacts would be similar to both Program scenarios, with increased levels of employment, employee population, and police staffing levels. Impacts would be less than the Program and would remain *less than significant*.

Parks, Schools, Libraries and Other Public Services: As under both Program scenarios, Alternative 1 would potentially generate additional full-time cultivation employees, which would contribute to increased demand for housing, as well as the use of parks, schools, libraries, and other public services by the employees' families. As discussed in Section 3.11, *Public Services*, population increase would not represent a substantial increase in demand for these public services, though a higher concentration of this population in the South County and Urban Regions due to eligible cultivation and manufacturing sites may create an unequal distribution of needs for services. Ultimately, impacts would remain *less than significant* and similar to both Program scenarios.

Secondary Impacts: Unregulated cannabis cultivation and manufacturing activities under Alternative 1, including volatile extraction processes, may occur in structures that are not in compliance with the County Building Code, thereby increasing fire and hazards risks for both residents and emergency response personnel. Unlicensed cultivation and manufacturing may occur in remote areas such as in the North Coast and Mountain regions, lacking adequate emergency access routes and further increasing response times. Given that unlicensed cannabis cultivation would be greater than both Program scenarios and would not comply with existing SCCC regulations that address public service adequacy including acceptable emergency access, impacts would greater than the Program. Despite the implementation of MM AT-1.3a, *Sustained Enforcement Program*, and MM AT-1.3b, *Annual Survey and Recording*, which would address unlicensed cultivation on an ongoing basis, impacts related to public services under this alternative would be *significant and unavoidable* and greater than both Program scenarios.

Population, Employment, and Housing

Impact POP-1: As under both Program scenarios, direct impacts of Alternative 1 would result in an increase of full-time cultivation employees Countywide similar to the Program. While the increase in housing demand from cannabis industry employees may be substantial, the County maintains programs and policies to ensure adequate provision of housing to meet ongoing demands, particularly when the demand is generated from local industries, including Measure J and the Housing Element. With implementation of MM POP-1.1, *Affordable Housing Fee for Agricultural Buildings Used for*

Commercial Cannabis, impacts would be similar to both Program scenarios and remain *less than significant with mitigation*.

Indirect impacts under Alternative 1 on population, employment, and housing would result in the construction of new housing units on some cannabis cultivation sites, especially within the South County and Urban Regions. Alternative 1 would involve the same number of licenses on a smaller quantity of eligible sites compared to both Program scenarios. Additionally, this alternative would require permanent residences, and would ultimately create more permanent residences. The increase of permanent housing in the County would increase the County's housing stock, and enable a higher number of people to live in the County (a permanent increase in County population). Given the geographic limitations of Alternative 1, residential development would be limited to pockets of the County where cannabis activities have the potential to grow, as further discussed in Section 3.15, *Other CEQA Issues*. Therefore, indirect impacts to population and housing under Alternative 1 would be considered similar to both Program scenarios and remain *less than significant*.

Secondary Impacts: Under Alternative 1, more potential cannabis cultivators would be excluded from regulating opportunities, and impacts from unlicensed cultivation may include additional employees seeking housing within the County, as well as unpermitted residential development to house employees, and impacts would be greater than both Program scenarios. Unlicensed cultivation could occur in any of the countywide regions and could continue or expand in areas unsuitable for cultivation or development of appropriately permitted housing. Unpermitted residential habitation onsite would not be subject to plan check and inspection and would potentially have adverse effects on existing residents and neighborhoods due to unsafe and unpermitted nearby construction or reduction in property values due to proximity of unsafe and unpermitted construction. With implementation of MM AT-1.3a, *Sustained Enforcement Program*, and MM AT-1.3b, *Annual Survey and Monitoring Report*, to address unlicensed cultivation on an ongoing basis, impacts would be reduced over the life of the Program. However, impacts would be greater than the Program and would remain *significant and unavoidable*.

Transportation and Traffic

Impact TRA-1: Direct impacts from cultivation and manufacturing on transportation and traffic under Alternative 1 would be slightly more adverse compared to both Program scenarios. Similar to the Program scenarios, an increase in vehicle trips would be generated by cannabis operations and use existing roadways. Additionally, Countywide vehicle miles traveled (VMT) increases would be similar to the Program. However, with less opportunity for licensing in the Mountain Region, it is likely that transportation demand would increase in the Urban and South County Regions. Unlike both Program scenarios, this alternative would not permit a large portion of cannabis operations in the Mountain Region, and instead would likely have a sizeable portion of anticipated average daily traffic (ADT) within the South County and Urban Regions. These Regions are served primarily by Highway 1, which does not provide adequate levels of service for existing transportation demand. While other areas of the County may not be as affected, the South County and Urban Regions may experience more significant effects than other regions under this alternative. Implementation of MM TRA-1.1, *Payment Transportation Impact Fees*, would help to reduce impacts, but impacts to congestion roadways would be more severe than the Program on local roads in the South County and Urban Regions and would remain *significant and unavoidable*.

Indirect impacts would be similar to those detailed above, given the requirement to develop residences on eligible A zone districts in addition to a requirement for caretakers quarters on CA

zoned lands and permanent residences on other eligible districts, and associated vehicle trips dispersed across the County with similar potential for incremental impacts. The residential development in the urban area would be required to pay into the County's Transportation Improvement Area Fee Program; however, as fee payment is not sufficient to offset transportation impacts to insufficient roadways, impacts would be similar to the Program and would remain *significant and unavoidable*.

Impact TRA-2: Direct and indirect impacts of commercial cannabis cultivation under Alternative 1 could result in traffic safety hazards, inadequate emergency access, or impacts to road maintenance that is less than both Program scenarios. Eligible areas under this alternative would largely occur in rural areas with hazardous roadways, though there would be a reduced number of cultivation sites within mountainous, unmaintained roads compared to both Program scenarios. Ultimately, the potential remains similar to the Program for hazardous safety issues on rural roads for both operation vehicles and personal vehicles even within the South County and Urban Regions, and implementation of MM TRA-2.1, *Rural Road Management*, and MM TRA-2.2, *Adequate Access Roadway Design*, would ensure impacts remain *less than significant with mitigation*.

Impact TRA-3: Similar to both Program scenarios, direct and indirect impacts of manufacturing under Alternative 1 would largely be located within the urban areas of the County, accessed by urban road systems that support adequate emergency access and remain subject to existing County codes, plans, and policies to address traffic safety issues in urban areas. Therefore, impacts would be similar to the Program and would remain *less than significant*.

Secondary Impacts: Under this alternative, a greater number of unlicensed cannabis cultivators and manufacturers would occur compared to both Program scenarios, which would increase the number of cultivators and manufacturers who would operate in areas with inadequate emergency access and potential traffic hazards. Approximate 80 percent of registrants are located on sites that are ineligible for cultivation licensing under this alternative. Those operations which generate traffic from employees and operations that use private undeveloped roads or access rural roads within the County may introduce or exacerbate traffic safety hazards and conflict with users of the same roadways. While the direct traffic effects of unlicensed cannabis cultivation/manufacturing cannot be determined, it is anticipated that ongoing operation of unlicensed operations would continue, impacts would be greater than both Program scenarios, and adverse impacts to transportation and traffic would remain *significant and unavoidable*, despite implementation of MM AT-1.3a, *Sustained Enforcement Program*, and MM AT-1.3b, *Annual Survey and Monitoring Report*.

Utilities and Energy Conservation

Impact UE-1: Direct impacts of cultivation and manufacturing on water, wastewater, and solid waste services within the County would be similar to both Program scenarios. The total area of canopy, water use, wastewater, and solid waste is consistent between Alternative 1 and both Program scenarios, resulting in similar impacts to the existing utility services available. However, as cultivation licenses would be consolidated into a smaller area of eligibility focused primarily in South County and Urban Regions, there is a greater potential for water supply issues related to overdrafted groundwater basins (see also, *Hydrology and Water Quality* above). Therefore, impacts on water supply and existing infrastructure would be slightly more adverse but remain *less than significant*, impacts on wastewater services would remain *less than significant*, and with implementation of MM AQ-1.3, *Prohibit Cannabis Material Burning*, MM LU-1.1.6, *Cannabis Best Management Practices,* MM HYDRO-2.1, *Water Efficiency for Cannabis Cultivation*, MM HYDRO-2.3, *Water Tank Supply Management*, and MM UE-1.1,

Cannabis Soil, Plant Material, and Waste Management would ensure impacts to solid waste are *less than significant with mitigation*.

Similarly, indirect impacts to water supply, wastewater, and solid waste services would be *less than significant with mitigation* after implementation of MM LU-1.1.4, *Master Planned Cannabis Facilities,* MM LU-1.1.5, *Avoid Excessive Grading and Disturbance Associated with Commercial, Industrial, and Manufacturing Cannabis Activities*, and MM-HYDRO-2.2. *Fire Water Tank Supply Management*.

Impact UE-2: Direct impacts of cultivation and manufacturing under Alternative 1 would result in additional demand for energy resources within the County and may conflict with energy conservation policies and objectives, and would increase in comparison to that of both Program scenarios. Under Alternative 1, outdoor cultivation would not be permitted, which would result in new canopy area within indoor or greenhouse operations only. These types of operation (indoor, greenhouse) have associated demand factors between 80 kWh/sf/year and 110 kWh/sf/year, which when factored with the total proposed area of canopy, would result in a total demand for energy exceeding the estimated energy demand for both Program scenarios. Impacts would be greater than both Program scenarios, however with implementation of MM LU-1.1-6. *Cannabis Best Management Practices*, and MM GHG-1.1. *Alternative Energy Sources*, impacts would remain *less than significant with mitigation*.

Indirect impacts would be similar to both Program scenarios, as new, permanent single-family residences would increase demand for electrical supplies, natural gas, and transportation fuels. However, due to compliance with the California Building Code and County policies relating to energy conservation features, this alternative would not conflict with existing energy conservation standards and indirect impacts would remain *less than significant*.

Secondary Impacts: Under Alternative 1, a greater number of unlicensed cannabis cultivators and manufacturers would occur compared to both Program scenarios, which would result in greater adverse impacts to water, wastewater, energy demand, and solid waste services or infrastructure. Illegal operations would occur without SCCC or policy compliance, and could include unregulated groundwater or surface water diversion, improper disposal and treatment of wastewater generated onsite, or the improper storage, handling, and disposal of municipal solid waste, as well as cannabis plant waste products and energy consumption. Alternative 1 would result in a greater number of unlicensed cultivators compared to both Program scenarios, and despite implementation of MM AT-1.3a, *Sustained Enforcement Program*, and MM AT-1.3b, *Annual Survey and Recording*, adverse impacts to transportation and traffic would remain *significant and unavoidable*.

Conclusion and Relationship to Project Objectives

Alternative 1 would not reduce any significant impacts to a less than significant level. This alternative would potentially result in less adverse direct and indirect environmental impacts to air quality, biological resources, and hazards and hazardous materials. Direct and indirect impacts to agricultural and timber resources, cultural resources, geology and soils, greenhouse gases, public services, and population, employment, and housing would be similar to both Program scenarios, with some areas of the County (South County and Urban Regions) affected more than others (Mountain Region). Impacts related to aesthetics and visual resources, hydrology and water quality, land use, transportation and circulation, and utilities and energy conservation would increase, but would be subject to feasible mitigation to be similar to the Program. However, the secondary impacts of this alternative would result in adverse impacts greatly surpassing the benefits of this more focused

program. The classification of all impacts under Alternative 1 would be the same as those under the Project scenario, including significant and unavoidable air quality and transportation impacts.

Adoption of Alternative 1 would achieve some of the Program objectives which include regulating commercial cannabis cultivation and manufacturing within the County, providing an efficient and clear cultivation and manufacturing permit process and regulations, and regulating sites and premises to avoid degradation of the visual setting and neighborhood character, odors, hazardous materials, and fire hazards.

However, adoption of Alternative 1 would not achieve many Project objectives, as the adverse aspects of secondary impacts would not develop a legal, local cannabis industry to improve the County's tax base, minimize adverse effects of cultivation and manufacturing on the natural environment, natural resources, wetlands and sensitive habitats, water supply, or promote energy and resource efficiency. This alternative would make numerous cultivation and manufacturing sites ineligible, thus not encouraging cannabis cultivators and product manufacturers to operate legally and secure a license to operate in full compliance with County regulations.

4.2.3 Alternative 2 — Most Permissive Alternative

The Most Permissive Alternative would broaden eligibility criteria and revise some development standards to provide increased flexibility for cannabis sites and expanded opportunities for licensing and registration of commercial cannabis cultivation and manufacturing in the County.

The goal of this alternative would be to increase licensing, registration, and compliance for cultivation operations and maximize legal regulated cultivation and participation in the Program to minimize adverse impacts of unlicensed cultivation. Provision of additional licensing opportunities and increased development standard options would increase compliance with Program goals and objectives. One main objective of Alternative 2 is to legalize operations (both current and future) that may be illegal or non-compliant. This option may potentially reduce impacts associated with unlicensed grows by increasing the area of license eligibility substantially and implementing development standards that are more protective of environmental resources (e.g., setbacks) and public services. With this objective, the Most Permissive Alternative would modify the proposed Project scenario as follows:

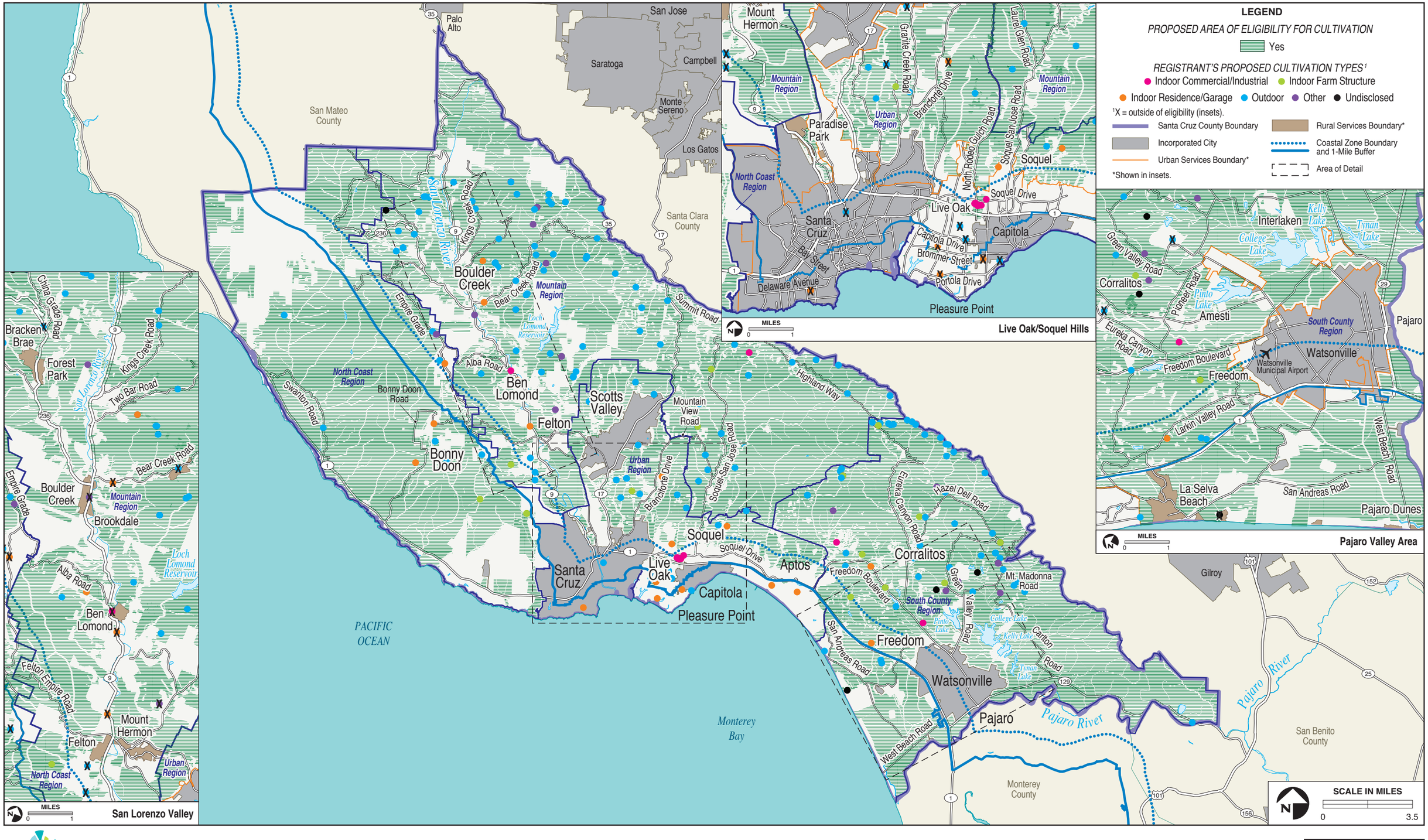
- Allow outdoor cultivation Countywide, similar to the More Permissive Project scenario
- No unique restrictions on cultivation within Coastal Zone + 1-mile buffer area
- Co-location of multiple licenses within one parcel allowed, where each licensee is granted up to the maximum canopy allowed by the More Permissive Project (e.g., cooperatives, multiple tenants, etc.). This would provide increased opportunities to cultivate and manufacture to the relatively restricted availability of compatible sites available to license registrants under the Project scenario.
- Minimum parcel sizes may be lessened on a case-by-case basis at the discretion of the Licensing Official
- Setbacks from sensitive uses (e.g., schools) may be lessened on a case-by-case basis at the discretion of the Licensing Official
- Allow imported/trucked water for irrigation and potable use, unlike both Program scenarios
- No right-of-way setback requirements for indoor cultivation

- Manufacturing of cannabis products allowed as Cottage Industry uses under existing SCCC and state law
- Manufacturing of cannabis products allowed on County-designated cooperative sites
- No cannabis activities licensed on public lands

The analysis of this alternative addresses potential impacts to determine if these adjustments could minimize or avoid significant environmental impacts/policy conflicts and address land use consistency concerns. These restrictions would be implemented through development standards and zoning regulation included under this alternative (Figure 4-3). This alternative would also analyze the effect on secondary impacts associated with decreased unlicensed cultivation activities. It is possible that the Most Permissive Alternative would reduce some impacts by bringing more cultivators and manufacturers under licenses, given additional licensing opportunities, which could then implement substantially more protective measures for environmental resources and public services.

Under Alternative 2, the manufacturing ordinance would retain the same zoning districts where manufacturing is allowed as the proposed Program; however, multiple manufacturing licenses would be allowed on County-designated cooperative manufacturing sites. For instance, instead of requiring all manufacturing processes to occur on the cultivation site property as proposed under the proposed Project, one manufacturing site could host multiple entities. This centralized location for cannabis product manufacturing would reduce the need for new development on areas of land that may not be suitable for manufacturing structures. It is assumed that smaller home occupation-scale cannabis product manufacturers would be best served by this alternative, and that the resulting quantity of new manufacturing structures would be reduced due to the estimated 134 home occupation-scale manufacturers anticipated under buildout of the proposed Project and More Permissive Project scenarios.

Similar to both Program scenarios, the 2016 License Registration limits the total number of potential cultivation licensees to a maximum of 760, though the licensees may locate anywhere within the expanded area of eligibility (Figure 4-2). Data collected indicated that 567 registrants currently cultivate, while 193 registrants propose new cultivation in the future under the Program. Data collected also provided the location of 259 potential sites for licensing, which allows for comparison between the Program alternatives for what portion of registrants may qualify. Under this alternative, data indicates that approximately 75 percent of registrants would be eligible for licensing based on site location within the Program's area of eligibility (Table 4-1). This comparison characterizes the relationship between the regulations and the desired locations of the cannabis industry.



amec foster wheeler

Most Permissive Alternative – Area of Eligibility for Cultivation Licenses

FIGURE 4-2

This page intentionally left blank.

Table 4-3 Comparison of Registrant-Provided Cultivation Sites Eligibility under the Program and Alternative 2

	Project	More Permissive Project	Most Permissive Project
Total Registrant-Provided Sites	**259**	**259**	**259**
Potentially Eligible after Program Regulatory Constraints are Considered	145 (56 %)	165 (64%)	**194 (75%)**
Potentially Ineligible Sites	114 (44%)	94 (36%)	**65 (25%)**

Further, a summary of area of eligibility under Alternative 2 compared to the Program is provided in Table 4-4. The Most Permissive Alternative would reduce the total amount of eligible area and sites compared to both Program scenarios. As indicated within the table, the Most Permissive Alternative would have the most eligible area and would involve the least relocation to license the 760 existing and proposed cannabis businesses into eligible areas under the Program scenarios and alternatives. It would also distribute cannabis business in larger areas of the County compared to the Program (Figure 4-2).

Table 4-4 Alternative 2 Most Permissive Alternative Area of Eligibility

	Project	More Permissive Project	Most Permissive Alternative
Area of Eligibility for Cultivation Licenses			
Total Eligible Area (acres)	147,750	164,721	**193,452**
Total Eligible Sites	6,228	8,888	**15,926**

The approximate total area of eligibility for manufacturing under this alternative results in the same area of eligibility as under each Program scenario. Though the area of eligibility does not change, multiple manufacturing licenses would be allowed on the same parcel, allowing multiple license holders to use shared manufacturing facilities – reducing the necessity for new manufacturing facility development throughout the County.

Potential Impacts to Resource Areas

Aesthetics and Visual Resources

Impact AV-1: Alternative 2 does not propose aesthetic design standards that differ from either Program, and impacts to scenic resources and vistas, existing visual character, and effects from nighttime lighting and glare under Alternative 2 would largely remain similar to the Program. Licensed sites would be distributed at a lower density than the Program, which would reduce the potential for dramatic visual changes from multiple operations in one visually sensitive area. The potential for more eligible sites and licenses under Alternative 2 would allow for additional opaque fencing in areas that may create visual impacts where the natural setting would be adversely affected by new highly visible fencing. Given the potential for additional opaque fencing to alter the visual

character of scenic areas of the County, directs impacts would be considered *potentially significant* and greater than both the Project and the More Permissive Project. However, with implementation of MM AV-1, *Fencing Requirements*, impacts would be similar to both Program scenarios and *less than significant with mitigation*.

Indirect impacts to would likely remain similar to that under both proposed Program scenarios due to existing design criteria and guidelines of cannabis-related, agricultural development, though AV-1.2, *Visual Blending Plan for Cannabis Infrastructure*, MM LU-1.1.4, *Master Planned Cannabis Facilities,* and MM LU-1.1.5, *Avoid Excessive Grading and Disturbance Associated with Commercial, Industrial, and Manufacturing Cannabis Activities*, would still be required to maintain impacts as *less than significant with mitigation*.

Impact AV-2: Since the manufacturing component of Alternative 2 would reduce the number of new manufacturing structures associated with home occupation-scale manufacturers via the inclusion of County designated cooperative sites, direct visual impacts from new development associated with these facilities would be reduced compared to the Project and More Permissive Project. Additionally, since zoning and visual regulations would otherwise remain the same between the two Program scenarios and Alternative 2, indirect impacts on scenic vistas, existing visual character, and effects from nighttime lighting and glare would remain *less than significant*.

Indirect impacts under Alternative 2 could change the existing character of scenic resources in the vicinity of each commercial cannabis site, notably with the implementation of new buildings and related infrastructure, including 120,000-gallon water storage tanks for firefighting, which could be constructed for cultivation and manufacturing operations in areas outside municipal water service districts. These improvements may occur in more remote and visually sensitive areas in the County compared to the Program, would could have more severe visual resource impacts. However, impacts would be similar to both Program scenarios with implementation of AV-1.2, *Visual Blending Plan for Cannabis Infrastructure*, MM LU-1.1.4, *Master Planned Cannabis Facilities,* and MM LU-1.1.5, *Avoid Excessive Grading and Disturbance Associated with Commercial, Industrial, and Manufacturing Cannabis Activities*, which would reduce impacts to *less than significant with mitigation*.

Secondary Impacts: Alternative 2 would increase the number of eligible licenses and reduce eligible parcel size requirements more than the More Permissive Project, thus further reducing unregulated cultivation. Approximately 75 percent of registrants would be located on eligible parcels and, with licensing, would be required to mitigate impacts, including visual resource effects, while 25 percent may continue as unregulated activities. While this alternative would reduce unregulated cannabis activity, there is no feasible way to eradicate all unregulated cannabis activities in the County. However, because unregulated cannabis cultivation operations are generally difficult to detect and would not significantly degrade scenic resources in publicly visible areas, secondary impacts would remain *less than significant*.

Agricultural and Timber Resources

Impacts AT-1 and AT-2: Direct impacts under Alternative 2 from cannabis cultivation and manufacturing would be similar to those described in Section 3.2, *Agricultural and Timber Resources*. Because cannabis is identified as an "agricultural product", outdoor or indoor cultivation would not lead to a conversion of agricultural soils or conflict with existing agricultural zoning or Williamson Act contracts. Further, with more area in the County eligible for cultivation licenses, cannabis activates would not be concentrated in agricultural areas and would reduce the risk of adversely affecting

agricultural operations and food production areas. Similar to both Program scenarios, manufacturing activities would continue to be permitted as an ancillary use to agriculture on other lands, and impacts to agricultural and Williamson Act contract resources would be *less than significant*.

Indirect impacts to important farmland, agriculturally zoned areas, and Williamson Act contract lands would be less than both Program scenarios, as co-location of licensed activities is permitted, which would have less impacts than that of both Program scenarios. Impacts would remain *less than significant*

Impacts AT-3 and AT-4: Direct impacts to existing zoning and use of forest land under Alternative 2 from both cultivation and manufacturing would be similar to both Program scenarios, as this alternative would allow cultivation on lands zoned for timber production. For areas of the County with the potential for timber production, but not zoned TP, General Plan Policy 5.12.8 and state regulations would protect timber resource land eligible for TP. Therefore, impacts under this alternative would be similar to the Program would remain *less than significant*.

Indirect impacts to land zoned for timber uses and those lands used for timber harvesting under Alternative 2 would be similar to both Program scenarios, including siting of manufacturing facilities; though implementation of County Fire Code standards could result in significant loss of forested lands due to required additional site improvements. Implementation of MM AT-4.1a, *Siting Allowance for New Manufacturing Structural Development*, and MM AT-4.1b, *Land Clearing*, would reduce impacts to *less than significant with mitigation*., which would be similar to the Program.

Secondary Impacts: Alternative 2 would increase the number of eligible licenses and decrease eligible parcel size requirements less than the More Permissive Project scenario, thus making it easier to become regulated and decreasing unregulated cultivation compared to both Program scenarios. Licensed cannabis sites would ensure impacts to agricultural and timber resources are less than significant, while unregulated cannabis would have significant and unavoidable effects. Approximately 75 percent of registrants would be located on eligible parcels and, with licensing, would be required to mitigate impacts, including adverse effects to agricultural and timber resources, while 25 percent may continue as unregulated activities. While this alternative would reduce unregulated cannabis activity, there is no feasible way to eradicate all unregulated cannabis activities in the County. Therefore, secondary impacts would be reduced under this alternative compared to both Program scenarios, though impacts to agricultural and timber resources would remain *significant and unavoidable*, despite implementation of MM AT-1.3a, *Sustained Enforcement Program*, and MM AT-1.3b, *Annual Survey and Monitoring Report*.

Air Quality

Impact AQ-1: Direct impacts would be similar to those discussed in Section 3.3, *Air Quality*, though incrementally increased in intensity above both Program scenarios. Expanding the eligibility requirements and decreasing setbacks in which cannabis cultivation may occur under Alternative 2 may increase pollutant concentrations and objectionable odors on nearby sensitive receptors. However, distributing cannabis cultivation and manufacturing facilities to areas all over the County would decrease the concentration of cumulative effects of these odors. Taken together, impacts would be similar to the Program. Implementation of MM AG-1.1, *Siting for Odor Abatement*, MM AQ-1.2, *Greenhouse Odors*, MM AQ-1.3. *Prohibit Cannabis Material Burning*, MM AQ-1.4. *Consistency of Pesticide Use Setbacks*, and MM AQ-1.5. *Open Air Extraction Area Setbacks*, would reduce impacts to *less than significant with mitigation*.

Indirect impacts from odors would be less than both Program scenarios under Alternative 2, co-location would be permitted, reducing the number of permanent residences, and reducing potential new permanent emissions, retaining a *less than significant* impact.

Impacts AQ-2 and AQ-3: Direct and indirect impacts of cannabis cultivation and manufacturing under Alternative 2 would be similar to that of both Program scenarios and remain inconsistent with the MBUAPCD AQMP due to the exceedance of 137 lbs/day of NO_x (see Table 3.3-7). Additionally, as the County is in nonattainment-transitional for ozone, nonattainment for PM_{10}, and unclassified for CO, exceedance of NO_x also exceeds adopted thresholds. As such, impacts would be similar to the Program. Implementation of MM AQ-2.1, *Implement TDM Measures*, would reduce impacts, however, direct and indirect impacts would remain *significant and unavoidable*.

Secondary Impacts: Under Alternative 2, secondary impacts related to air emissions and objectionable odors would be reduced under Alternative 2 as approximately 80 percent of registrants would be eligible for licensing and subject to regulations and mitigations to reduce emissions. While this alternative would reduce unregulated cannabis activity, there is no feasible way to eradicate all unregulated cannabis activities in the County. Similar to both Program scenarios, unregulated commercial cannabis cultivation and cannabis product manufacturing under Alternative 2 could expose sensitive receptors to substantial pollutant concentrations and create objectionable odors affecting a substantial number of people, be potentially inconsistent with the MBUAPCD AQMP, and potentially violate an air quality standard or contribute to an air quality violation, and result in a cumulatively considerable net increase of a criteria pollutant for which the County is in nonattainment. Despite the implementation of MM AT-1.3a. *Sustained Enforcement Program*, MM AT-1.3b. *Annual Survey and Monitoring Report*, and MM AQ-1.3. *Prohibit Cannabis Material Burning*, impacts would remain *significant and unavoidable*, though less than both Program scenarios.

Biological Resources

Impacts BIO-1 and BIO-2: Direct impacts under Alternative 2 would consist of the disturbance of vegetation, individual species or populations, habitats or sensitive natural communities, and the disturbance, modification, or destruction of habitat via the cultivation of cannabis canopy. Additionally, direct impacts from manufacturing, structure construction, and operation would have the widest potential impact area because it allows for development in more locations than both Program scenarios. The adverse effects anticipated under this alternative would be similar in nature, though still potentially adverse, such as in the use of chemicals in areas where they could wash into aquatic habitats and adversely affect the survival of individual fish, as discussed in Section 3.8, *Hazards and Hazardous Materials*. Decreased setbacks of cultivation from adjacent biological resources within zoning districts that have greater amounts of wildlife may reduce the protection of special-status fish species, essential fish habitat, California listed species of special concerns, nesting birds, threatened or endangered individuals and habitat, and special status plants, but would be adequate to protect these resources. With the implementation of MM BIO-1.1a, *Special-status Species Habitat Assessment*, MM BIO-1.1b, *Habitat Compensation*, MM BIO-1.1c, *Worker Environmental Awareness Program*, MM BIO-1.1d, *Prevention of Spread of Nonnative Invasive Plants*, MM BIO-1.1e, *Roosting Bat Survey*, MM BIO-1.1f, *Nesting Bird Survey*, MM BIO-1.1g, *Pest Management Plan*, MM BIO-1.1h, *Water Draw Restrictions*, MM BIO-2.1a, *Sensitive Communities Habitat Assessment*, MM BIO-2.1b, *Avoid Oak Woodland*, BIO-2.1c, *Community Replacement*, and MM HYDRO-1.1, *Pesticide and Herbicide Control*, direct impacts would be similar to both Program scenarios and remain *less than significant with mitigation*.

Indirect impacts would occur from the development of supporting features that would have less severe impacts than those biological resources described above, due to the allowance for multiple manufacturing licenses on County designated cooperative sites which would reduce the anticipated number of new ancillary manufacturing facilities. Overall, because the extent of the Program area is increased under Alternative 2, associated indirect impacts may incrementally increase in comparison to both Project scenarios, as development could occur in more biologically sensitive areas of the County. However, implementation of MM BIO-1.1a through MM BIO-1.1f, MM BIO-1.1h, MM BIO-2.1a through MM BIO-2.1c, MM HYDRO-2.2, *Rainwater Harvesting for Cannabis Cultivation*, and MM HYDRO-2.3, *Fire Water Tank Supply Management*, would ensure indirect impacts are *less than significant with mitigation*.

Impact BIO-3: Direct impacts under Alternative 2 on the movement of any native resident or migratory species would be greater than both Program scenarios, because of the increased amount of both cultivation and manufacturing that would be permitted on or adjacent to wildlife areas. Impacts from ancillary development such as the enclosure of cultivation sites with a minimum 6-foot high, opaque fence within these areas may restrict the movement of native or migratory species under Alternative 2. With implementation of MM AV-1.1, *Fencing Requirements*, and MM BIO-3.1, *Wildlife Fencing*, indirect impacts would remain *less than significant with mitigation*.

Similar to both Program scenarios, supporting development would be subject to existing plans and policies designed to protect and ensure the movement of native or migratory species throughout the County, and preserve wildlife corridors. Therefore, this impact would remain *less than significant*.

Impact BIO-4: Direct and indirect impacts under Alternative 2 would remain similar to both Program scenarios on adopted local plans, policies, or ordinances oriented towards the protection and conservation of biological resources. Actions under Alternative 2 would require adherence to County plans and policies including the Interim Programmatic Habitat Conservation Plan for the Sandhills. With implementation of MM BIO-4.1 *Avoidance of Conflict with an Approved HCP*, and MM BIO-4.2, *No Cannabis Activities Allowed within Sandhills Habitat or SCLTS*, direct and indirect impacts would remain *less than significant with mitigation*.

Secondary Impacts: Secondary impacts of cannabis cultivation and manufacturing under Alternative 2 would be decreased compared to both Program scenarios due to the inclusion of the greatest percentage of cultivators and producers. Approximately 75 percent of registrants would be located on an eligible site that would be subject to the mitigations and regulations of the Program. This would limit the number of people that would resort to illegal activities throughout the County, such as clear-cutting, destruction of sensitive habitats, the introduction of hazardous materials, and unpermitted development activities that prevent the passage of wildlife or divert streams crucial to the life cycle of aquatic or riparian species. Due to the decreased anticipated amount of unlicensed cultivation and manufacturing, secondary impacts would be less than both Program scenarios, though impacts would remain *significant and unavoidable* despite the implementation of MM AT-1.3a and MM AT-1.3b.

Cultural Resources

Impact CR-1: Under Alternative 2, direct impacts from commercial cannabis cultivation and cannabis product manufacturing could result in physical demolition, destruction, relocation, or alteration of built historical resources. As Alternative 2 would involve a greater area of potential impact than the Project and More Permissive Project, there would be an increased potential for adverse effects upon built historical resources. The potential would be similar to the Program that land clearing and

modifications to existing structures near properties that are known to include significant historical built environment resources, which may have an adverse effect on the physical context for the historic structure and diminish its historic value. Development would be subject to the guidelines and regulations set forth in the General Plan, Chapter 13.10 of the SCCC, Historic Landmark L Combining District, and Chapter 16.42 of the SCCC, Historic Resources Preservation Ordinance. Therefore, impacts would be similar to the Program and MM CR-1.1, *Preliminary Historic Assessment of Structures 50 Years Old or More*, would remain necessary to reduce the impact of direct impacts of Alternative 2 on built historic resources to *less than significant with mitigation*.

Indirect impacts under Alternative 2 would remain *less than significant* and similar to both Program scenarios due to existing requirements for any new development on existing built historical resource properties, which would be subject to the guidelines and regulations set forth in the General Plan, Chapter 13.10 of the SCCC, Historic Landmark L Combining District, and Chapter 16.42 of the SCCC, Historic Resources Preservation Ordinance.

Impact CR-2: Alternative 2 would involve licensing of cultivation sites in a greater potential area than the Project or More Permissive Project, which would result in more opportunities for widespread cultivation sites under Alternative 2 and would increase the potential area of disturbance for undiscovered archaeological or paleontological resources. Site preparation and grading activities for new developments could inadvertently uncover archaeological, tribal, or paleontological resources, similar to the Program. Compliance with all County policies, ordinances, and guidelines that protect significant cultural resources would ensure that both direct and indirect impacts of Alternative 2 to archaeological resources, tribal cultural resources, human remains, and paleontological resources would remain *less than significant*.

Secondary Impacts: Due to the inability to predict the location of unregulated cultivation and manufacturing sites and the likelihood that future unregulated commercial cannabis cultivation would result in the damage or demolition of known or potential historic resources, in addition to the potential for more unlicensed cultivation and manufacturing sites, secondary impacts of Alternative 2 would decrease from that of the Project and the More Permissive Project upon built historic resources. Nevertheless, since the locations of all built historic resources in the County are known, with implementation of MM AG-4.3a, *Sustained Enforcement Program*, and AG-4.3b, *Annual Survey and Monitoring Report*, appropriate practices can be enforced related to historic resources on these properties. As noted in Section 3.5, *Cultural Resources*, it is impossible to know where undiscovered sensitive archaeological and paleontological resources exist unless the person who discovers these resources alerts the County. Since unregulated cultivators are unlikely to alert the County if their ground-disturbing activities uncover such resources, adverse impacts would still occur under Alternative 2. Even with implementation of MM AT-1.3a, *Sustained Enforcement Program*, and MM AT-1.3b, *Annual Survey and Monitoring Report*, residual secondary impacts to archaeological resources, tribal cultural resources, human remains, or paleontological resources would still occur. Due to an anticipated decrease of unlicensed growers operating under Alternative 2, impacts would decrease in comparison to that of both Program scenarios and would remain *significant and unavoidable*.

Geology and Soils

Impact GEO-1: Direct impacts of Alternative 2 on geological stability, including landslides and erosion, would be similar to the Project and More Permissive Project. Potential geologic impacts associated with cultivation activities under the Program would be mitigated by existing County policies and

regulations under the SCCC. With the application of existing regulations, direct Alternative 2 impacts associated with geologic hazards would be considered *less than significant*.

Under Alternative 2, indirect impacts from utility and residential structure construction would be less than both Program scenarios, as co-location of manufacturing and cultivation would be permitted, which would result in less grading impacts to geologically unstable County lands. Roadway improvement requirements for cannabis-related structures where feasible and appropriate would be addressed via MM LU-1.1.4, *Master Planned Cannabis Facilities*, and MMM LU-1.1.5, *Avoid Excessive Grading and Disturbance Associated with Commercial, Industrial, and Manufacturing Cannabis Activities*, therefore, indirect impacts associated with geologic hazards under Alternative 2 would be less than the Program and remain *less than significant with mitigation*.

Impact GEO-2: Direct impacts from geologic hazards would comparable to both Program scenarios. The geologic impacts would be distributed over a greater area of eligibility in the County and application of existing SCCC regulations would ensure impacts would be *less than significant*, and reduced compared to both Program scenarios.

Indirect geologic impacts from manufacturing under Alternative 2 would be similar to both Program scenarios; however, licenses in a larger extent of the County would have a greater potential area of impact due to the increase of eligible areas for new manufacturing facilities. However, application of SCCC regulations would ensure impacts would remain *less than significant*.

Secondary Impacts: Secondary impacts from Alternative 2 could be created through continued unlicensed cannabis cultivation Countywide, even though more potential cannabis cultivators would be included by the Alternative 2 standards and requirements of both Program scenarios. Approximately 75 percent of the registrants would be eligible for cultivation licenses, which would ensure the operations would avoid adverse geologic impacts. Remaining registrants and other unregulated activities would not necessarily comply with existing SCCC regulations that address geologic hazards, such as siting, grading, and erosion control and reduced associated impacts. Secondary impacts related to unlicensed cannabis cultivation and geologic hazards under the Program would remain, but would be less severe than the Program. Operational activities, including volatile extraction processes, may also occur in structures that are not designed to withstand exposure to unstable ground conditions, particularly ground failure during seismic events. Though MM AT-1.3a, *Sustained Enforcement Program*, and AT-1.3b, *Annual Survey and Monitoring Report*, would address unlicensed cultivation on an ongoing basis and reduce secondary impacts over the life of Alternative 2, potential adverse impacts to geologic hazards, soils, and minerals would be still occur, though less than both Program scenarios due to increased amounts of regulated activities and decreased amounts of illegal operations. Impacts would remain *significant and unavoidable*.

Greenhouse Gas Emissions and Climate Change

Impact GHG-1: Direct and indirect impacts to GHGs would be similar to both Program scenarios, as direct cannabis activities from Alternative 2 would result in estimated emissions of 13.4 MT CO_2e/service population (SP)/year, exceeding the Bay Area Air Quality Management District's (BAAQMD) recommended GHG threshold of 4.6 MT CO_2e/SP/year. Additionally, indirect impacts would remain similar to the More Permissive Project scenario due to the allowance for co-location, and overall less due to the allowance for less intensive grading and ancillary structure construction. However, such options may be offset by increased development given additional licensing opportunities. Implementation of MM LU-1.1.6, *Cannabis Best Management Practices*, and MM GHG-

1.1, *Alternative Energy Sources*, would reduce the impacts of cannabis cultivation and manufacturing through the increase of energy efficiency and participation in CCA programs, ensuring consistency with the County's Climate Action Strategy (CAS), and the County's and state's goals for GHG reduction. Impacts would therefore be similar to both Program scenarios and *less than significant with mitigation*.

Secondary Impacts: Though MM AT-1.3a, *Sustained Enforcement Program*, and AT-1.3b, *Annual Survey and Monitoring Report*, would address unlicensed cultivation on an ongoing basis and reduce secondary impacts over the life of Alternative 2, potential adverse impacts from greenhouse gas emissions would still occur, though less than both Program scenarios due to increased amounts of regulated activities and decreased amounts of illegal operations. Impacts would remain *significant and unavoidable*.

Hazards and Hazardous Materials

Impact HAZ-1: Under Alternative 2, direct impacts from construction and operation would result from the use, storage, transport, or discharge of potentially hazardous materials. However, commercial cannabis cultivation would be subject to existing laws and regulations governing the cultivation of commercial food products and associated hazardous activities. Therefore, direct impacts would be similar to both Program scenarios and remain *less than significant*.

Indirect impacts from handling or release of hazardous materials during construction and use of residential units and associated roads, driveways and infrastructure, as well as onsite fire water tanks would also be similar to both Program scenarios. Cannabis cultivation could be licensed in more areas of the County, but co-location would help reduce the risk of hazard and hazardous materials in higher risk sites, which would be similar to the Program. The permit review process, review by the Licensing Office, and application of existing federal, state, and local regulations governing the use of hazardous agricultural chemicals and activities would ensure impacts remain *less than significant*.

Impact HAZ-2: Direct impacts from commercial cannabis product manufacturing and associated use of hazardous materials would be reduced compared to that of both Program scenarios. Because Alternative 2 allows multiple manufacturing licenses on County designated cooperative sites, unlike both Program scenarios, there is less potential for the construction of new facilities with hazardous uses at every cultivation site that permits the practices. This cooperative site mechanism would also reduce the incentive for potentially hazardous manufacturing practices to be introduced to areas without existing hazardous materials use. Therefore, impacts would be less than both Program scenarios and remain *less than significant*.

Indirect impacts of Alternative 2 from utility and ancillary facility manufacturing activities and their associated hazards would be managed by federal, state, and local regulatory requirements, and this alternative impact would not require mitigation to remain *less than significant*.

Impact HAZ-3: Direct impacts from cannabis cultivation and manufacturing located in high fire hazard, wildland areas would be slightly increased compared to both Program scenarios, primarily due to a larger area of eligibility from provisions allowing outdoor cultivation and cultivation on TP and SU zoning districts, along with minimum parcels sizes lessened and no restriction based on the Coastal Zone + 1 mile buffer. Because TP and SU zoning districts contain a large amount of high fire hazard and wildland areas (due to associated timber resources contained within these districts and their associated fire and access hazards), allowing cultivation and manufacturing which these locations would maintain the existing risk associated with exposing people, existing mountain communities,

and structures from wildland fires and interference with emergency evacuations. Nevertheless, compliance with CalFire defensible space requirements, County Building Code, and County Fire Code regulations on other eligible parcels within fire hazard areas within CA, A, M, and C4 zoning districts would ensure protection of proposed facilities from wildfire hazards and impacts would remain *less than significant*.

Indirect impacts from cannabis cultivation and manufacturing that may be located within high fire hazard areas, exposing people or structures to risks involving wildland fires, would be similar to both the Project and More Permissive Project, notably in the requirement for County Fire Code compliant ancillary structures such as requiring a 120,000-gallon water tank, a 20-foot wide road, and 100 feet of vegetation clearing around the structure that would increase hazards to environments and habitats throughout the County. Alternative 2 requires the Licensing Official to ensure that operations comply with the County Fire Code prior to issuance of a license, therefore impacts are considered *less than significant* and similar to both Program scenarios.

Secondary Impacts: Secondary impacts under Alternative 2 on the use, transport and disposal of hazardous materials would be less than that of the Project and More Permissive Project due to the lower number of unlicensed cannabis cultivators that would cultivate and manufacture unregulated. In contrast to the 56 percent and 64 percent of registrants included under the Project and More Permissive Project respectively, the Most Permissive Alternative would include approximately 75 percent of Program registrants under Alternative 2, enabling regulation of a greater number of operators. In addition, encouraging cultivator access to the use of manufacturing facilities would temper the need for manufacturers to operate illegal and dangerous alternatives (i.e., unsafe forms of BHO extraction labs, etc.). With the lack of enforcement and regulations of unregulated operations, there is a greater chance that these sites would not comply with policies or regulations designed to reduce fire hazards, especially those concentrated in the mountains and forested regions of the County. With implementation of MM AT-1.3a, *Sustained Enforcement Program*, and AT-1.3b, *Annual Survey and Monitoring Report*, to implement surveying and sustainable enforcement mitigations, secondary impacts would be reduced over the life of the Program and impacts would be less than both Program scenarios; however, impacts would remain *significant and unavoidable*.

Hydrology and Water Resources

Impact HYDRO-1: Direct impacts from commercial cannabis cultivation under Alternative 2 on the introduction of sediment and other pollutants to surface flows and groundwater, and on groundwater supplies and groundwater recharge, would be less than both Program scenarios. Alternative 2 would continue to only allow licensed cannabis cultivation in accordance with existing water quality regulations, and application of surface runoff requirements, hazardous material control, and use of pesticides, herbicides, and rodenticides would require adherence to existing regulations. Similar to both Program scenarios, the potential for the use of pesticides and rodenticides and its potential for water and groundwater contamination would remain, and MM HYDRO-1.1, *Pesticide and Herbicide Control*, MM HYDRO-1.2, *Cleanup and Restoration Plan for Relocated Cultivation Sites*, and MM HYDRO-1.3, *Sanitary Sewer Survey*, would remain necessary, resulting in direct impacts *less than significant with mitigation*.

Indirect impacts would be less than both Program scenarios. Similar to Impact HYDRO-1 above, existing regulations would protect water quality from residential unit development and associated site improvements, which would not result in a significant potential to introduce sediment and pollutants to receiving water bodies. For instance, allowing co-location instead of requiring

permanent residential structures for each license would result in fewer impacts on hydrologic systems. For other ancillary structures, integration of MM LU-1.1.4, *Master Planned Cannabis Facilities*, and MM LU-1.1.5, *Avoid Excessive Grading and Disturbance Associated with Commercial, Industrial, and Manufacturing Cannabis Activities*, would ensure impacts remain *less than significant with mitigation*.

Impact HYDRO-2: Direct impacts to groundwater supplies and groundwater recharge would be similar to both Program scenarios. Similar to both Program scenarios, the total amount of proposed canopy is nominal and would only incrementally affect groundwater resources. With implementation of MM HYDRO-2.1, *Water Efficiency for Cannabis Cultivation*, and MM HYDRO-2.2, *Rainwater Harvesting for Cannabis Cultivation*, impacts would be *less than significant with mitigation* and be comparable to both Program scenarios.

Indirect impacts to groundwater supplies and groundwater recharge would be similar to both Program scenarios. Under Alternative 2, required ancillary facilities would include 120,000-gallon water tanks for nearly all sites proposing cannabis cultivation, storage, or processing. Implementation of MM HYDRO-2.3, *Water Tank Supply Management*, would ensure impacts are similar to both Program scenarios and *less than significant with mitigation*.

Impact HYDRO-3: Direct and indirect impacts of commercial cannabis cultivation under Alternative 2 on existing drainage patterns, including the alteration of the course of streams or rivers and the potential to place people or structures in areas of inundation or mudflows, including 100-year floodplains, would be slightly greater than both Program scenarios due to the increased total area of potential impact under this alternative. Due to the limitations of building within floodplains and adherence to the County's Grading and Erosion Control Ordinances (Chapters 16.20, 16.22, and 7.79 of the SCCC), direct and indirect impacts would be reduced. Additionally, with application of existing regulations to maintain drainage patters and hydraulic capacity, impacts to drainage patterns would remain *less than significant*.

Impact HYDRO-4 and HYDRO-5: Direct, indirect, and secondary impacts under Alternative 2 from the introduction of sediment and other pollutants to surface flows and groundwater, and on the groundwater supplies and groundwater recharge, in addition to existing drainage patterns, including the alteration of the course of a stream or river and the potential to place people or structures in areas of inundation or mudflows or 100-year floodplains from commercial cannabis manufacturing would be similar to both Program scenarios with application of existing regulations and remain *less than significant*.

Secondary Impacts: Secondary impacts would be less than both Program scenarios due to a reduced anticipated amount of unlicensed cannabis cultivation development and associated unpermitted grading and development practices that may interfere with groundwater infiltration and introduce sediments and pollutants to receiving water bodies. Additionally, a reduced number of unlicensed cannabis cultivators would result in unpermitted discharges of fill material to water courses, diversions of streams, and obstructed drainage patterns with inclusion to the Most Permissive Alternative. County enforcement data demonstrates that poorly operated unlicensed grow operations in watersheds have erosion and sedimentation impacts on receiving waters. Despite the implementation of MM AT-1.3a, *Sustained Enforcement Program*, and AT-1.3b, *Annual Survey and Monitoring Report*, impacts would remain *significant and unavoidable*, though less than both Program scenarios.

Land Use and Planning

Impact LU-1: Direct and indirect impacts to land use and planning policy consistency would be similar to both the Project and More Permissive Project scenarios. Similar to the Program scenarios, Alternative 2 would create land use conflicts associated with required installation of an opaque fence, requiring large water storage tanks with related site pad clearing and grading, 20-foot wide roads, and 100-foot radius vegetation clearing, and unclear eligibility of cannabis cultivation and/or manufacturing in SU zoned parcels. However, this alternative does not exclude potentially eligible land within the Coastal Zone + 1-Mile buffer, which could provide additional sites with fewer constraints. Implementation of MM BIO-3.2. *Wildlife Fencing*, MM LU-1.1.3. *USL + RSL Allowances*, MM LU-1.1.4. *Master Planned Cannabis Facilities*, and MM LU-1.1.5, *Avoid Excessive Grading and Disturbance Associated with Commercial, Industrial, and Manufacturing Cannabis Activities*, and MM LU-1.1.6, *Cannabis Best Management Practices*, would ensure land use impacts are similar to the Program and are *less than significant with mitigation*.

Impact LU-2: Direct and indirect impacts could occur under Alternative 2 from cannabis cultivation and manufacturing in existing communities due to traffic, odors, noise, or other quality of life issues. Unlike both Program scenarios, manufacturing would be able to consolidate to a cooperative site. With this implementation, there would be a reduced need for numerous independent manufacturing facilities with the potential of changing the character of a community. Using cooperative sites could condense cannabis manufacturing to a denser area footprint, reducing potential neighborhood compatibility issues or perceived change in quality of life. Additionally, spreading out cannabis cultivation and manufacturing facilities throughout the County would likewise distribute the associated amounts of traffic, odor, and noise that may emanate from cannabis operations. Given the indoor requirement for cannabis manufacturing, such activities would be shielded from public view. Similarly, cannabis home occupations limit use to the indoors, prohibit employees and distribution at the site (the owner applicant must deliver cannabis to a registered dispensary or testing facility), and limits the size and scale of activities. These requirements minimize and eliminate potential adverse effects on the surrounding neighborhood, and direct and indirect impacts to existing communities would be similar to the Program and would remain *less than significant*.

Secondary Impacts: Impacts to land use and planning policy consistency under Alternative 2 would result from land use conflicts related to unregulated cannabis cultivation and manufacturing activities, as unregulated cultivators and manufacturers would likely continue to operate illegally, or would not be able to obtain a license. Approximately 75 percent of registrants are located on eligible sites, which would minimize the need for site relocation and maximize onsite impact mitigation. Unregulated cannabis activities would persist, but at lower levels than the Program. Impacts to neighborhood compatibility and plan inconsistency would result from land use conflicts related to unregulated cannabis cultivation and manufacturing activities within or adjacent to existing communities, especially in areas of the County known for cultivation such as the Mountain and North Coast Regions. Alternative 2 would allow additional registration opportunities to become legally licensed, and unregulated cannabis cultivators and manufacturers would be offered future opportunities to comply with land use and zoning. With the implementation of MM AT-1.3a, *Sustainable Enforcement Program*, and MM AT-1.3b, *Annual Survey and Monitoring Report*, the quantity of illegal operators may be reduced over time, and while the practice would still occur, future opportunities would be available for compliance. Impacts would be less than both Program scenarios and remain *less than significant with mitigation*.

Public Services

Impacts PS-1 and PS-2: Direct and indirect impacts from cannabis cultivation and manufacturing under Alternative 2 would increase demand for fire protection, police protection, public schools, parks, libraries, and other public facilities, similar to both Program scenarios.

Fire Protection: Because Alternative 2 allows cultivation and manufacturing areas within TP areas of the County, there would be the potential for population increases in high fire risk zones. While implementation of this alternative could potentially cause the number of people and cannabis sites in the high fire risk zones to increase due to the eligibility of parcels in these zones for cannabis activities and requirements for a residential unit and ancillary facilities, licensees must comply with Fire Protection Policies 7.16.1 and 7.16.2 to ensure emergency access, evacuation routes, and appropriate structural development. With compliance with fire safety inspections for new residences, building inspections, fire code investigations, and code compliance, overall risk of fire would be reduced and direct and indirect impacts would be *less than significant*, though greater than both Program scenarios due to the increased allowance for more uses in high fire hazard areas of the County.

Police Protection: Impacts would be similar to both Program scenarios, with increased levels of employment, employee population, and police staffing levels. Impacts would remain *less than significant*.

Parks, Schools, Libraries and Other Public Services: As under both Program scenarios, Alternative 2 would potentially generate an estimated 1,737 additional full-time cultivation employees, with seasonal increases up to 2,123 employees for cultivation and manufacturing activities, and approximately 1,200 additional full-time manufacturing employees over the next 10 years, which would contribute to increased demand for housing, as well as the use of parks, schools, libraries, and other public services by the employees' families for up to 5,060 employees. In addition, Alternative 2 allows successive registration processes for additional cultivation licenses, which may increase the number of employees. As discussed in Section 3.11, *Public Services*, this population increase would not represent a substantial change or significant inducement of population growth for these public services, since the population growth would happen over time and throughout the County. Ultimately, impacts would remain *less than significant* and similar to both Program scenarios.

Secondary Impacts: Unregulated cannabis manufacturing activities under Alternative 2, including volatile extraction processes, may occur in structures that are not in compliance with the County Building Code, thereby increasing fire and hazards risks for both residents and emergency response personnel. Unlicensed manufacturing may occur in remote areas such as in the North Coast and Mountain regions, lacking adequate emergency access routes and further increasing response times. Given that unlicensed cannabis cultivation would be less than both Program scenarios, though would still not comply with existing SCCC regulations that address public service adequacy including acceptable emergency access, impacts would remain potentially significant. Despite the implementation of MM AT-1.3a, *Sustained Enforcement Program*, and MM AT-1.3b, *Annual Survey and Recording*, which would address unlicensed cultivation on an ongoing basis, impacts related to public services under this alternative would be *significant and unavoidable,* though less than both Program scenarios.

Population, Employment, and Housing

Impact POP-1: As under both Program scenarios, direct impacts of Alternative 2 would result in an increase in full-time cultivation employees Countywide. While the increase in housing demand from

cannabis industry employees may be substantial, the County maintains programs and policies to ensure adequate provision of housing to meet ongoing demands, particularly when the demand is generated from local industries, including Measure J and the Housing Element. With implementation of MM POP-1.1, *Affordable Housing Fee for Agricultural Buildings Used for Commercial Cannabis*, impacts would be similar to both Program scenarios and remain *less than significant with mitigation*.

Indirect impacts under Alternative 2 on population and housing would result in the construction of new housing units on some cannabis cultivation sites throughout the eligible areas of the County . Given the geographic limitations of Alternative 2, residential development would occur in many communities of the County where cannabis activities have the potential to lead to growth inducement, as further discussed in Section 3.15, *Other CEQA Issues*. Therefore, indirect impacts to population and housing under Alternative 2 would be considered similar to both Program scenarios and remain *less than significant*.

Secondary Impacts: Under Alternative 2, only 25 percent of registrants would be excluded from licensing opportunities. Impacts from unlicensed cultivation may include additional employees seeking housing within the County, as well as unpermitted residential development to house employees. Unlicensed cultivation could occur in any of the Countywide regions and could continue or expand in areas unsuitable for cultivation or development of appropriately permitted housing. Unpermitted residential habitation onsite would not be subject to plan check and inspection and would potentially have adverse effects on existing residents and neighborhoods due to unsafe and unpermitted nearby construction or reduction in property values due to proximity of unsafe and unpermitted construction. With implementation of MM AT-1.3a, *Sustained Enforcement Program*, and MM AT-1.3b, *Annual Survey and Monitoring Report*, to address unlicensed cultivation on an ongoing basis, impacts would be reduced over the life of the Program. Impacts would be less than both Program scenarios, and impacts would remain *significant and unavoidable*.

Transportation and Traffic

Impact TRA-1: Direct impacts from cultivation and manufacturing on transportation and traffic under Alternative 2 would be similar than both Program scenarios. Similar to the Program scenarios, an increase in vehicle trips and VMT would be distributed across the County. This alternative would allow the most expansive range of eligible sites, thus potentially distributing traffic impacts over a larger area and incrementally reducing acute impacts on intersections and roadways. While implementation of MM TRA-1.1, *Payment Transportation Impact Fees*, would reduce adverse effects, implementation of this mitigation measure could not feasible ensure the reduction of impacts to a less than significant level. As such, due to the potential for greater generation of traffic and vehicle trips, impacts are considered similar than both Program scenarios and remain *significant and unavoidable*.

Indirect impacts would be similar to those detailed above, as residential units and site improvements would be developed on cannabis related sites throughout the area of eligibility under this alternative. Indirect impacts under this alternative would be similar than under both Program scenarios, but would remain *significant and unavoidable*.

Impact TRA-2: Direct and indirect impacts of commercial cannabis cultivation under Alternative 2 could result in traffic safety hazards, inadequate emergency access, or impacts to road maintenance that is less than both Program scenarios. Similar to both Program scenarios, eligible areas under this alternative would largely occur in rural areas with hazardous roadways, and many cultivation sites within mountainous, unmaintained roads. The potential exists for hazardous safety issues on rural

roads for both operation vehicles and personal vehicles, and implementation of MM TRA-2.1, *Rural Road Management*, and MM TRA-2.2, *Adequate Access Roadway Design*, would ensure impacts are similar to the Program and would remain *less than significant with mitigation*.

Impact TRA-3: Similar to both Program scenarios, direct and indirect impacts of manufacturing under Alternative 2 would be primarily located in urban areas of the County, accessed by urban road systems that support adequate emergency access and remain subject to existing SCCC regulations, plans, and policies to address traffic safety issues in urban areas. Impacts would remain *less than significant*.

Secondary Impacts: Under this alternative, approximately 75 percent of registrants are located on eligible sites, which would reduce unlicensed cannabis cultivators and manufacturers compared to both Program scenarios. This would decrease the number of cultivators and manufacturers who would operate in areas with inadequate emergency access and potential traffic hazards. Those operations that generate traffic from employees and operations that use private undeveloped roads or access rural roads within the County may introduce or exacerbate traffic safety hazards and conflict with users of the same roadways. While the direct traffic effects of unlicensed cannabis cultivation/manufacturing cannot be determined, it is anticipated that ongoing operation of unlicensed operations under this alternative would continue; however, secondary impacts would be less than both Program scenarios. Adverse impacts to transportation and traffic would remain *significant and unavoidable*, despite implementation of MM AT-1.3a, *Sustained Enforcement Program*, and MM AT-1.3b, *Annual Survey and Monitoring Report*.

Utilities and Energy Conservation

Impact UE-1: Direct and indirect impacts of cultivation and manufacturing on water, wastewater, and solid waste services within the County would be similar in nature to both Program scenarios. The total area of canopy, water use, wastewater, and solid waste is consistent between Alternative 2 and both Program scenarios, resulting in similar impacts to the existing utility services available. Therefore, impacts on water supply and existing infrastructure would remain *less than significant*, impacts on wastewater services would remain *less than significant*, and with implementation of MM AQ-1.3, *Prohibit Cannabis Material Burning*, MM LU-1.1.6, *Cannabis Best Management Practices,* MM HYDRO-1.2, *Sanitary Sewer Survey*, MM HYDRO-2.1, *Water Efficiency for Cannabis Cultivation*, MM HYDRO-2.3, *Water Tank Supply Management* and MM UE-1.1, *Cannabis Soil, Plant Material, and Waste Management* would ensure impacts to solid waste are *less than significant with mitigation*.

Impact UE-2: Direct impacts of cultivation and manufacturing under Alternative 2 would result in additional demand for energy resources within the County and may conflict with energy conservation policies and objectives, and would be less impactful than both Program scenarios. Impacts would be similar to both Program scenarios, and implementation of MM LU-1.1.6. *Cannabis Best Management Practices*, and MM GHG-1.1. *Alternative Energy Sources*, would ensure impacts would be similar to the Program and remain *less than significant with mitigation*.

Indirect impacts would be similar to the Program. Due to compliance with the California Building Code and County policies relating to energy conservation features, this alternative would not conflict with existing energy conservation standards and indirect impacts would remain *less than significant*.

Secondary Impacts: Under Alternative 2, a reduced number of unlicensed cannabis cultivators and manufacturers would occur compared to both Program scenarios, which would result in fewer adverse impacts to water, wastewater, and solid waste services or infrastructure. Illegal operations would occur without SCCC or policy compliance, and could include unregulated groundwater or

surface water diversion, improper disposal and treatment of wastewater generated onsite, or the improper storage, handling, and disposal of municipal solid waste, as well as cannabis plant waste products and energy consumption. Alternative 2 would result in a reduced number of unlicensed cultivators compared to both Program scenarios, and despite implementation of MM AT-1.3a, *Sustained Enforcement Program*, and MM AT-1.3b, *Annual Survey and Recording*, adverse impacts to utilities and energy conservation would be less than the Program and remain *significant and unavoidable*.

Conclusion and Relationship to Project Objectives

Alternative 2 would not reduce any significant impacts to a less than significant level; however, this alternative would result in substantial reductions of resource and service secondary impacts given the substantial and historically unlicensed cannabis activities occurring in the County. This alternative may result in similar direct and indirect adverse environmental impacts to agricultural and timber resources, biological resources, cultural resources, greenhouse gases, hazards and hazardous materials, hydrology and water quality, land use, public services, population, employment, and housing, and transportation and circulation. Operators that currently conduct unregulated activities in these areas would be given the opportunity to comply with regulations designed to protect natural resources. Direct and indirect impacts to air quality, geology and soils, and utilities and energy conservation would be less adverse compared to both Program scenarios, with more widespread, less intensive impacts distributed throughout the County. The secondary impacts of this alternative would be reduced, compared to having limited oversight of unregulated activities. While adverse impacts would still occur under this alternative, the alternative's flexibility would enable adaptive management of cultivation and manufacturing operations within the County. The classification of all impacts under Alternative 2 would be the same as those under the Program, including significant and unavoidable air quality and transportation impacts.

Adoption of Alternative 2 would achieve the Program objectives which include, regulating commercial cannabis cultivation and manufacturing in a manner consistent with state law, developing a program that encourages cannabis cultivators and manufacturers to operate legally and secure operating licenses in compliance with County regulations, preventing adverse impacts on sensitive populations, natural resources and wildlife, riparian corridors, wetlands, and water supply, and developing a legal, local cannabis industry to improve the County's tax base. This alternative would also provide an efficient and clear cultivation and manufacturing permit process and regulations, and would regulate sites and premises to avoid degradation of the visual setting and neighborhood character, odors, hazardous materials, and fire hazards. With mitigations, this alternative would ensure adequate law enforcement and fire protection response, promote energy and resource efficiency, and provide efficiency and clarity in the permit process to facilitate participation and use by applicants.

4.3 Environmentally Superior Alternative

Each alternative analyzed in this section was evaluated based on significance criteria, location, extent and magnitude of impacts, potential benefits, and relative impacts in comparison to other alternatives. The alternative with the fewest adverse impacts and relatively greatest benefits is thereby considered the Environmentally Superior Alternative.

All alternatives would result in significant impacts to air quality and transportation and circulation, and none of the alternatives analyzed would reduce this significant impact to a less than significant

level. The Project, More Permissive Project, Alternative 1, and Alternative 2 all contain fewer significant impacts than the No Project Alternative. As such, the No Project Alternative is eliminated from consideration for the Environmentally Superior Alternative. Alternative 1 is also eliminated from consideration for the Environmentally Superior Alternative as it does not meet a vast majority of Project objectives.

Based on the information in this EIR, the Most Permissive Project Alternative is identified as the Environmentally Superior Alternative. Alternative 2 was found to generate the least adverse impacts, with the potential to substantially improve natural resources and public service conditions associated with secondary impacts, while achieving the most Program objectives. The Most Permissive Project Alternative would give the County the most flexibility and opportunity to bring cannabis operations into compliance with the SCCC and the County General Plan and monitor operations over time. It also provides the greatest opportunity to mitigate impacts and increase County tax revenue to support ongoing improvement and enforcement programs. With implementation of mitigation measures, the Most Permissive Project Alternative provides a balance between meeting Program objectives, including quality of life concerns, while addressing environmental impacts by maximizing participation in the Program and, in doing so, applying SCCC regulations, County policies, and required mitigation measures from this EIR to all licensed cannabis cultivation and manufacturing. The Most Permissive Alternative minimizes the barriers to participation in the Program and would reduce secondary effects, which are consistently the more severe and environmentally damaging significant and unavoidable impacts identified by the analysis.

Given the nature of unregulated cannabis activities that current existing and may occur within the County, secondary impacts, with the exception of aesthetics and visual resources, are considered to result in significant and unavoidable effects on the human and natural environment due to the inability to effectively enforce and regulate such unlicensed operations. Due to the potential for operators to continue to engage in such activities within the County, either due to costs of licensing, associated costs of development, or other reasons, significant and unavoidable secondary impacts are considered to continue to occur, regardless Program scenario (see Table 4-6). However, the Most Permissive Project Alternative would reduce these impacts to the greatest degree compared to all other Program scenarios and alternatives considered.

.

Table 4-5 Comparison of Direct and Indirect Impacts of the Program Alternatives

Environmental Resource	Proposed Project	More Permissive Project	No Project Alternative	Alternative 1 — Most Restrictive Alternative	Alternative 2 — Most Permissive Alternative
Aesthetics and Visual Resources	Less than Significant with Mitigation	Less than Significant with Mitigation	**Less adverse** (Less than Significant)	**Slightly more adverse** (Less than Significant with Mitigation)	**Slightly less adverse** (Less than Significant with Mitigation)
Agricultural and Timber Resources	Less than Significant with Mitigation	Less than Significant with Mitigation	**Significantly more adverse** (Significant and Unavoidable)	**Similar** (Less than Significant with Mitigation)	**Similar** (Less than Significant with Mitigation)
Air Quality	Significant and Unavoidable	Significant and Unavoidable	**More adverse** (Significant and Unavoidable)	**Less adverse** (Significant and Unavoidable)	**Less adverse** (Significant and Unavoidable)
Biological Resources	Less than Significant with Mitigation	Less than Significant with Mitigation	**Substantially more adverse** (Significant and Unavoidable)	**Slightly less adverse** (Less than Significant with Mitigation)	**Similar** (Less than Significant with Mitigation)
Cultural Resources	Less than Significant with Mitigation	Less than Significant with Mitigation	**Substantially more adverse** (Significant and Unavoidable)	**Similar** (Less than Significant with Mitigation)	**Similar** (Less than Significant with Mitigation)
Geologic Hazards, Soils, and Minerals	Less than Significant with Mitigation	Less than Significant with Mitigation	**Substantially more adverse** (Significant and Unavoidable)	**Similar** (Less than Significant with Mitigation)	**Slightly less adverse** (Less than Significant with Mitigation)
Greenhouse Gas Emissions and Climate Change	Less than Significant with Mitigation	Less than Significant with Mitigation	**Substantially more adverse** (Significant and Unavoidable)	**Similar** (Less than Significant with Mitigation)	**Similar** (Less than Significant with Mitigation)
Hazards and Hazardous Materials	Less than Significant	Less than Significant	**Substantially more adverse**	**Slightly less adverse** (Less than Significant)	**Similar**

Environmental Resource	Proposed Project	More Permissive Project	No Project Alternative	Alternative 1 — Most Restrictive Alternative	Alternative 2 — Most Permissive Alternative
			(Significant and Unavoidable)		(Less than Significant)
Hydrology and Water Quality	Less than Significant with Mitigation	Less than Significant with Mitigation	**Substantially more adverse** (Significant and Unavoidable)	**Slightly more adverse** (Less than Significant with Mitigation)	**Similar** (Less than Significant with Mitigation)
Land Use and Planning	Less than Significant with Mitigation	Less than Significant with Mitigation	**Substantially more adverse** (Significant and Unavoidable)	**Slightly more adverse** (Less than Significant with Mitigation)	**Similar** (Less than Significant with Mitigation)
Public Services	Less than Significant	Less than Significant	**Substantially more adverse** (Significant and Unavoidable)	**Similar** (Less than Significant)	**Similar** (Less than Significant)
Population, Employment, and Housing	Less than Significant with Mitigation	Less than Significant with Mitigation	**Substantially more adverse** (Significant and Unavoidable)	**Similar** (Less than Significant with Mitigation)	**Similar** (Less than Significant with Mitigation)
Transportation and Circulation	Significant and Unavoidable	Significant and Unavoidable	**Similar** (Significant and Unavoidable)	**More adverse** (Significant and Unavoidable)	**Similar** (Significant and Unavoidable
Utilities and Energy Conservation	Less than Significant with Mitigation	Less than Significant with Mitigation	**Substantially more adverse** (Significant and Unavoidable)	**Slightly more adverse** (Less than Significant with Mitigation)	**Slightly less adverse** (Less than Significant with Mitigation)
Meet Project Objectives?	Yes	Yes	No	Yes, but to a lesser extent than both Program alternatives	Yes
Reduce Significant and Unavoidable Impacts?	--	--	No	No	No

Table 4-6 Comparison of Secondary Impacts of Unregulated Cannabis Activities of the Program Alternatives

Environmental Resource	Proposed Project	More Permissive Project	No Project Alternative	Alternative 1 — Most Restrictive Alternative	Alternative 2 — Most Permissive Alternative
Aesthetics and Visual Resources	Less than Significant	Less than Significant	**Less adverse** (Less than Significant)	**Similar** (Less than Significant)	**Similar** (Less than Significant)
Agricultural and Timber Resources	Significant and Unavoidable	Significant and Unavoidable	**More adverse** (Significant and Unavoidable)	**More adverse** (Significant and Unavoidable)	**Less adverse** (Significant and Unavoidable)
Air Quality	Significant and Unavoidable	Significant and Unavoidable	**Less adverse** (Significant and Unavoidable)	**More adverse** (Significant and Unavoidable)	**Less adverse** (Significant and Unavoidable)
Biological Resources	Significant and Unavoidable	Significant and Unavoidable	**More adverse** (Significant and Unavoidable)	**More adverse** (Significant and Unavoidable)	**Less adverse** (Significant and Unavoidable)
Cultural Resources	Significant and Unavoidable	Significant and Unavoidable	**More adverse** (Significant and Unavoidable)	**More adverse** (Significant and Unavoidable)	**Less adverse** (Significant and Unavoidable)
Geologic Hazards, Soils, and Minerals	Significant and Unavoidable	Significant and Unavoidable	**More adverse** (Significant and Unavoidable)	**More adverse** (Significant and Unavoidable)	**Less adverse** (Significant and Unavoidable)
Greenhouse Gas Emissions and Climate Change	Significant and Unavoidable	Significant and Unavoidable	**Less adverse** (Significant and Unavoidable)	**Similar** (Significant and Unavoidable)	**Less adverse** (Significant and Unavoidable)
Hazards and Hazardous Materials	Significant and Unavoidable	Significant and Unavoidable	**More adverse** (Significant and Unavoidable)	**More adverse** (Significant and Unavoidable)	**Less adverse** (Significant and Unavoidable)
Hydrology and Water Quality	Significant and Unavoidable	Significant and Unavoidable	**More adverse** (Significant and Unavoidable)	**More adverse** (Significant and Unavoidable)	**Less adverse** (Significant and Unavoidable)
Land Use and Planning	Significant and Unavoidable	Significant and Unavoidable	**More adverse** (Significant and Unavoidable)	**Slightly more adverse** (Significant and Unavoidable)	**Less adverse** (Significant and Unavoidable)
Public Services	Significant and Unavoidable	Significant and Unavoidable	**More adverse** (Significant and Unavoidable)	**More adverse** (Significant and Unavoidable)	**Slightly less adverse** (Significant and Unavoidable)

Environmental Resource	Proposed Project	More Permissive Project	No Project Alternative	Alternative 1 — Most Restrictive Alternative	Alternative 2 — Most Permissive Alternative
Population, Employment, and Housing	Significant and Unavoidable	Significant and Unavoidable	**More adverse** (Significant and Unavoidable)	**Slightly more adverse** (Significant and Unavoidable)	**Slightly less adverse** (Significant and Unavoidable)
Transportation and Circulation	Significant and Unavoidable	Significant and Unavoidable	**More adverse** (Significant and Unavoidable)	**More adverse** (Significant and Unavoidable)	**Slightly less adverse** (Significant and Unavoidable)
Utilities and Energy Conservation	Significant and Unavoidable	Significant and Unavoidable	**More adverse** (Significant and Unavoidable)	**More adverse** (Significant and Unavoidable)	**Slightly less adverse** (Significant and Unavoidable)
Meet Project Objectives?	Yes	Yes	No	Yes, but to a lesser extent than both Program alternatives	Yes
Reduce Significant and Unavoidable Impacts?	--	--	No	No	No

Chapter 5
List of Preparers and References

5.1 List of Preparers

County of Santa Cruz

Kathy Molloy Previsich	Planning Director
Paia Levine	Principal Planner
Matt Johnston	Environmental Coordinator/Resource Planner
Dan Peterson	Former Cannabis Licensing Official
Loretta Moreno	Cannabis Resource Planner
Michael Sapunor	Cannabis Resource Planner

Amec Foster Wheeler, Environment & Infrastructure

Dan Gira	Project Principal
Rita Bright	Project Manager/Visual Resource Specialist
Erika Leachman	Deputy Project Manager
Doug McFarling	Quality Control/Quality Assurance
Trisha Drennan, RPA, MA	Cultural Resources Specialist
Aaron Johnson	Senior GIS Analyst
Brian Londquist, RG	Hazardous Materials Specialist
Craig Stewart, PG, CHG	Senior Hydrogeologist
Debra McGrew, PE	Utilities Engineer
Angie Harbin-Ireland	Biologist
Shawn Gaver	Senior Environmental Analyst/Planner
Matt Buggert	Environmental Analyst/Planner
Laura Ingulsrud	Environmental Analyst/Planner/Air Quality Specialist
Taylor Lane	Environmental Analyst/Planner/Air Quality Specialist
Marie Laule	Environmental Analyst/Planner
Erlin Worthington	Environmental Analyst/Planner
Rosann Malloch	Project Administrator
Rita Samaniego	Administrative Assistant
Deirdre Stites	Graphics Consultant
Janice Depew	Word Processor

H.T. Harvey and Associates

Steve Rottenborn	Principal, Wildlife Ecology
Ginger Bolen	Associate Wildlife Ecologist
Kelly Hardwicke	Senior Associate Plant Ecologist
Patrick Stone	Senior Wildlife Ecologist
Greg Sproull	Plant Biologist
Craig Fosdick	Wildlife Ecologist

Additional Team Members

Tom Burns	Associate Principal – Land Use and Planning

5.2 References

Chapter 2, Project Description

Amec Foster Wheeler. 2017a. Personal Communication. Sergeant Gombos. Kickoff Meeting. January.

Amec Foster Wheeler. 2017b. Personal Communication. Veteran's Cannabis Alliance. Kickoff Meeting. January.

County of Santa Cruz. 2017. Santa Cruz County Quarries. Available at: http://www.sccoplanning.com/PlanningHome/Environmental/Quarries.aspx - Accessed April 3, 2017

County of Santa Cruz. 2013. Climate Action Strategy. Available at: http://www.sccoplanning.com/PlanningHome/SustainabilityPlanning/ClimateActionStrategy.aspx - Accessed April 12, 2017

County of Santa Cruz. 1994. *General Plan - Introduction*. Accessed: 2 January 2017. Retrieved from: http://www.sccoplanning.com/Portals/2/County/userfiles/106/GP%20Chapter%201.pdf

——. 2015. *2015 Crop Report Santa Cruz County*. Accessed: 19 January 2017. Retrieved from: http://www.agdept.com/Portals/10/pdf/2015%20Crop%20Report%20for%20Webpage.pdf

——. 2017a. *Santa Cruz County Watersheds*. Accessed: 19 January 2017. Retrieved from: http://scceh.com/Home/Programs/WaterResources/WatershedandStreamHabitatProtection/SantaCruzCountyWatersheds.aspx

——. 2017b. *Santa Cruz County Sheriff's Office Homepage*. Accessed: 19 January 2017. Retrieved from: http://www.scsheriff.com/

SCFD. 2017. *Santa Cruz County Fire Department*. Accessed: 19 January 2017. Retrieved from: http://www.santacruzcountyfire.com/

U. S. Census Bureau. 2010. *2010 Census Gazetteer Files*. Accessed: 27 December 2016. Retrieved from: http://www2.census.gov/geo/docs/maps-data/data/gazetteer/counties_list_06.txt

Chapter 3, Environmental Impact Analysis

Section 3.1, *Aesthetics and Visual Resources*

Association of Monterey Bay Area Governments. 2014. Draft Environmental Impact Report for 2035 Metropolitan Transportation Plan/Sustainable Communities Strategy and Regional Transportation Plans for Monterey, San Benito, and Santa Cruz Counties.

Caltrans. 2011. California Scenic Highway Mapping System.

City of Santa Cruz. 2011. Draft EIR for the General Plan 2030 Update.

County of Santa Cruz. 1994. General Plan / Local Coastal Program - Chapter 5 Conservation and Open Space.

——. 2017. Santa Cruz County Watersheds. Accessed: 19 January 2017. Retrieved from: http://scceh.com/Home/Programs/WaterResources/WatershedandStreamHabitatProtection/SantaCruzCountyWatersheds.aspx

Section 3.2, *Agricultural and Timber Resources*

County of Santa Cruz, Agricultural Commissioner's Office. 2013a. Agricultural Production Report: 2013.

County of Santa Cruz, Agricultural Commissioner's Office. 2013. Economic Contributions of Santa Cruz County Agriculture. Accessed at

http://cosb.countyofsb.org/uploadedFiles/agcomm/outreach/SB-Ag-Econ-vDec31-5pm.pdf on January 19, 2015.

County of Santa Cruz. 2007. Uniform Rules for Agricultural Preserves and Farmland Security Zones Final EIR. Accessed at http://longrange.sbcountyplanning.org/programs/uniformrules/uniformrules_FEIR.php on April 13, 2015.

County of Santa Cruz. 2009. Agriculture Element. May. Adopted 1991

County of Santa Cruz, Planning and Development. 2014a. Santa Cruz County Uniform Rules for Agricultural Preserves and Farmland Security Zones. September.

County of Santa Cruz. 2014b. GIS data. September 18.

Department of Conservation, Division of Land Resources Protection. 2010. Santa Cruz County Important Farmland Data 2010. Accessed at ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/sba10.pdf on January 19, 2015.

Agricultural Impact Associates. 2013. *'Economic Contributions of Santa Cruz County Agriculture'.*

County of Santa Cruz. 2015. *2015 Crop Report Santa Cruz County*. Accessed: 19 January 2017. Retrieved from: http://www.agdept.com/Portals/10/pdf/2015%20Crop%20Report%20for%20Webpage.pdf

Fast Forward, Inc. 2017. *Santa Cruz County, California Climate*. Accessed: 28 June 2017. Retrieved from: http://www.bestplaces.net/climate/county/california/santa_cruz

Section 3.3, *Air Quality*

CARB. 2016. *Ambient Air Quality Standards*. Accessed: 29 July 2016. Retrieved from: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf

County of Santa Cruz. 2017a. *Air Quality - County of Santa Cruz Planning Department*. Accessed: 28 March 2017. Retrieved from: http://www.sccoplanning.com/PlanningHome/Environmental/AirQuality.aspx

——. 2017b. *Santa Cruz County Cannabis Water Demand Research*.

ERA Economics, LLC for CA Department of Food and Agriculture. 2017. *'Economic Impact Analysis of Medical Cannabis Cultivation Program Regulations - Standardized Regulatory Impact Assessment'.*

MBUAPCD. 2008. *MBUAPCD CEQA Air Quality Guidelines*. Accessed: 28 March 2017. Retrieved from: http://mbard.org/pdf/CEQA_full%20(1).pdf

——. 2017. *MBUAPCD 2012-2015 AQMP*.

ODOE. 2017. *Cannabis Growers Energy Uses Estimator - Oregon Department of Energy*. Accessed: 30 May 2017. Retrieved from: http://energy.odoe.state.or.us/cannabis.html

RAND. 2010. *Estimated Cost of Production of Legalized Cannabis*.

Section 3.4, *Biological Resources*

CDPR. 2015. *Frequently Asked Questions about Rodents and Rodenticides*.

Land Trust of Santa Cruz County. 2004. *The Sandhills Conservation and Management Plan*. Accessed: 4 May 2017. Retrieved from: http://www.sccoplanning.com/Portals/2/sandhills%20conservation%20and%20management%20plan.pdf

National Cooperative Soil Survey. 1998. *Official Series Description - ZAYANTE Series*. Accessed: 4 May 2017. Retrieved from: https://soilseries.sc.egov.usda.gov/OSD_Docs/Z/ZAYANTE.html

Sandhills Alliance for Natural Diversity. 2005. *Geology and Soils of the Santa Cruz Sandhills*. Accessed: 4 May 2017. Retrieved from: http://www.santacruzsandhills.com/geology_and_soils.html

Tai Moses. 2017. *Interview with Tia Moses, Director of the Santa Cruz Chapter of Raptors are the Solution*.

Bulger, J.B. and N.J. Scott, Jr. 2003. Terrestrial activity and conservation of adult California red-legged frogs *Rana aurora draytonii* in coastal forests and grasslands. Biological Conservation 110:85-95.

[CNPS] California Native Plant Society. 2017. Inventory of Rare and Endangered Plants (online edition, v7 and v8-01a). California Native Plant Society. Sacramento, CA. http://www.rareplants.cnps.org/ advanced.html. Accessed through March 2017.

[CNDDB] California Natural Diversity Data Base. 2017. Rarefind. California Department of Fish and Wildlife.

Land Trust of Santa Cruz County. 2004. *The Sandhills Conservation and Management Plan*. Accessed: 4 May 2017. Retrieved from: http://www.sccoplanning.com/Portals/2/sandhills%20conservation%20and%20management%20plan.pdf

National Cooperative Soil Survey. 1998. *Official Series Description - ZAYANTE Series*. Accessed: 4 May 2017. Retrieved from: https://soilseries.sc.egov.usda.gov/OSD_Docs/Z/ZAYANTE.html

Pacific Fishery Management Council. 1998. The Coastal Pelagic Species Fishery Management Plan. Portland, Oregon.

Pacific Fishery Management Council. 2008. Pacific Coast Groundfish Fishery Management Plan for the California, Oregon, and Washington Groundfish Fishery as amended through Amendment 19. Portland, Oregon.

Pacific Seabird Group Marbled Murrelet Technical Committee. 2003. Methods for surveying marbled murrelets in forests: A revised protocol for land management and research. January 6, 2003.

Ruth, S. B., and K. Tollestrup. 1973. Aspects of the life history and current status of the Santa Cruz long-toed salamander (Ambystoma macrodactylum croceum) at Valencia Lagoon, Santa Cruz County, California. Unpublished Student Report, Museum of Vertebrate Zoology, University of California, Berkeley. 40 pp.

Sandhills Alliance for Natural Diversity. 2005. *Geology and Soils of the Santa Cruz Sandhills*. Accessed: 4 May 2017. Retrieved from: http://www.santacruzsandhills.com/geology_and_soils.html

U.S. Environmental Protection Agency. 2009. Risks of strychnine use to: federally threatened California red-legged frog (*Rana aurora draytonii*), California tiger salamander (*Ambystoma californiense*) Central California Distinct Population Segment federally threatened and Sonoma and Santa Barbara County Distinct Population Segments federally endangered, federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*). Pesticide effects determination. Environmental Fate and Effects Division. October 19, 2009.

[USFWS] U.S. Fish and Wildlife Service. 1999. Santa Cruz Long-Toed Salamander (*Ambystoma macrodactylum croceum*) Draft Revised Recovery Plan. Second Revision April 1999.

[USFWS] U.S. Fish and Wildlife Service. 2004. Endangered and threatened wildlife and plants; Determination of threatened status for the California tiger salamander; and special rule exemption for existing routine ranching activities; Final Rule. Federal Register 69: 47212-47248.

[USFWS] U.S. Fish and Wildlife Service. 2017. ECOS Environmental Conservation Online System. https://ecos.fws.gov/ecp0/conservationPlan/region/summary?region=8&type=HCP. Accessed April 2017.

Wharton J. C, 1989, Ecological and life history aspects of the San Francisco garter snake (Thamnophis sirtalis tetrataenia). Unpublished M.A. Thesis, San Francisco State University, San Francisco, California. x+91 p.

Section 3.5, *Cultural Resources*

County of Santa Cruz. 1994. Santa Cruz County General Plan Chapter 5 Conservation and Open Space.

——. 2017a. The Green Wave of Cannabis Cultivation in Santa Cruz County. Accessed: 5 April 2017. Retrieved from: http://www.ccdeh.com/resources/documents/training-1/2017-cannabis-summit-an-overview-for-local-regulators/1655-2017-01-19-1430-01-02-melodye-serino-and-robin-bolster-grant-county-of-santa-cruz/file

——. 2017b. Archaeological Resources. Accessed: 5 April 2017. Retrieved from: http://www.sccoplanning.com/PlanningHome/Environmental/ArchaeologicalResources.aspx

Good Times Santa Cruz. 2016. Remembering Santa Cruz's Summer of Love. Accessed: 7 April 2017. Retrieved from: http://goodtimes.sc/cover-stories/remembering-santa-cruzs-summer-love/

Marijuana. 2014. The Cannabis Buyers Club: How Medical Marijuana Began in California. Accessed: 7 April 2017. Retrieved from: http://www.marijuana.com/blog/news/2014/08/the-cannabis-buyers-club-how-medical-marijuana-began-in-california/

National Park Service. 2013. California Powder Works Bridge Draft National Historic Landmark Nomination. Accessed: 10 April 2017. Retrieved from: https://www.nps.gov/nhl/news/LC/spring2014/CAPowderWorksBridge.pdf

——. 2016. National Historic Landmarks - Santa Cruz County, California. Accessed: 10 April 2017. Retrieved from: https://www.nps.gov/nhl/find/statelists/ca/CA.pdf

Office of Historic Preservation. 2017. California Historical Landmarks - Santa Cruz County. Accessed: 10 April 2017. Retrieved from: http://ohp.parks.ca.gov/?page_id=21523

Santa Cruz Beach Boardwalk. 2017. 1911 Looff Carousel Circles the Generations - Santa Cruz Beach Boardwalk. Accessed: 10 April 2017. Retrieved from: http://news.beachboardwalk.com/press-kit/looff-carousel-generations

Santa Cruz County GIS. 2016. Geologic Paleontologic. Accessed: 5 April 2017. Retrieved from: http://data2-sccgis.opendata.arcgis.com/datasets/de093ade949749a396cb9fafc55d9307_53?mapSize=map-maximize

——. 2017. Archaeologic Resource Areas. Accessed: 7 April 2017. Retrieved from: http://data2-sccgis.opendata.arcgis.com/datasets/baaed8c3bcf9414aa5e7ed9c95c94684_128?geometry=-123.065%2C36.767%2C-120.979%2C37.323&mapSize=map-maximize

Society of Vertebrate Paleontology. 2010. SVP Impact Mitigation Guidelines. Accessed: 11 April 2017. Retrieved from: http://vertpaleo.org/The-Society/Governance-Documents/SVP_Impact_Mitigation_Guidelines.aspx

WAMM. 2017. About WAMM « WAMM – The Wo/Men's Alliance for Medical Marijuana – Santa Cruz, CA. Accessed: 7 April 2017. Retrieved from: https://wamm.org/about-wamm/

Section 3.6, *Geology and Soils*

Cal EMA. 2009. Tsunami Inundation Map for Santa Cruz County.

California State Water Board. 2014. Summary Map of Recent, Historical, and Estimated Potential for Land Subsidence. California State Water Board.

City of Santa Cruz. 2011. DEIR for the Draft General Plan 2030.

County of Santa Cruz RDA/DPW. 2006. East Cliff Drive Bluff Protection and Parkway Revised Final EIS/EIR, Chapter 6 Geologic Resources and Coastal Processes.

RBF Consulting. 2009. Atkinson Lane Specific Plan and Planned Unit Development DEIR, Chapter 3.6 Geology and Soils.

Santa Cruz County GIS. 2009a. Landslide Hazard Areas Map.

——. 2009b. Expansive Soils Map.

——. 2009c. Liquefaction Hazard Areas Map.

——. 2009d. Tsunami Inundation Areas Map.

USDA. 1980. Soil Survey of Santa Cruz County, California.

Section 3.7, *Greenhouse Gas Emissions and Climate Change*

BAAQMD. 2017. *BAAQMD CEQA Guidelines*. Accessed: 24 May 2017. Retrieved from: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

CARB. 2016. *California Greenhouse Gas Inventory Data 2000-2014*. Accessed: 12 April 2017. Retrieved from: https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2014/ghg_inventory_trends_00-14_20160617.pdf

County of Santa Cruz. 2013. *County of Santa Cruz Climate Action Strategy*. Accessed: Retrieved from: http://www.sccoplanning.com/Portals/2/County/Planning/policy/Climate%20Action%20Strategy/Climate%20Action%20Strategy.pdf?ver=2013-09-19-144013-903

——. 2017. *Santa Cruz County Cannabis Water Demand Research*.

ERA Economics, LLC for CA Department of Food and Agriculture. 2017. 'Economic Impact Analysis of Medical Cannabis Cultivation Program Regulations - Standardized Regulatory Impact Assessment'.

IPCC. 2013. *Climate Change 2013, The Physical Science Basis - Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Accessed: 12 April 2017. Retrieved from: http://www.climatechange2013.org/images/report/WG1AR5_ALL_FINAL.pdf

MBUAPCD. 2008. *MBUAPCD CEQA Air Quality Guidelines*. Accessed: 28 March 2017. Retrieved from: http://mbard.org/pdf/CEQA_full%20(1).pdf

——. 2017. *MBUAPCD 2012-2015 AQMP*.

ODOE. 2017. *Cannabis Growers Energy Uses Estimator - Oregon Department of Energy*. Accessed: 30 May 2017. Retrieved from: http://energy.odoe.state.or.us/cannabis.html

RAND. 2010. *Estimated Cost of Production of Legalized Cannabis*.

Section 3.8, *Hazards and Hazardous Materials*

CalFire. 2007. Santa Cruz County Fire Hazard Severity Zones in SRA. Accessed: 13 March 2017. Retrieved from: http://www.fire.ca.gov/fire_prevention/fhsz_maps_santacruz

——. 2016a. San Mateo - Santa Crus Unit Strategic Fire Plan. Accessed: 5 April 2017. Retrieved from: http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fpppdf1561.pdf

——. 2016b. Loma Fire General Information. Accessed: 2 May 2017. Retrieved from: http://cdfdata.fire.ca.gov/incidents/incidents_details_info?incident_id=1457

County of Santa Cruz. 2015. 2015 Crop Report Santa Cruz County. Accessed: 19 January 2017. Retrieved from: http://www.agdept.com/Portals/10/pdf/2015%20Crop%20Report%20for%20Webpage.pdf

DPR. 2017. Legal Pest Management Practices for Marijuana Growers in California - Department of Pesticide Regulation. Accessed: 13 June 2017. Retrieved from: http://cdpr.ca.gov/docs/county/cacltrs/penfltrs/penf2015/2015atch/attach1502.pdf

Santa Cruz County GIS. 2009. Generalized Critical Fire Hazard Areas - County of Santa Cruz. Accessed: 23 March 2017. Retrieved from: http://www.co.santa-cruz.ca.us/Departments/GeographicInformationSystems(GIS).aspx

Santa Cruz Sentinel, Robert Salonga. 2017. Marijuana grow blamed for 2016 Loma Fire, officials say. Accessed: 24 August 2017. Retrieved from: http://www.santacruzsentinel.com/article/NE/20170810/NEWS/170819965

Section 3.9, *Hydrology and Water Quality*

City of Santa Cruz. 2016. 'City of Santa Cruz 2015 Urban Water Management Plan'.

County of Santa Cruz. 1994. *General Plan / Local Coastal Program - Chapter 6 Public Safety and Noise*.

——. 2017. *Water Supply*. Accessed: 10 March 2017. Retrieved from: http://scceh.com/Home/Programs/WaterResources/WaterSupply.aspx

County of Santa Cruz Health Services Agency. 2016. 'Santa Cruz County Storm Water Resources Plan'.

Federal Emergency Management Agency. 2012. 'Flood Insurance Study - Santa Cruz County California and Incorporated Areas'.

State Water Resources Control Board. 2015. '2012 California Integrated Report Clean Water Act Section 303(d) and 305(b)'.

State Water Resources Control Board Staff. 2016. *Cannabis Water Quality, Wildlife, Water Rights, and Enforcement Programs*.

Water Systems Consulting, Inc. 2016. '2015 Urban Water Management Plan for the San Lorenzo Valley Water District'.

California Regional Water Quality Control Board: Central Coast Region. March 2016. Water Quality Control Plan for the Central Coast Basin (Basin Plan).

City of Santa Cruz Water Department. August 2016. 2015 Urban Water Management Plan.

County of Santa Cruz County Environmental Health Services Agency. March 2017. Santa Cruz County Water Supply. Available at: http://scceh.com/Home/Programs/WaterResources/WaterSupply.aspx Accessed March 2, 2017.

– December 2016. Santa Cruz County Storm Water Resources Plan.

– December 2016a. 2016 Water Resources Annual Report.

County of Santa Cruz County Planning Department. May 1994. Santa Cruz County General Plan, Chapter 6: Public Safety and Noise Element.

Federal Emergency Management Agency. May 2012. Flood Insurance Study: Santa Cruz County, California and Incorporated Areas.

State Water Resources Control Board. 2012. Final 2012 California Integrated Report (CWA Section 303(d) List /305(b) Report)

San Lorenzo Valley Water District. December 2016. Final 2015 Urban Water Management Plan for the San Lorenzo Valley Water District.

Section 3.10, *Land Use and Planning*

Sandhills Alliance for Natural Diversity. 2005. The Santa Cruz Sandhills. Accessed: 24 April 2017. Retrieved from: http://www.santacruzsandhills.com/overview.html

Santa Cruz County GIS. 2016a. Sandhills Habitat. Accessed: 24 April 2017. Retrieved from: http://data2-sccgis.opendata.arcgis.com/datasets/577737851d454143a60a9ce03632cf39_23

——. 2016b. Sandhills IPHCP. Accessed: 24 April 2017. Retrieved from: http://data2-sccgis.opendata.arcgis.com/datasets/9b89e96d8aa2484da4cde4eab666b780_24

Zayante Sandhills Conservation Bank. 2011. Zayante Sandhills Conservation Bank - Project Status. Accessed: 24 April 2017. Retrieved from: http://www.zayantesandhills.com/update.html

Section 3.11, *Public Services*

Bonny Doon School. 2015. "2015 Bonny Doon School Accountability Report Card." http://www.bonnydoon.santacruz.k12.ca.us/pdf/2015_bonnydoon_SARC.pdf.

CalFire. 2012a. "CalFire San Mateo-Santa Cruz Unit." http://www.fire.ca.gov/czu/.

———. 2012b. "CalFire Santa Cruz Division." http://www.fire.ca.gov/CZU/SantaCruz_Division.

California Department of Parks and Recreation. 2017. "California State Parks - Find a Park." *CA State Parks*. https://www.parks.ca.gov/.

California Highway Patrol. 2017a. "California Highway Patrol (720) Santa Cruz." https://www.chp.ca.gov/find-an-office/coastal-division/offices/(720)-santa-cruz.

———. 2017b. "California Highway Patrol Coastal Division." https://www.chp.ca.gov/find-an-office/coastal-division.

City of Santa Cruz. 2017. "City of Santa Cruz Parks Draft Master Plan 2030." http://www.cityofsantacruz.com/home/showdocument?id=58251.

County of Santa Cruz. 1994. "County of Santa Cruz 1994 General Plan / Local Coastal Program." http://www.sccoplanning.com/PlanningHome/SustainabilityPlanning/GeneralPlan.aspx.

———. 2002. "Emergency Management Plan April 2002." http://www.co.santa-cruz.ca.us/Portals/0/County/OES/pdfs/2002_emergency_management_plan.pdf.

———. 2014. "Local Operational Plan Between the San Mateo-Santa Cruz Unit of the California Department of Forestry and Fire Protection." http://www.santacruzcountyfire.com/fdac/draft_sc_2014-17_op.pdf.

———. 2017. "Santa Cruz County Sheriff's Office Homepage." http://www.scsheriff.com/.

Happy Valley Elementary. 2016. "2016 Happy Valley Elementary School Accountability Report Card." http://www.hvesd.com/uploads/5/7/8/1/57815731/2016_school_accountability_report_card__cde__happy_valley_elementary_sch..._1___1_.pdf.

LAFCO. 2016. "Review of Fire Districts Services and Spheres of Influence." http://www.santacruzlafco.org/wp-content/uploads/2016/10/Final-Debs-Fix-Fire-Review-with-Cover-Page-10-19-16.pdf.

Live Oak School District. 2017. "Live Oak School District - About the Live Oak School District." http://www.losd.ca/about-us-71c25acc.

Mountain Elementary School District. 2016. "Mountain Elementary School District: School Accountability Report Card." http://mountainesd-ca.schoolloop.com/file/1399703079188/1408076415339/3245271934866398383.pdf.

Pacific Elementary School. 2017. "Pacific Elementary School: Our School." *Pacific Elementary School*. http://www.pacificesd.org/our-school.html.

Pajaro Valley Fire. 2013. "Pajaro Valley Fire Protection District - Cooperative Fire Protection Provided by CALFIRE." http://www.pajarovalleyfire.com/.

Pajaro Valley Unified School District. 2017. "Pajaro Valley Unified School District - General." http://www.pvusd.net/cms/page_view?d=x&piid=&vpid=1309255327904.

RBF Consulting. 2009. "Atkinson Lane Specific Plan and Planned Unit Development Draft EIR." http://www.sccoplanning.com/LinkClick.aspx?fileticket=Zm3flOQXxn8%3d&tabid=1619.

San Lorenzo Valley Unified School District. 2017. "San Lorenzo Valley Unified School District: Local Control and Accountability Plan (LCAP)." http://www.slvusd.org/local-control-and-accountability-plan-lcap/.

Santa Cruz City Schools. 2017. "Santa Cruz City Schools - School Websites." http://sccs.net/schools/school_websites/.

Santa Cruz County Fire Department. 2015. "Santa Cruz County Fire Department Master Plan 2012-2015." http://www.santacruzcountyfire.com/fdac/2012-15_master_plan_final.pdf.

Santa Cruz County Grand Jury. 2015. "Santa Cruz County Fire Protection Districts - Response Times, Mutual Aid, and Consolidation." http://www.co.santa-cruz.ca.us/Portals/0/County/GrandJury/GJ2015_final/SantaCruzCountyFireProtectionDistricts.pdf.

Santa Cruz County Office of Education. 2017. "Santa Cruz County Office of Education - Guide to Santa Cruz County Schools." http://www.santacruzcoe.org/schools/index.html.

Santa Cruz County Sheriff. 2014. "Santa Cruz County Sheriff Coroner Annual Report 2014." http://www.scsheriff.com/Portals/1/County/sheriff/SCSD_Report_2014.pdf.

———. 2015. "Santa Cruz County Sheriff Coroner Annual Report 2015." http://scsheriff.com/Portals/1/County/sheriff/SCSD_Report_2015.pdf.

Santa Cruz LAFCO. 2005. "Santa Cruz LAFCO: Countywide Service Review - Recreation and Park Services." http://www.santacruzlafco.org/pages/reports/CSR%20Public%20Review%20Draft/09.RecParks.PublicRevwDraft.06-05.pdf.

———. 2016. "Review of Fire Districts Services and Spheres of Influence." http://www.santacruzlafco.org/wp-content/uploads/2016/10/Final-Debs-Fix-Fire-Review-with-Cover-Page-10-19-16.pdf.

Santa Cruz Public Libraries. 2016. "About the Library - Santa Cruz Public Libraries." https://www.santacruzpl.org/aboutscpl/.

Scotts Valley Unified School District. 2017. "Scotts Valley Unified School District: Home Page." https://scottsvalley-ca.schoolloop.com/.

Section 3.12, *Population, Employment, and Housing*

'AMBAG 2014 Adopted Regional Forecast - Technical Documentation'. 2014..

Association of Monterey Bay Area Governments. 2014. *'Regional Housing Needs Allocation Plan: 2014-2035'.*

——. 2017. *'2035 Metropolitan Transportation Plan / Sustainable Communities Strategy: Moving Forward'.*

California Department of Housing and Community Development. 2017. *'California State Income Limits for 2017'.*

County of Santa Cruz. 2016. *Santa Cruz County Affordable Housing Guidelines May 2016-2017 Edition*.

County of Santa Cruz Planning Department. 2016. *'Report on Year 2017 Growth Goal for Santa Cruz County's Unincorporated Area'.*

ERA Economics, LLC for CA Department of Food and Agriculture. 2017. *'Economic Impact Analysis of Medical Cannabis Cultivation Program Regulations - Standardized Regulatory Impact Assessment'.*

Heather Adamson. 2017. *AMBAG Draft 2040 Projections for Agricultural and Manufacturing Employment*.

Santa Cruz County Department of Housing and Community Development. 2016. *'2015 Santa Cruz County Housing Element, Chapter 4 of the Santa Cruz County General Plan'.*

U.S. Census Bureau. 2000. *2000 U.S. Census Bureau Data for Santa Cruz County, CA*.

U. S. Census Bureau. 2010. *2010 U.S. Census Bureau Data for Santa Cruz County, CA*.

Section 3.13, *Transportation and Circulation*

Caltrans. 2014. *2014 Traffic Volumes on California State Highways*.

County of Santa Cruz. 2017a. *Geographic Information Systems (GIS)*. *County of Santa Cruz Department of Geographic Information Services*. Accessed: 23 May 2017. Retrieved from: http://www.co.santa-cruz.ca.us/Departments/GeographicInformationSystems(GIS).aspx

——. 2017b. *List of Santa Cruz County Special Districts*. Accessed: 31 May 2017. Retrieved from: http://www.co.santa-cruz.ca.us/Departments/Auditor-ControllerHome/CountySpecialDistricts/ListofSantaCruzCountySpecialDistricts.aspx

ERA Economics, LLC for CA Department of Food and Agriculture. 2017. *'Economic Impact Analysis of Medical Cannabis Cultivation Program Regulations - Standardized Regulatory Impact Assessment'.*

RAND Drug Policy Research Center. 2010. *Estimated Cost of Production of Legalized Cannabis*.

SCCRTC. 2014. *2014 Santa Cruz County Regional Transportation Plan*. *Transportation Sustainability Trends*. Accessed: 8 May 2017. Retrieved from: https://www.sccrtc.org/wp-content/uploads/2014/07/Final-2014-RTP-FULL-7-01-2014.pdf

——. 2015. *Santa Cruz County Bicycle Route Signage Program 2015 Implementation Program - 2015 Implementation Plan*. Accessed: 22 May 2017. Retrieved from: https://sccrtc.org/wp-content/uploads/2016/02/Update_RTCBikeSign_Imp_Final_AdopteMay2015_withAppendices.pdf

——. 2016a. *Santa Cruz County Average Daily Traffic Counts (2010 to 2015)*. *Transportation Sustainability Trends*. Accessed: 10 May 2017. Retrieved from: https://sccrtc.org/wp-content/uploads/2016/10/SCCTrafficCounts2010-15.pdf

——. 2016b. *Santa Cruz County Bike Map*. *Bicycle Service & Resources*. Accessed: 8 May 2017. Retrieved from: https://sccrtc.org/wp-content/uploads/2016/09/SantaCruzCountyBikeMap2016-Front.pdf

——. 2016c. *Average Daily Traffic Volumes at Most Traveled Segments on State Highways in Santa Cruz County*. *Transportation Sustainability Trends*. Accessed: 9 May 2017. Retrieved from: https://sccrtc.org/funding-planning/statistics/

Section 3.14, *Utilities and Energy Conservation*

Bureau of Transportation Statistics. 2016. "National Transportation Statistics | Bureau of Transportation Statistics." https://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national_transportation_statistics/index.html#chapter_4.

California Water Quality Control Board. 2004. "Staff Report for Regular Meeting of October 22, 2004." http://www.waterboards.ca.gov/centralcoast/board_info/agendas/2004/oct/item6/item6_staff_rpt.pdf.

CalRecycle. 2016. "Estimated Solid Waste Generation Rates." https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates.

———. 2017a. "Solid Waste Facility Listing/Details Page - Ben Lomond Transfer Facility." http://www.calrecycle.ca.gov/SWFacilities/Directory/44-AA-0005/Detail/.

———. 2017b. "Solid Waste Facility Listing/Details Page - Buena Vista Drive Sanitary Landfill." http://www.calrecycle.ca.gov/SWFacilities/Directory/44-AA-0004/Detail/.

———. 2017c. "Solid Waste Facility Listing/Details Page - GreenWaste Recovery Facility." http://www.calrecycle.ca.gov/SWFacilities/Directory/43-AN-0019/Detail/.

Caltrans. 2016a. "California Transportation Quick Facts (Published in 2016)." *California Department of Transportation - California Transportation Quick Facts*. http://dot.ca.gov/hq/tsip/data_library/QuickFacts/CaQF/CAQuickFacts2016.pdf.

———. 2016b. "Santa Cruz County Transportation Quick Facts (Published in 2016)." *California Department of Transportation - Quick Facts by County*. http://dot.ca.gov/hq/tsip/data_library/QuickFacts/QFCo/scr/scr2016.pdf.

CEC. 2006. "California End-Use Survey." *California Energy Commission - California Commercial End-Use Survey*. http://www.energy.ca.gov/2006publications/CEC-400-2006-005/CEC-400-2006-005.PDF.

———. 2016. "California Energy Commission - Tracking Progress Renewable Energy - Overview." *California Energy Commission*. http://www.energy.ca.gov/renewables/tracking_progress/documents/renewable.pdf.

———. 2017a. "California Gasoline Data, Facts, and Statistics." *California Energy Commission*. http://www.boe.ca.gov/sptaxprog/reports/MVF_10_Year_Report.pdf.

———. 2017b. "Energy Consumption Database." *California Energy Commission*. http://www.ecdms.energy.ca.gov/.

City of Santa Cruz Public Works Department. 2017. "City of Santa Cruz: Information on Sewer Rates." *City of Santa Cruz - Information on Sewer Rates*. http://www.cityofsantacruz.com/departments/public-works/wastewater-treatment-facility/information-on-sewer-rates.

County of Santa Cruz. 2015. "2015 Crop Report Santa Cruz County." http://www.agdept.com/Portals/10/pdf/2015%20Crop%20Report%20for%20Webpage.pdf.

———. 2017. "Santa Cruz County Cannabis Water Demand Research."

CSCWD. 2016. "2015 Urban Water Management Plan for the City of Santa Cruz Water Department." http://www.cityofsantacruz.com/home/showdocument?id=55168.

CWD. 2016. "Central Water District Annual Report July 1, 2015 - June 30, 2016." https://drive.google.com/file/d/0B3EnFt7w99x_dzNIYmhGMHpCc0U/view.

CWDPW. 2016. "2015 Urban Water Management Plan for the City of Watsonville Department of Public Works." https://cityofwatsonville.org/DocumentCenter/Home/View/2773.

DPW. 2011. "Sewer System Management Plan for the Davenport, Freedom, and Santa Cruz County Sanitation Districts and the County of Santa Cruz." http://www.dpw.co.santa-cruz.ca.us/Portals/19/pdfs/Sanitation/2011CSA-DPW-SMP.pdf.

———. 2017a. "County of Santa Cruz Department of Public Works - Sanitation Division." http://www.dpw.co.santa-cruz.ca.us/Home/Sanitation.aspx.

———. 2017b. "Solid Waste Facilities Permit # 44-AA-0004 - Buena Vista Landfill First Quarter Report 2017." file:///C:/Users/taylor.lane/Downloads/2017_1Q_Buena_Vista_Qrtly_Rept.pdf.

———. 2017c. "Solid Waste Permit # 44-AA-0005 - Ben Lomond Landfill/Transfer Station First Quarter Report 2017." file:///C:/Users/taylor.lane/Downloads/2017_1Q_Ben_Lomond_Qrtly_Rept.pdf.

Freitas Plus Freitas Engineering and Planning Consultants, Inc. 2009. "Preliminary Design Report - Boulder Creek Golf and Country Club Wastewater Treatment Plant Upgrade County Service Area No. 7 Boulder Creek, California." *Santa Cruz County Department of Public Works*. http://www.dpw.co.santa-cruz.ca.us/Portals/19/pdfs/Sanitation/csa7preliminarydesignreport.pdf.

GreenWaste Recovery. 2017. "Material Recovery Facility (MRF) | GreenWaste Recovery." http://www.greenwaste.com/about-us/material-recovery-facility-mrf.

Mountain Propane Service. 2017. "Mountain Propane Service." http://www.mountainpropaneservice.com/.

ODOE. 2017. "Cannabis Growers Energy Uses Estimator - Oregon Department of Energy." http://energy.odoe.state.or.us/cannabis.html.

PG&E. 2014. "Santa Cruz Reinforcement Project." https://pge.com/includes/docs/pdfs/safety/santacruzpower/SantaCruzProject_FS.pdf.

PVWMA. 2003. "Draft Pajaro Valley Water Management Agency Revised Basin Management Plan Environmental Impact Statement." *Pajaro Valley Water Management Agency - Basin Management Plan*. http://www.pvwma.dst.ca.us/about-pvwma/assets/bmp_eis/Pajaro_Revised_BMP_EIS.pdf.

Santa Cruz County DPW. 2017. "Recycling & Solid Waste." http://dpw.co.santa-cruz.ca.us/Home/RecyclingSolidWaste.aspx.

Santa Cruz County Environmental Health. 2017a. "Property Tax Charges for Septic System Maintenance (CSA 12)." http://scceh.com/Home/Programs/LandUse,SewageDisposalWasteWaterManagement/PropertyTaxChargesforSepticSystemMaintenance.aspx.

———. 2017b. "Water Resources." http://scceh.com/Home/Programs/WaterResources.aspx.

Santa Cruz County LAFCO. 2005. "Public Review Draft - County Service Review." *Local Agency Formation Commission of Santa Cruz County - Reports*. http://www.santacruzlafco.org/wp-content/uploads/2016/02/Whole-Public-Review-Draft.pdf.

SCCRTC. 2014. "2014 Santa Cruz County Regional Transportation Plan." *Transportation Sustainability Trends*. https://www.sccrtc.org/wp-content/uploads/2014/07/Final-2014-RTP-FULL-7-01-2014.pdf.

SLVWD. 2016. "2015 Urban Water Management Plan for the San Lorenzo Valley Water District." http://www.slvwd.com/admin/SLVWD%202015%20UWMP_Final_12-2-2016.pdf.

SqCWD. 2016. "2015 Urban Water Management Plan for the Soquel Creek Water District." http://www.soquelcreekwater.org/sites/default/files/documents/Reports/SqCWD-2015-UWMP_Final.pdf.

SVWD. 2016. "2015 Urban Water Management Plan for the Scotts Valley Water District." https://www.svwd.org/sites/default/files/documents/reports/UWMPJune2016.pdf.

Chapter 6

Mitigation Monitoring and Reporting Program (MMRP)

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
Aesthetics and Visual Resources		
MM AV-1.1. Fencing Requirements. To reduce direct visual impacts associated with the opaque fencing for outdoor grows in rural areas, proposed SCCC Section 7.128 shall be amended to remove the mandatory requirement for 6-foot tall opaque fencing for outdoor cultivation, and a new provision shall be included to give discretion to the Licensing Official to determine on a case-by-case basis whether a licensed outdoor grow site requires fencing. The Licensing Official shall also be permitted to determine the appropriate type of fencing (i.e., height, materials, design, location, etc.). If a fence is required, it shall be sited and designed to avoid tree removal. To the maximum extent feasible, fencing for cannabis cultivation sites in Mountain and South County Regions shall consist of natural barriers and deterrents (e.g., poison oak or native blackberry [*Rubus ursinus*]) to prevent trespass from humans, and shall be visually consistent to the maximum extent possible, with surrounding agricultural and open space lands. Fencing requirements shall be noted on final licensing conditions and any site plans. The Licensee shall submit fencing plans to the County Cannabis Licensing Office for review and approval to ensure appropriateness of proposed fencing (e.g., use of natural materials and compatibility of proposed fence color with surroundings and compliance with applicable fence requirements of the SCCC in Chapter 13.10) prior to issuance of a cultivation license. The Licensee shall demonstrate to the County Cannabis Licensing Office through a site visit or photographs compliance with any fencing requirements and that all perimeter fencing is in place as required prior to cultivation activities.	The County shall review and approve the Fence Plan prior to issuance of a license. The County shall review site conditions periodically, as determined necessary.	If required by the County Licensing Official, the Licensee shall submit a Fence Plan with submittal of all other license application materials. The County shall review the plan for completeness and for compliance with any other applicable regulations of the SCCC prior to issuance of a cannabis cultivation license..
MM AV-1.2. Visual Blending of Cannabis Infrastructure. To reduce the visual impacts associated with cannabis infrastructure, namely the requirement for water storage tanks on sites with cannabis-related buildings pursuant to the Santa Cruz County Fire Code, the Licensing Official shall determine on a case by case basis whether a cannabis infrastructure on a licensed grow site requires specific conditions to minimize visibility, such as a requirement to install multiple small tanks in place of one large tank so that tank does not project above a local ridge or tree line, and/or require specific color palettes for infrastructure that blend in with the surrounding environment. The Licensee shall submit the visual blending plan to the County Cannabis Licensing Office for review and approval to ensure appropriateness of the proposed color palette and	The County shall review and approve the visual blending plan prior to issuance of a license. The County shall review site conditions periodically, as determined necessary, and during license renewal.	The Licensee shall submit the visual blending plan to the County Cannabis Licensing Official with submittal of all other license application materials. The County shall review the plan for completeness prior to the issuance of a cannabis

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
techniques to be used to minimize visibility of cannabis-related infrastructure. The Licensee shall demonstrate to the County Cannabis Licensing Office, Building Official, and/or Fire Marshal as appropriate, through plans, a site visit, or photographs the site's compliance with any screening, painting, or other approved visual blending technique applied to required water storage tanks are completed prior to cultivation activities, or within a timeframe established by the Licensing Official		cultivation or manufacturing license.
Agricultural and Timber Resources		
MM AT-4.1a. Siting Allowance for New Manufacturing Structural Development. To protect timber resources that may be located adjacent to existing property buildings, the proposed SCCC Chapter 7.132 shall be revised prior to adoption by the Board of Supervisors, to allow for the siting of new manufacturing structures further away than 200 feet of other property buildings if the closer location is not feasible, through approval of a discretionary development permit. The alternate location may only be permitted if it would not adversely affect existing natural resources or timber resources (i.e., an open cleared area).	The Licensing Official shall determine that a site adheres to MM AT-4.1.1 before issuance of a license.	SCCC Chapter 7.132 shall be revised prior to adoption of the Program.
MM AT-4.1b. Land Clearing Restrictions. To protect timber resources that may be located adjacent to existing property buildings, the County shall amend SCCC Chapter 16.22, Erosion Control, to require a land clearing permit for licensed cannabis operations for any clearing of more than 0.25 acre of land.	The Licensing Official shall determine that a site adheres to MM AT-4.1.2 before issuance of a license.	SCCC Chapter 16.22 shall be amended prior to adoption of the Program.
MM AT-1.3a. Sustained Enforcement Program. To address continued unlicensed cannabis cultivation within the County that may adversely affect agricultural and timberland resources, the Cannabis Licensing Office, in consultation with the Planning Department and County Sheriff's Office, shall recommend to the Board of Supervisors an Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program. The enforcement program shall have sustainable funding and feasible implementation within the first year of adoption of the proposed Program to address enforcement of unlicensed cannabis cultivators and manufacturers. The funding and implementation program shall be subject to approval by the Board of Supervisors. Within two years of adoption of the proposed Program, funding shall be determined with assistance from the Annual Survey and Monitoring Report described in MM AT-1.3b and appropriately balanced with other County and/or local community priorities to provide a feasible level of funding for an effective ongoing enforcement program.	The Cannabis Licensing Office shall monitor enforcement programming, in coordination with the Planning and Development Department and the County Sheriff's Office.	The Cannabis Licensing Office and Planning and Development Department shall develop and recommend the provisions of the Unlicensed Cannabis Cultivation and Manufacturing Enforcement and Compliance Program prior to adoption of the Program. The County shall allocate funding and implementation resources for one year following Program adoption.

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
MM AT-1.3b. Annual Survey and Monitoring Report. To ensure that licensed cultivators are abiding by license and permit conditions, and to identify and take actions to address illegal cannabis activities, comprehensive annual survey and monitoring activities shall be conducted, and conveyed in an Annual Survey and Monitoring Report to the Board of Supervisors, with recommendations regarding enforcement staffing and resources. At least 50 percent of licensed cultivation and manufacturing sites shall be evaluated and reported upon each year in an Annual Survey and Monitoring Report. The survey shall be implemented by the Cannabis Licensing Office once per year, and the list of monitored and surveyed items shall be approved by the County Cannabis Licensing Official, Planning Director and Agricultural Commissioner within one year of adoption of the proposed Program. At minimum, the Annual Survey and Monitoring Report shall include quantitative recordings of the following items, with analysis of both licensed and unlicensed illegal activities: • Location of the cultivation or manufacturing site; • Type of cultivation (indoor/ outdoor/ greenhouse/ etc.) and/or manufacturing (volatile/ non-volatile/ etc.) practices; • Total square footage of disturbed ground associated with cannabis cultivation and manufacturing; and • Total loss of any adjacent timber resources or recent habitat removals (including, but not limited to, damage to waterways, indigenous wildlife, understory forest vegetation, or felled trees). At completion of the annual survey and monitoring efforts, the data shall be assembled into an Annual Report available for review by the County Board of Supervisors. The Annual Report shall contain recommendations regarding enforcement and staffing resources, to provide a feasible level of funding for an effective enforcement program.	The Cannabis Licensing Office shall perform the survey and prepare the annual report, in coordination with the Planning and Development Department and the County Sheriff's Office.	The Cannabis Licensing Office and Planning and Development Department shall conduct an annual survey and prepare a report to the Board of Supervisors annually. The County shall allocate funding and implementation resources for the survey on an ongoing basis during Program implementation
Air Quality		
MM AQ-1.1. Siting for Odor Abatement. To reduce objectionable odor impacts associated with outdoor cultivation sites under the Program, proposed SCCC Chapter 7.128 shall be revised prior to adoption to state that potential Licensees for outdoor cannabis cultivation operations shall consider siting the future outdoor grow with consideration of prevailing wind direction and topography to ensure that any odors emanating from the cannabis plants do not reach nearby sensitive receptors, residential neighborhoods, or a substantial number of people, to the maximum extent feasible.	The Board of Supervisors shall review and adopt a final SCCC Chapter 7.128 that includes this requirement. The Licensing Official shall determine that a site adheres to MM AQ-1.1 before issuance of a license.	SCCC Chapter 7.128 shall be revised prior to adoption of the Program.

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
MM AQ-1.2. Greenhouse Odors. To reduce objectionable odor impacts associated with airing out greenhouses used for cannabis cultivation under the Program, proposed SCCC Chapter 7.128 shall be revised prior to adoption to require greenhouses that cultivate cannabis to install and utilize a commercial air scrubbing or filtration system sufficient to prevent the odors associated with cannabis production from escaping the structure if an adverse effect has previously been documented as affecting a substantial number of people. The system need only be used prior to opening up the greenhouse to deplete any trapped odors and lessen the odors that would otherwise emanate all at once..	The County Planning Department shall review and approve amendments to SCCC Chapter 7.128. The Licensing Official shall determine that a site adheres to MM AQ-1.2 before issuance of a license.	SCCC Chapter 7.128 shall be revised prior to final adoption of the Program by the Board of Supervisors to include the requirement.
MM AQ-1.3. Prohibit Cannabis Material Burning. To reduce PM_{10} emissions and objectionable odors related to burning of cleared vegetation and/or agricultural waste, proposed SCCC Chapters 7.128 and 7.132 shall be revised prior to adoption to include the provision that the burning of cleared cannabis vegetation and/or excess cannabis plant materials associated with the cultivation and/or manufacturing of cannabis is prohibited.	SCCC Chapters 7.128 and 7.132 shall be revised prior to adoption of the Program to include this requirement.	SCCC Chapter 7.128 shall be revised prior to adoption of the Program by the Board of Supervisors.
MM AQ-1.4. Consistency of Pesticide Use Setbacks. To ensure consistency with the foreseeable state regulation DPR 16-004, Pesticide Use Near School Sites, proposed SCCC Chapter 7.128 shall be revised prior to adoption to clarify that the County shall not issue a cultivation license to any site that would apply pesticides using aircraft, airblast sprayers, sprinklers, dust, powder, or fumigants located within 0.25 mile from a school.	The Licensing Official shall determine that a site adheres to MM AQ-1.4 before issuance of a license.	SCCC Chapter 7.128 shall be revised prior to adoption of the Program by the Board of Supervisors.
MM AQ-1.5. Open Air Extraction Area Setbacks. To reduce air pollutant and objectionable odor impacts associated with open air extraction areas under the Program, proposed SCCC Chapter 7.132 shall be revised prior to adoption to clarify that setbacks from open air extraction areas shall be maintained from schools, libraries, alcohol and drug treatment facilities, parks, and other sensitive receptors in addition to residence receptors to mitigate impacts from objectionable odors. The Cannabis Licensing Official shall have discretion to determine an acceptable distance between an open air extraction area and a sensitive receptor on a case-by-case basis.	The Licensing Official shall determine that a site adheres to MM AQ-1.5 before issuance of a license.	SCCC Chapter 7.132 shall be revised prior to adoption of the Program.
MM AQ-2.1. Implement TDM Measures. To reduce operation-generated NO_x emissions related to offsite mobile emissions caused by implementation of the Program, proposed SCCC Chapters 7.128 and 7.132 shall be revised prior to adoption to include the provision that Licensees must implement feasible TDM measures that reduce vehicle travel to and from their proposed site: • Provide for carpool/shuttle/mini bus service for employees, especially during harvesting periods, on cultivation sites. • Provide bicycle storage/parking facilities. • Provide incentives to employees to rideshare or take public transportation.	The Licensing Official shall determine that a site adheres to MM AQ-2.1 before issuance of a license.	SCCC Chapters 7.128 and 7.132 shall be revised prior to final adoption of the Program by the Board of Supervisors.

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
• Implement compressed or flexible work schedules to reduce the number of days per week that employees are needed onsite.		
Biological Resources		
MM BIO-1.1a. Special-status Species Habitat Assessment. Licensees who apply for a cultivation or manufacturing license for a site that would involve clearing of established native vegetation in an area that has been identified as being potentially occupied by a special-status wildlife species, or a federal or state-listed special-status plant species, are required to have County Cannabis Licensing Office staff , or other qualified staff or professionals determine through a site visit whether a biotic assessment is necessary based on the potential for special-status species to occur. If a biotic assessment is required, the Licensee shall hire a County-approved biologist to conduct an assessment of habitat suitability for such species. A biotic assessment would consist of a consulting biologist determining whether protected species or habitat may be present, and whether avoidance, minimization or compensatory measures are necessary. In addition, the assessment shall determine the extent to which specific restoration measures are required where disturbance associated with previous cultivation on the property being considered for licensing has occurred. Habitat suitability shall be determined by the qualified biologist based on the following standards: Special-Status Wildlife: To determine habitat suitability, a County-approved biologist will determine whether the impacted areas consist of habitat that can support listed species, including but not limited to California red-legged frog, California tiger salamander, SCLTS, or San Francisco garter snake. The biologist will take into account conditions that may preclude the use of the area by such species, such as developed lands or historically tilled agricultural fields; lands not within the dispersal of the nearest suitable breeding habitat, or lands separated from the nearest breeding habitat by barriers to dispersal, and will document these conditions in making a final determination.. Should the assessment result in a determination that there is a potential to encounter listed species, the biologist shall include measures to avoid, minimize and mitigate impacts to those species, including site design, and exclusionary fencing, timing restrictions, or other measures specific to the species that may be present. Alternatively, the Licensee may request that an assessment be conducted through the County's biological resources assessment process, which is carried out by County resource planners. Special-Status Plants: To determine habitat suitability, a County-approved biologist will determine whether the impact areas (plus a 100-foot buffer) consist entirely of land uses that are unsuitable for special-status plants, such as historically tilled agricultural fields or	The Licensee shall demonstrate to the County Licensing Office and/or Planning Department that habitat assessment requirements have been completed prior to commencement of cannabis activities.	The Licensee shall hire a qualified biologist approved by the County to perform a habitat assessment, in coordination with the USFWS and CDFW as required for state or federal permits and state or federally listed species, for the proposed cannabis cultivation or manufacturing site. The habitat assessment shall be submitted to the County Planning Department for review and approval prior to issuance of any cultivation or manufacturing license. Subsequent actions identified as necessary in the habitat assessment, such as species removal or relocation, shall be initiated following any required consultation with USFWS and CDFW under state and federal regulations. All necessary requirements identified in the habitat assessment such as buffers, species monitoring, and

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
gardens, and developed or degraded lands.[1] Alternatively, the Licensee may request that an assessment be conducted through the County's biological resources assessment process, which is carried out by County resource planners. Marbled murrelet: Habitat suitability for marbled murrelet shall be determined by a County-approved biologist based on the presence or absence of old-growth habitat within 0.25-mile of the proposed cultivation or manufacturing site, unless the site consists of existing tilled agricultural fields or garden area or is existing developed land. Alternatively, the Licensee may request that an assessment be conducted through the County's biological resources assessment process, which is carried out by County resource planners. • If suitable old-growth habitat is identified within 0.25-mile of a previously undisturbed site, the Licensee will assume that the old-growth forest is occupied by the marbled murrelet and will establish a 0.25-mile buffer zone around the old-growth forest during the nesting season (March 25 through September 15, as defined by the Pacific Seabird Group Marbled Murrelet Technical Committee [2003]) or applicable corvid management plan, such as the Marbled Murrelet Recover Plan published by the U.S. Fish and Wildlife Service, to ensure that no nests of marbled murrelets will be disturbed by construction or operation activities. No construction of new buildings, roads, driveways, or utilities may be performed within the buffer during the nesting season; OR, • If the Licensee chooses not to assume presence of the marbled murrelet, the County-approved biologist shall conduct protocol-level presence/absence surveys for the species prior to the onset of initial ground-disturbing activities. The survey will be conducted per the guidelines issued by the Pacific Seabird Group Marbled Murrelet Technical Committee (2003). The results of the survey will be submitted to the County of Santa Cruz for review and approval. If it is determined that no marbled murrelets are present within 0.25-mile of the site, no seasonal buffer zone will be required. If marbled murrelets are determined to be present, a 0.25-mile buffer zone around the old-growth forest during the nesting season shall be implemented to ensure no nests of marbled murrelets will be disturbed by construction or operation activities. No new activities will be performed within the buffer during the nesting season. The results of any required habitat suitability assessment(s) shall be submitted to the County for review and approval. If it is determined that the site does not support suitable		plant species replacement, shall be indicated on final site plans.

[1] For the purposes of this Program, historically tilled agricultural fields refers to land that has been tilled or graded for the purpose of agricultural crop production sometime within the last 5 years.

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
habitat for any special-status plant or wildlife species, no further investigation or mitigation shall be required. If it is determined that the site or nearby vicinity supports potentially suitable habitat for special-status species, the following pre-activity surveys shall be required: Other Special-Status Wildlife: A County-approved biologist will survey the work site a minimum of 48 hours prior to initial ground-disturbing activities, or the first instance of ground-disturbance that occurs following issuance of a Program License for a given cultivation site, if determined necessary by the County, during construction activities at intervals recommended by the biologist. If California red-legged frogs or California tiger salamanders are identified to occur at the site, a qualified biologist will relocate the individuals to an appropriate relocation site outside of the work area. Only USFWS-approved biologists will participate in activities associated with the capture, handling, and monitoring of California red-legged frogs and only USFWS- and CDFW-approved biologists will participate in activities associated with the capture, handling, and monitoring of California tiger salamanders. Because the SCLTS is fully protected, individuals cannot be handled. To avoid take of this species, no conversion of oak woodland to cannabis production shall occur within 0.25-mile of a known or suspected pond or between such ponds up to 1 mile apart, and surveys of ponds within 1 mile of proposed cannabis activities shall be required. No license shall be issued for cannabis activities within 0.25-mile of a pond unless it is for indoor cultivation or manufacturing in an existing structure. Because the San Francisco garter snake is a state fully protected species, individuals shall not be handled. To avoid take of this species, surveys shall be required for proposed cannabis activities in the vicinity of the Waddell Creek area. Special-Status Plants: In cases where an initial site assessment determines that special-status plants may occur in the disturbance area, prior to initial ground disturbance, a focused survey in the appropriate bloom season for potentially occurring special-status plant species shall be conducted in the identified suitable habitat and a 50-foot survey buffer. The purpose of the survey will be to assess the presence or absence of the potentially occurring species. If none of the target species are found in the impact area or surrounding 50-foot buffer, then no further MMs will apply. If CRPR 1 or 2 special-status plant species occur on a potential cultivation/manufacturing site, Licensing staff shall complete an initial assessment. If avoidance of these species is not feasible, a biotic assessment shall be completed by a County-approved biologist. If the area includes sensitive habitat, the assessment shall include avoidance and minimization measures as well as mitigation and/or restoration measures. Annual reports shall be required for a minimum of 5 years, or until success criteria has been met for restoration plans, and for life of the site's license for management plans. All biotic assessments and		

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
restoration plans shall be reviewed and approved by the County's Planning Department Environmental Coordinator. If more than 10 percent of a listed species located on the cultivation site would be impacted, the affected species shall be transplanted to other undisturbed areas of the site. If relocation is not possible, the license shall not be granted. Areas proposed to be preserved as compensatory mitigation for special-status plant impacts must contain verified extant populations of the CRPR-ranked plants that would be impacted. Mitigation areas shall be managed to encourage persistence and even expansion of the preserved target species until success criteria are reached. Mitigation lands cannot be located on land that is currently held publicly for resource protection unless substantial enhancement of habitat quality would be achieved by the mitigation activities. The mitigation habitat shall be of equal or greater habitat quality compared to the impacted areas, as determined by a qualified plant ecologist, in terms of soil features, extent of disturbance, vegetation structure, and dominant species composition, and shall contain at least as many individuals of the species as are impacted by project activities. The permanent protection and management of mitigation lands shall be ensured through an appropriate mechanism, such as a conservation easement or fee title purchase. A Habitat Mitigation and Monitoring Plan (HMMP) shall be developed and implemented for the mitigation lands. That plan shall include, at a minimum, the following information: • A summary of habitat impacts and the proposed mitigation. • A description of the location and boundaries of the mitigation site and description of existing site conditions. • A description of measures to be undertaken to enhance the mitigation site for the focal special-status species, such as through focused management that may include removal of invasive species in adjacent suitable but currently unoccupied habitat. • A description of measures to transplant individual plants or seeds from the impact area to the mitigation site, if appropriate (which will be determined by a qualified plant or restoration ecologist). • Proposed management activities to maintain high-quality habitat conditions for the focal species. • A description of habitat and species monitoring measures on the mitigation site, including specific, objective final and performance criteria, monitoring methods, data analysis, reporting requirements, and monitoring schedule. At a minimum, performance criteria shall include demonstration that any plant population fluctuations over the monitoring period do not indicate a downward trajectory in terms of reduction in numbers and/or occupied area for the preserved mitigation population that can be attributed to management; that are not the result of local		

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
weather patterns, as determined by monitoring of a nearby reference population, or other factors unrelated to management. • Contingency measures for mitigation elements that do not meet performance criteria. Prior to the initiation of any other protective measures, a County-approved biologist will determine, in consultation with the USFWS and CDFW (if applicable), appropriate relocation sites for any special-status species that may be observed during the pre-activity survey and that need to be relocated.		
MM BIO-1.1b. Habitat Compensation. Where avoidance of species' sensitive habitat is demonstrated to be infeasible, compensatory mitigation for permanent impacts on the California red-legged frog, California tiger salamander, and/or SCLTS, due to loss of suitable habitat, such as loss of continuous connection within an upland stream or riparian corridor for the California red-legged frog, shall be provided at a ratio of 1:1. This ratio reflects the expectation that the majority of cultivation and/or manufacturing sites would represent relatively low-quality habitat that receives little if any use by listed species due to their scarce and localized nature. Mitigation may be achieved through one or more options, subject to County approval, including: • Onsite restoration, enhancement, or creation of suitable habitat if feasible onsite restoration opportunities exist; • Offsite restoration or creation of suitable habitat for the impacted species; • Financial contribution to an in-lieu fee program that results in restoration or creation of suitable habitat for the impacted species; and/or • Purchase of mitigation credits at a USFWS- and/or CDFW-approved mitigation bank whose designated service area includes the cultivation site. If habitat is restored, enhanced, or created onsite or offsite, either by the Licensee of a specific cultivation and/or manufacturing site or as part of a County-sponsored in-lieu fee program, a County-approved biologist will develop a HMMP for review and approval by the County. The HMMP will contain the following components (or as otherwise modified by regulatory agency permitting conditions): • A summary of habitat impacts and the proposed mitigation. • A description of the location and boundaries of the mitigation site and description of existing site conditions. • A description of measures to be undertaken to enhance the mitigation site for the target species and to protect particularly sensitive resources such as breeding ponds. • MMs to address any temporary construction-related impacts associated with creation and/or restoration of habitat for the target species.	Licensees shall demonstrate to the County that appropriate mitigation sites have been provided. County Licensing Office and/or Planning Department compliance monitoring staff and a qualified County biologist shall inspect mitigation sites to ensure that sufficient habitat mitigation has been provided, per the requirements of the HMMP.	Compensatory habitat requirements shall be noted on final site plans. If an HMMP is required, the Licensee shall hire a qualified biologist approved by the County to prepare and submit an HMMP to the County Planning Department for review and approval prior to issuance of any cultivation or manufacturing license. A 5-year site mitigation monitoring plan shall also be prepared by the biologist prior to issuance of a license, with annual reports submitted to the County's Planning Department Environmental Coordinator.

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
• A description of maintenance measures, including regular maintenance and less frequent, longer-term maintenance to ensure long-term functionality. • A description of habitat and species monitoring measures on the mitigation site, including specific and objective performance criteria, monitoring methods, data analysis, reporting requirements, and monitoring schedule. At a minimum, success criteria will include a determination by a County-approved biologist that the mitigation site provides ecological functions and values for the focal species equal to or exceeding those in the habitat that is impacted. • A contingency plan for mitigation elements that do not meet performance or final success criteria within 5 years; this plan will include specific triggers for remediation if performance criteria are not being met and a description of the process by which remediation of problems with the mitigation site, such as the presence of non-native predators and competitors, will occur. • Monitoring of the mitigation area shall occur for the period established in the HMMP, or until success criteria, or revised criteria based on an approved adaptive management strategy, are met. An endowment may be required in some cases.		
MM BIO-1.1c. Worker Environmental Awareness Program. Before any ground-disturbing activities begin within areas that involve established native vegetation, the Licensee shall hire a County, USFWS-, and CDFW-approved biologist to conduct a training session to be attended by all personnel associated with site construction. At a minimum, the training will include a description of the California red-legged frog, California tiger salamander, SCLTS, and/or San Francisco garter snake and their habitat, the importance of the species, the measures that are being implemented to avoid and minimize impacts as they relate to the cultivation site, and the boundaries within which the work may be accomplished.	County Licensing Office and/or Planning Department compliance staff shall monitor for compliance during the Worker Environmental Awareness Program.	Pre-construction training and orientation shall be held by the approved biologist prior to the start of any ground-disturbing activities. All employees shall sign a form documenting that they have attended the Worker Environmental Awareness Program and understand the information presented to them. The form shall be submitted to the County Licensing Office and/or Planning Department for document compliance.
MM BIO-1.1d. Prevention of Spread of Nonnative Invasive Plants. The Licensee of a cannabis cultivation and/or manufacturing site shall employ the following Best	The Licensing Official shall monitor operations periodically and verify	Operational BMPs for weed control shall be included on final site plans and

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
Management Practices (BMPs) for weed control to avoid and minimize the spread of nonnative invasive plant species: • Consistent with County General Plan policy, areas of disturbance from existing cannabis activities that have degraded habitat areas shall be restored when licensing results in the closure and/or relocation of existing cannabis operations. • Prior to grading or soil disturbance, invasive weed infestations within areas of direct permanent or temporary disturbance will be removed, and all vegetative material will be carefully bagged and transported to the landfill for professional high-temperature composting, taking care to prevent seed dispersal during the process by covering trucks transporting such material from the site. • Following construction, site-appropriate native seed from a local source shall be planted on all disturbed ground that will not be cultivated or landscaped and maintained. • Plantings in landscaped areas shall consist of site-appropriate native species to the extent practicable. • Heavy equipment used in the activity area shall be washed prior to and following work at the site, before the equipment is used in other ground-disturbing activities, to prevent spread of weed seeds.	compliance before renewing a license.	submitted to the Licensing Official prior to issuance of a cultivation and/or manufacturing license.
MM BIO-1.1e. Roosting Bat Survey. Licensees who apply for a cultivation or manufacturing license that involves clearing of established native vegetation, removal of mature trees, or demolition of existing structures in an area identified by the County as potentially occupied by pallid bats, shall be required to perform a pre-construction bat survey by a County-approved biologist, prior to any removal or renovation of buildings. The biologist shall survey likely bat roosts, including closed areas such as an attic space or trees greater than 24 inches in diameter at 4.5 feet above grade. No activities that would result in disturbance of active roosts shall proceed prior to the completed surveys and recommendations. If no active roosts are found, then no further action is warranted. If a roost is present, the biologist shall determine the species and number of individuals present. If the roost is not active at the time of the survey, the Licensee may choose to install bat exclusion devices to prevent bats from taking up occupancy of the structure prior to the onset of the proposed activity. If an active nursery roost is located and the site cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, disturbance shall not take place during the maternity roost season (March 15 - July 31), and a disturbance-free buffer zone (determined by a County-approved biologist) shall be enforced during this period.	County Licensing Office and/or Planning Department staff shall confirm compliance in the field prior to initiation of grading activities.	The Licensee shall hire a qualified biologist approved by the County to conduct roosting bat surveys prior to the start of construction. The results of the survey shall be submitted to the Licensing Official for review and approval prior to issuance of any cultivation or manufacturing license. The name and contact information for the qualified biologist shall be provided to the County Licensing Office and/or Planning Department prior

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
If disturbance of an active non-breeding bat roost cannot be avoided, the individuals may be removed and relocated by an approved biologist, between August 1 and March 14. Bats may be removed through exclusion if a removal/relocation plan is approved by CDFW. For structures, appropriate one-way doors shall be constructed and left in place for a minimum of three fair weather nights where temperatures are 50° F or greater. The one-way doors shall be installed the day prior to a night with no precipitation and forecast temperatures 50° F or greater. Removal of trees with roosts shall occur at dusk or later, to allow bats to escape during the darker hours. Tree removal shall occur in the evening when precipitation is not forecast, and temperatures are 50° F or greater. If a tree or structure containing a pallid bat maternity roost is to be removed, the biologist shall design and determine an appropriate location for an alternative roost structure, based on the location of the original roost and habitat conditions in the vicinity. The roost structure shall be built to specifications as determined by a qualified biologist, or it may be purchased from an appropriate vendor. The structure shall be placed as close to the impacted roost site as feasible.		to the survey. The County Licensing Office and/or Planning Department shall be notified prior to the proposed survey date..
MM BIO-1.1f. Nesting Bird Survey. For sites involving clearance of existing mature vegetation during breeding season, the Licensee shall hire a County-approved biologist to conduct a pre-activity survey for nesting birds to ensure that no nests will be disturbed during construction or operation of a proposed cultivation or manufacturing site. These surveys shall be conducted no more than seven days prior to the start of initial ground-disturbing activities. During these surveys, the biologist shall inspect all potential nesting habitats (e.g., trees, shrubs, ruderal grasslands, buildings, and bridges) in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by construction or operation of a proposed site, the biologist shall determine the extent of a construction-free buffer zone to be established around the nest (typically 0.5-mile for bald and golden eagles, 300 feet for other raptors, 250 feet for tricolored blackbird colonies, and 100 feet for other non-raptors) to ensure that no nests of protected birds shall be disturbed during construction or operation of a proposed site. No new Program-related activities shall be performed within the buffer zone until the young have fledged or the nest has been determined to be inactive by a County-qualified ornithologist.	The County Licensing Office and/or Planning Department staff shall confirm compliance prior to initiation of grading activities.	The Licensee shall hire a qualified County-approved biologist to conduct nesting surveys prior to the start of any construction activity. The results of the survey shall be submitted to the County Planning Department for review and approval prior to issuance of a cultivation or manufacturing license. The name and contact information for the qualified biologist shall be provided to the County Planning Department prior to the survey. The surveys shall be conducted no sooner than seven working days prior to the start of

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
		construction. The County Planning Department shall be notified prior to the survey of the proposed survey date..
MM BIO-1.1g. Pest Management Plan. Prior to license approval for cultivation and/or manufacturing, a Pest Management Plan shall be prepared and submitted to the County Cannabis Licensing Office. The Pest Management Plan shall describe the methods to be used for pest control, including the type, location, timing, and methods used for any rodenticide. Cannabis licensees shall be prohibited from the use of rodenticides to control pests. If rodents are a pest issue for a potential licensee, non-toxic alternatives to rodenticides shall first be attempted, such as mechanical controls like traps, gopher fencing, and weeding; biological controls such as natural pheromones; or cultural controls such as site maintenance and hygiene. Only after it can be demonstrated to the satisfaction of the Licensing Official that non-toxic pest control has been ineffective can rodenticides be considered consistent with the approved Pest Management Plan.	The County Licensing Office staff shall confirm compliance in the Pest Management Plan during each site inspection and/or license renewal following license approval.	The Licensee shall submit the Pest Management Plan to the Licensing Office for review and approval prior to issuance of a cultivation or manufacturing license.
MM BIO-1.1h. Water Draw Restrictions. For sites with an approved water source that has either direct or indirect connectivity to a fish-bearing stream, water shall only be drawn from that source between October 15 and April 15 for all agricultural purposes, including irrigation and County Fire Code requirements. Sufficient storage for the seasonal water demands shall be provided. To the maximum extent possible, water demand shall be met with rainwater harvest pursuant to MM-HYDRO-2.2. Rainwater Harvesting for Cannabis Cultivation prior to drawing water from a source that may impact stream flow.	The County Licensing Office staff shall confirm compliance with requirements for cannabis water use and sources.	The County Cannabis Licensing Office shall coordinate with the Planning Department to ensure that water sources connected with a fish-bearing stream that is used by cannabis operations is only drawn between October 15 and April 15 through review and approval of a cultivation or manufacturing license.
MM BIO-2.1a. Sensitive Communities Habitat Assessment. Cannabis cultivators and manufacturers who apply for a license on a site containing undeveloped habitat shall be required to have Licensing Office or Planning Department staff determine through a site visit whether a habitat assessment is necessary based on the potential for sensitive communities to occur onsite. If a habitat assessment is required, the licensee shall hire a County-approved biologist to conduct an assessment for the presence or absence of sensitive communities. The assessment shall include the proposed cultivation or	The Licensing Office staff shall monitor site construction to ensure buffers for sensitive communities are flagged consistent with the listed requirements.	If sensitive communities occur onsite, the Licensee shall hire a qualified biologist approved by the County to prepare a Sensitive Communities Habitat Assessment. The

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
manufacturing area and all areas within 300 feet of the site. If it is determined that the site does not support sensitive habitat, no further mitigation shall be required. If the site is determined to support sensitive habitat, the protected community shall not be disturbed. The Licensee shall design, construct, and operate the proposed cultivation and/or manufacturing site to avoid sensitive communities, and to include a 300-foot buffer around old growth forest and a 50-foot buffer around all other sensitive habitats, including: • Central Dune Scrub • Coastal Prairie • Northern Maritime Chaparral • Native Monterey Pine Forest • Northern Interior Cypress Forest • Maritime Coast Range Ponderosa Pine Forest • Old-Growth Forest • San Andreas Oak Woodland • Zayante Sandhills Soils		biologist shall submit the assessment to the County Planning Department for review and approval prior to issuance of any cultivation or manufacturing license. All necessary buffers shall be flagged by a qualified biologist prior to initiation of construction activities.
MM BIO-2.1b. Avoid Oak Woodland. To the extent feasible, activities on cultivation/manufacturing sites shall avoid impacts on oak woodland. Avoidance is considered to be completely avoiding any work or staging under the dripline of trees within an oak woodland area, plus a 50-foot buffer. The Licensee shall design, construct, and operate the cultivation and/or manufacturing site to completely avoid impacts on oak woodland including a 50-foot buffer established prior to initial ground disturbance. The buffer shall be established at 50 feet from the perimeter of the woodland (as measured by tree driplines for trees on the outer edge of the woodland) unless otherwise agreed upon by a qualified plant ecologist retained by the County.	The Licensing Office staff shall monitor site construction to ensure buffers for sensitive communities are flagged consistent with the listed requirements.	The Licensee shall flag or fence the boundary of the designated avoidance buffer prior to initial ground disturbance. All buffers shall be depicted on final site plans.
MM BIO-2.1c. Community Replacement. If complete avoidance of oak woodland is not attainable or feasible, compensation for permanent impacts on oak woodland habitat shall be provided through the replacement of oak woodland vegetation. Compensation requirements shall be based on the acreage of tree and shrub canopy removed. Oak woodland shall be avoided within 0.25 mile of a known SCLTS Pond (see Impact BIO-1.1). Any operation that impacts oak woodland vegetation shall implement the following measures: • Unavoidable impacts on oak woodland vegetation shall be mitigated through the replacement of oak woodland vegetation on the parcel that contains the cultivation site and, if needed, outside of that parcel.	Licensing staff shall verify compliance with the Restoration Plan and/or Oak Woodland HMMP in the field before and during construction or development of the site.	A Restoration Plan, including proposed planting areas and proposed plant pallets, including any necessary Oak Woodland HMMP, shall be prepared by a County-approved biologist and reviewed and approved by County Planning Department permit

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
• Temporary impacts on oak woodland are defined as impacts to understory herbaceous vegetation within the oak woodland habitat that occurs outside the dripline of any tree or shrub. Temporary impacts shall be mitigated by reseeding the temporary impact area with a local or site-based native seed source and native seed mixture that is similar in species and cover to that present in the impacted oak woodland. • Permanent impacts on oak woodland shall be mitigated at a replacement ratio based on the diameter breast height (DBH) of the trees being removed. As trees and shrubs in oak woodlands may be widely spaced or more closely spaced, and exact composition may differ depending on microhabitat conditions that vary across the County, the mitigation plantings shall either be composed of the same species and in the same proportions as those removed, or shall reflect the composition and density of a reference site near the cultivation site. In addition, the mitigation planting areas shall be seeded with a native seed mixture that is similar in species and cover to that present in the impacted oak woodland habitat. All plant materials shall be replaced using a local native plant source. The mitigation plantings shall be preferentially installed on the parcel that contains the cultivation/manufacturing site and can be situated in the area temporarily impacted by the site. When the planting site is not itself a sensitive habitat the oak woodland mitigation plantings may convert a non-sensitive community to oak woodland over time, if that area is determined to be suitable by a qualified restoration ecologist. The cultivator/manufacturer shall develop an Oak Woodland HMMP for replacement of trees and shrubs. If the replacement of oak woodland vegetation cannot be implemented within the cultivation site, or there is not a sufficient area to mitigate oak woodland tree and shrub impacts, acreage for oak woodland planting shall be acquired within the vicinity of the cultivation/manufacturing site. The Oak Woodland HMMP shall be prepared by a County-approved and qualified restoration ecologist and shall provide, at a minimum, the following items: o Habitat impacts summary and proposed habitat mitigation actions. o Goals of the restoration to achieve no net loss. o The location of the mitigation sites and existing site conditions. o Mitigation design including: o Proposed site construction schedule. o Description of existing and proposed soils, hydrology, geomorphology, and geotechnical stability. o Site preparation and grading plan. o Invasive species eradication plan, if applicable.		compliance staff prior to issuance of a license.

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
○ Soil amendments and other site preparation. ○ Planting plan (plant procurement/propagation/installation). ○ Maintenance plan. ○ Monitoring measures, performance and success criteria, which, at a minimum shall include at least 80 percent planted oak and shrub survivorship at 5 years post-planting. ○ Monitoring methods, duration, and schedule. ○ Contingency measures and remedial actions. ○ Reporting measures. This mitigation will be deemed complete and the cultivator will be released from further responsibilities when the final success criteria have been met as determined by the County.		
MM BIO-3.1. Wildlife Fencing. If fencing is required by the Licensing Official for outdoor cultivation sites, cannabis cultivation Licensees shall prepare a Wildlife Fencing Plan for all cannabis cultivation sites proposed. The Wildlife Fencing Plan shall identify the type, material, length, and design of proposed fencing, and shall consist of non-disruptive, wildlife-friendly fencing such as post and rail fencing, wire fencing, and high-tensile electric fencing, to allow passage by smaller animals and prevent movement in and out of cultivation sites by larger mammals such as deer.	A County-approved biologist shall review the plan and confirm the adequacy of design for passage of smaller wildlife and safe prevention of entry by larger mammals such as deer. The Licensee shall demonstrate to County compliance monitoring staff that all perimeter fencing requirements are in place as required.	The Licensee shall submit the Wildlife Fencing Plan to the County for review and approval prior to issuance of any cannabis cultivation license.
MM BIO-4.1. Avoidance of Conflict with an Approved HCP. During the County's review of license applications for cannabis cultivation and manufacturing, the County shall review whether a cultivation or manufacturing site is located within an area subject to an adopted HCP during its biological resources assessment process. The County shall not issue a license for any site on which the proposed activity would conflict with an adopted HCP.	The County Planning Department and Cannabis Licensing Office monitoring staff shall ensure compliance.	The Cannabis Licensing Office shall screen all Licensees for site locations within an approved HCP. If the proposed site is located within an approved HCP, the County Planning Department shall review for consistency prior to license approval, and may recommend denial of the

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
		license due to biotic impacts.
MM BIO-4.2. No Cannabis Activities allowed within Sandhills Habitat or Salamander Protection Zone. During the County's review of license applications for cannabis cultivation and manufacturing, the County shall review whether a cultivation or manufacturing site is located within the Sandhills habitat or in oak woodland within ¼ mile of a known or suspected salamander breeding pond during its biological resources assessment process. The County shall not issue a license for any cannabis activity proposed within the Sandhills or SCLTS habitats, with the exception of those indoor activities that do not require any soil disturbance.	The County Planning Department and Cannabis Licensing Office monitoring staff shall ensure compliance.	The Cannabis Licensing Office shall screen all Licensees for location within Sandhills or SCLTS habitats. If the proposed site is located within the Sandhills or SCLTS habitats and requires any amount of ground disturbance, the Cannabis Licensing Office shall deny the license application following review and concurrence by County Planning Department staff.
Recommended MM BIO-5.1. Rodenticide Use Reduction and Control Program (RURCP). To address cumulatively considerable impacts of county-wide application of rodenticides, the County Licensing Official, Environmental & Resource Protection Division, shall develop a Countywide RURCP applicable to cannabis cultivation to reduce secondary poisoning of non-target wildlife. The County shall coordinate with local and state agencies, including CDFW, California DPR, and the County Agricultural Commissioner to develop and implement provisions of the program. To address the management of rodenticides throughout the County, the RURCP should consider, but not be limited to, the following aspects and topics for inclusion into the program: • Toxicity studies to identify the extent and effects of rodenticides in all regions of the County. • Identification of areas of the County subject to increased threat of secondary poisoning from rodenticide application. • Identification and promotion of alternative rodent management measures, including biological controls such as owl boxes and natural pheromones; mechanical controls such as physical traps, gopher fencing, and weeding; or cultural controls. • Opportunities for public outreach or education about effects of rodenticide use and safe pest management practices	The County Licensing Office shall coordinate with the various agencies and departments to ensure the production of the RURCP in conformance with this measure.	Within two years of adoption of the Licensing Program, the County Licensing Office shall present to the County Board of Supervisors a recommended RURCP, with information about cost, effectiveness and concerns.

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
Cultural Resources		
MM CR-1.1: Preliminary Historic Assessment of Structures 50 Years Old or More. Prior to licensing cannabis cultivation or manufacturing activities on properties containing a structure or structures that are 50 years old or older and are not identified as historic resources in the County HRI, the structure(s) shall be reviewed for eligibility by the Planning Department Historical Resource Planner as an historic resource consistent with SCCC Chapter 16.42 and with the California Register of Historic Resources criteria. If the Planning Department determines after a preliminary review that the structure(s) may potentially meet the criteria for listing as a historic resource, and that the proposed licensed activities or developments have the potential to impact the historic significance of the structure(s), then the Licensee shall provide a historic assessment of the structure(s) prepared by a qualified historic consultant. The historic assessment shall include a completed DPR 523a form and a letter prepared by the historic consultant stating whether the property has historic significance. If it is determined based upon the historic assessment that the licensed activity or development will impact a structure that is eligible as an historic resource pursuant to SCCC Chapter 16.42 or the California Register of Historic Resources criteria, then the staff historical resource planner shall review the site development for compliance with the Secretary of the Interior Standards for the Treatment of Historic Properties. Project conditions will be applied as appropriate to ensure compliance with the Secretary of the Interior Standards.	When reviewing a potential structure(s) for cannabis activities, the Licensing Official and Historical Resources Planner shall determine if the structure is 50 years old or more; if so, the structure(s) shall be reviewed by the County to assess integrity and historic significance	On a case-by-case basis, the Cannabis Licensing Official shall request a review of the potential historic resource by the County Historical Resources Planner prior to granting a potential licensee a cannabis cultivation and/or manufacturing license.
Geology and Soils		
None required.		
Greenhouse Gas Emissions and Climate Change		
MM GHG-1.1. Alternative Energy Sources. To reduce direct and indirect impacts related to GHG emissions from cannabis activities, proposed SCCC Chapter 7.128 and 7.132 shall be revised prior to adoption of Program regulations, to include the following provisions: Electrical power for indoor cultivation operations including but not limited to illumination, heating, cooling, and ventilation shall be provided by alternative energy sources according to the following priority: 1) on-grid power with 100-percent renewable or carbon-free source (a planned product of Monterey Bay Community Power in 2018), or 2) a combination of grid power and on site renewable generation to achieve annual zero net electrical energy usage, or 3) purchase of carbon offsets of any portion of power not from renewable or carbon-free sources. As a first priority, carbon offsets shall be purchased through a qualified local entity such as The Offset Project.	The Board of Supervisors shall revise SCCC Chapter 7.128 and 7.132 prior to adoption. The Licensing Official shall determine that a site adheres to MM GHG-1.1 before issuance of a license.	SCCC Chapter 7.128 and 7.132 shall be revised prior to adoption of the Program. The Licensee shall submit building plans to the County Cannabis Licensing Office and the County Planning Department Building Division for review and approval to ensure compliance and exceedance of the

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
For new buildings, onsite solar photovoltaic systems shall be required, and retrofitted buildings shall be encouraged to install onsite solar photovoltaic systems to offset energy demand. All indoor cannabis cultivation and manufacturing facilities shall exceed the minimum standards of Title 24, Part 11 (CalGreen) by adopting all or some elements of CalGreen Tier 1 and 2 voluntary elective measures to increase energy efficiency in new buildings, remodels and additions. These measures shall prioritize upgrading lighting (e.g., using light-emitting diode [LED] lights) in indoor and greenhouse grow rooms, heating and cooling systems, appliances, equipment and control systems to be more energy efficient..		minimum energy efficiency standards of CalGreen and renewable or carbon-free power supply requirements prior to cultivation and/or manufacturing activities and issuance of a license. The Licensee shall demonstrate compliance to the County Cannabis Licensing Office and the Building Division through a site visit or documentation.
Hazards and Hazardous Materials		
None required.		
Hydrology and Water Quality		
MM-HYDRO-1.1. Pesticide, Herbicide, and Rodenticide Control. Licensees shall submit information about any proposed use, storage, and application of pesticides and herbicides by type and amount as part of a Pest Management Plan (see MM BIO-1.1g) to be reviewed and approved as part of the licensing process. Cannabis cultivation on all licensed sites shall only use pesticides and herbicides that are exempt from residue tolerance requirements and either registered and labeled for a broad enough use to include use on cannabis or exempt from registration requirements as a minimum risk pesticide under Section 25(b) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the California Code of Regulations, title 3, section 6147. Any uses of pesticide or herbicide products shall be consistent with product labeling and any products on the site shall be placed, used, and stored in a manner that ensures that they will not enter or be released uncontrolled into the environment, including surface or ground waters.	The County Agricultural Commission shall ensure compliance through review of license applications and site inspections as needed in compliance with the approved Pesticide Management Plan.	The Licensee shall identify herbicides, pesticides, and/or rodenticides to be used on a cannabis cultivation site as part of a Pest Management Plan prior to any discharge to groundwater or receiving surface water bodies, or commencement of activities of that may cause a discharge.
MM-HYDRO-1.2. Cleanup and Restoration Plan for Relocated Cultivation Sites. Cannabis cultivation sites that are non-conforming with site criteria following the adoption of Santa Cruz County Code (SCCC) Section 7.128 and 7.132 shall be vacated or relocated per the requirements of the SCCC. Prior to abandonment or relocation, the existing operator shall prepare a Cleanup and Restoration Plan to be submitted with the licensing application materials. The Cleanup and Restoration Plan shall contain at least the minimum site-specific information required for the County to determine that the vacated cannabis cultivation site	The County shall review and approve the Cleanup and Restoration Plan prior to the issuance of a license. The County shall review	The Licensee for cultivation shall submit the Cleanup and Restoration Plan with the submittal of all other license application materials. The Cleanup and Restoration Plan shall

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
does not result in a violation of water quality standards or other natural resource protection regulations of the SCCC. The Cleanup and Restoration Plan shall include a requirement for annual reporting to the Cannabis Licensing Office for a period of five years to ensure restoration and maintenance of the site.	site conditions periodically, as determined necessary.	include the methods and equipment to be utilized to accomplish cleanup and restoration goals over five years, a cost estimate of cleanup and restoration activities, and a proof of a committed financial assurance mechanism (i.e. surety bond, trust fund, or irrevocable letter of credit). The County shall review the plan for completeness prior to the issuance of a cannabis cultivation license. The County may require that critical elements of the Plan be accomplished in the first year if need to correct conditions that pose an immediate risk to public safety or the environment. For the five-year life of the Cleanup and Restoration Plan, the Licensee shall submit an annual report to the County detailing progress of reclamation activities. Upon completion of cleanup and restoration activities, the Licensee shall submit a final report and request for release of the financial assurance mechanism.

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
MM-HYDRO-2.1. Water Efficiency for Cannabis Cultivation. To the greatest extent feasible, Licensees for cannabis cultivation shall maximize irrigation water efficiency using available techniques and technologies to monitor and control water consumption. Licensees shall work with the County Cannabis Licensing Office staff to identify and implement water-conserving features of the cultivation site depending on the location and type of cultivation, including, but not limited to, recirculated irrigation water (zero waste), timed drip irrigation, soil moisture monitors, evaporative barriers on exposed soils and pots, and use of recycled water, consistent with state law. Water conserving techniques shall be reviewed and approved as part of the licensing process.	County Cannabis Licensing staff shall ensure compliance through review of license applications and site inspections as needed.	The Licensee shall identify water-conserving features of the proposed cannabis cultivation site prior to issuance of a license to cultivate.
MM-HYDRO-2.2. Rainwater Harvesting for Cannabis Cultivation. In order to reduce impacts to groundwater quantity and quality county-wide, Licensees for cannabis cultivation shall install a system of rainwater collection from all structures associated with cannabis cultivation and processing, including greenhouses, drying and trimming sheds, barns and storage facilities, and residences. Licensee shall calculate projected water demand for irrigation during the dry season (April 1 through September 30) in order to determine the maximum storage required, and estimate the potential water available based upon average rainfall in the area and square footage of roof surface available for harvesting. Required storage shall be the smaller of the two estimates. Waivers to this mitigation may be granted by the Licensing Official where the Licensee can show that such a system is not feasible due to site limitations, and that all other feasible water conservation BMPs have been implemented.	County Cannabis Licensing staff shall ensure compliance through review of license applications and site inspections as needed.	The Licensee shall submit Rainwater Harvesting Plan with the submittal of all other license application materials.
MM HYDRO-2.3. Water Tank Supply Management. To the maximum extent feasible, the County Licensing Office shall coordinate with Licensees to establish shared water tanks for fire purposes in areas where two or more cultivators are in close proximity. Filling of water tanks from groundwater or surface water sources shall be limited to the rainy season, between October 15 and April 15 when groundwater resources are maximized, and imported water from a state licensed purveyor shall be encouraged as a source of tank filling.	County Cannabis Licensing staff shall ensure compliance through review of license applications and site inspections as needed.	The County Fire Marshal shall determine requirements for onsite water storage and management on a case-by-case basis. Licensing staff shall review license application data to identify potential Licensees eligible for shared use prior to issuing a license for cultivation for each site.

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
Land Use		
MM LU-1.1.1. Public Lands Restriction. The County shall amend the Program to specify that there shall be no cannabis cultivation and/or manufacturing licensed on publicly owned lands within the County.	The Licensing Officer shall review applications to ensure that no licenses are issued for parcels located within publicly owned lands.	The proposed cannabis cultivation ordinance and manufacturing ordinance shall be revised prior to adoption of the Program. The County Cannabis Licensing Office shall submit an ordinance with the revisions to the Board of Supervisors for review and approval.
MM LU-1.1.2. SU Eligibility. The County shall revise the Program with clarifying language to specify the range of land use designations that would be eligible for cannabis cultivation when the subject property is zoned SU. The amendment shall clarify that if a parcel is within the SU zoning district, it is only eligible for licensing under the Program if it has an eligible land use designation.	The Licensing Officer shall review applications and ensure that no licenses are issued for parcels zoned SU with an underlying land use designation that is ineligible.	Proposed SCCC Chapter 7.128 shall be revised prior to adoption of the Program. The County Cannabis Licensing Office shall submit an ordinance with the revisions to the Board of Supervisors for review and approval.
MM LU-1.1.3. USL + RSL Allowances. The County shall amend the Program to allow cannabis cultivation in C-4 and M zoning districts within the USL and RSL throughout the County.	The Licensing Officer shall review applications and ensure that licenses may be issued for parcels zoned C-4 and M in the USL and RSL.	The cannabis cultivation ordinance and manufacturing ordinance shall be revised prior to adoption of the Program. The County Cannabis Licensing Office shall submit an ordinance with the revisions to the Board of Supervisors for review and approval.
MM LU-1.1.4. Master Planned Cannabis Facilities. The Program shall allow for the use of Master Plans that provide for the shared use of infrastructure on adjoining parcels that are under the same ownership or a joint business ownership, including the possibility of an exception to the provisions of 7.128.110 7.132.110 that require a residence on each	The Licensing Officer shall review Master Plans and ensure that licenses may comply with all Master Plan	The Licensing Official shall approve any Master Plan, following any required approval by the Planning

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
property with a cannabis cultivation license. The exception may be granted by the Licensing Official (or Planning Commission or Zoning Administrator, as may be required by the SCCC) to allow for one residence to serve the shared parcels when the Master Plan would: • Reduce physical alteration of the landscape and reduce impacts on aesthetic and visual resources, and be environmentally preferable; • The shared residence would provide enough residential use to meet goals for security and neighborhood compatibility.	components and requirements.	Commission or Zoning Administrator, prior to issuance of license for cannabis activities.
MM LU-1.1-5. Avoid Excessive Grading and Disturbance Associated with Commercial, Industrial, and Manufacturing Cannabis Activities. The County shall amend the Grading Ordinance to prevent excessive grading, erosion and land disturbance associated with road building and other development by establishing limits on grading, such as: • Retained cuts and fills shall not exceed 10-feet; • Unretained cut and fill depths shall not exceed 5 feet; • Cannabis cultivation shall not be allowed on slopes over twenty percent; • No cannabis related development shall be allowed on ridgelines; • No grading on slopes steeper than thirty percent; • No terracing shall be allowed for cannabis cultivation.	The Licensing Officer shall review and ensure that licenses may comply with all requirements of the County Grading Ordinance.	The County Planning Department shall amend the County Grading Ordinance as required by MM LU-1.1-5 as part of adoption of the Program. The County Cannabis Licensing Office and/or Planning Department shall submit an amendment to the Board of Supervisors for review and approval.
MM LU-1.1-6. Cannabis Best Management Practices. To ensure consistency with County goals and policies for resource use efficiency, water quality and supply, biological resources protection, and visual resource preservation, the County shall require the following cannabis best management practices on a site by site basis, as applicable and feasible. All best management practices shall be encouraged for each licensee to the maximum extent feasible and may become license conditions at the discretion of the Licensing Official. **Construction Practices** 1. Work Limit - Seasonal Restriction. To the extent practicable, ground-disturbing activities will be avoided during the wet season (i.e., between November 1 and March 31) to minimize impacts due to erosion and sedimentation. 2. Work Hours. No outdoor construction activity will be initiated until 30 minutes after sunrise, and all outdoor construction activity will cease 30 minutes prior to sunset. 3. Pre-Activity Training Program. Prior to the start of initial ground-disturbing activities, a qualified biologist will conduct a pre-activity training program for all employees, contractors, or representatives of the Permittee who will take part in any project-related cultivation or manufacturing activity. The training will be tailored to the specific resources potentially occurring on the cannabis site in question and will include a	The Licensing Officer shall ensure best management practices are applied as needed as criteria of the licensing process and implemented on an ongoing basis during annual license renewals.	The cannabis best management practices shall be considered and required as feasible on a site by site basis, and shall be implemented prior to cannabis activities and/or on an ongoing basis commensurate with the requirements of the best management practices.

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
discussion of sensitive biological resources within the area (including sensitive and regulated habitats), the potential for occurrence of special-status species, and the life histories of those species. The training will also review the project boundaries, work limits, and applicable environmentally sensitive areas. In addition, the pre-activity training program will also provide images of potentially occurring special-status species and review the avoidance, minimization, and protection measures to be implemented to ensure species are not impacted by project activities. A handout that summarizes all the information covered in the pre-construction training program will be given to all on-site personnel and copies shall be made available on the site at all times. 4. Sediment Control Measures. Sediment control measures will be utilized throughout all phases of ground disturbance where sediment and/or earthen fill threaten to enter Waters of the U.S./State. Sediment control structures will be monitored for effectiveness and will be repaired or replaced as needed. Build-up of soil behind control structures (e.g., silt fencing) will be removed promptly and any breaches or undermined areas repaired at once. 5. Erosion Control. All exposed/disturbed areas within the cannabis site will be stabilized to the greatest extent possible. Erosion control measures, such as silt fences, straw hay bales, gravel or rock lined ditches, water check bars, and broadcast straw will be used where ever sediment-laden water has the potential to leave the work site and enter Waters of the U.S./State. Erosion control measures will be monitored during and after each storm event. Modifications, repairs, and improvements to erosion control measures will be made whenever needed. Materials used for erosion control or to repair erosion control will not pose a risk to fish or wildlife (e.g., materials containing monofilament will not be used to avoid entanglement of wildlife). 6. Staging and Storage Areas. Staging and storage areas will be located in a dry upland location, above the top of bank. Staging and storage areas will be within a paved or gravel-lined site, if feasible. Stationary equipment such as motors, pumps, generators, compressors, and welders located within or adjacent to a stream will be positioned over drip pans. Stationary heavy equipment will have suitable containment to handle a catastrophic spill/leak. 7. Spill Containment. Spill containment kits will be maintained onsite at all times during construction operations and/or staging or fueling of equipment to contain and remediate incidental spills of fluids, such as fuels, oils, cleaning products, etc. 8. Open Pipe Restriction. All pipes, culverts, or similar structures that are stored vertically or horizontally on site for one or more overnight periods will be securely capped on		

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
both ends prior to storage to prevent their occupancy by wildlife, and they will be thoroughly inspected for wildlife prior to being moved. 9. Open Trenches. Any open trenches, pits, or holes with a depth greater than 1 foot will be covered at the conclusion of work each day with a hard, non-heat conductive material (e.g., plywood). No netting, canvas, or material capable of trapping or ensnaring wildlife will be used to cover open trenches. If use of a hard cover is not feasible, multiple wildlife escape ramps will be installed, constructed of wood or installed as an earthen slope in each open trench, hole, or pit that is capable of allowing large (i.e., deer) and small (i.e., snakes) wildlife to escape on their own accord. Prior to the initiation of construction each day and prior to the covering of the trench at the conclusion of work each day, a qualified biologist or on-site personnel will inspect the open trench, pit, or hole for wildlife. If wildlife is discovered it will be allowed to leave on its own accord; if wildlife does not leave on its own accord consultation with the California Department of Fish and Wildlife (CDFW) will be initiated. 10. Spoils Placement. Spoils will be placed in a stable area outside of streams, wetlands, riparian areas, and other sensitive habitats. 11. Intake Screens. All water diversion intake hoses and pump inlets will be completely screened with wire mesh not larger than 5 millimeters to prevent native fish, amphibians, and other aquatic species from entering the pump system. The screens will be made of non-corrosive material. The screen will be kept in good repair and cleaned/checked frequently. All screens will be supported above the channel bottom. 12. Vegetation Removal. Disturbance or removal of vegetation will be kept to the minimum necessary to complete permitted project-related activities. 13. Riparian Buffers. Maintain buffers from riparian areas and other sensitive habitat areas, consistent with SCCC Title 16, to minimize intrusion of cannabis activities. **14.** Revegetation. Restoration and revegetation work for temporary effects will be implemented using native California plant species collected on-site or from local sources (i.e., local ecotype). Plant species and material from non-local sources will be utilized only with prior written authorization from the County. Revegetation will be completed as soon as possible after earthmoving activities cease. Seeding placed after October 15 will be applied by hydro-seed or will be covered with broadcast straw, jute netting, coconut fiber blanket, light mulch or a similar erosion control method. Erosion control blankets with monofilament or woven plastic strands will not be used. **Operational Practices** 15. Vehicle Access. To minimize harassment, injury, death, and harm of sensitive wildlife species due to temporary habitat disturbances, all cannabis-related vehicle traffic and		

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
operations will be restricted to established roads, construction areas, equipment staging, storage, parking, and stockpile areas to the extent practicable. Vehicles will observe a 20-miles per hour speed limit within construction areas, except on County roads and State and Federal highways. 16. Vehicle/Equipment Maintenance and Fueling. Any equipment or vehicles driven and/or operated adjacent to a stream will be checked and maintained daily to prevent the release of contaminants that could be deleterious to aquatic and terrestrial life or riparian habitat. Vehicle and equipment fueling and maintenance operations will be at least 50 feet away from water courses, except at established commercial gas stations or established vehicle maintenance facilities. 17. Litter Control. A litter control program will be instituted at each cannabis site. All workers will ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers will be removed from the site at a frequency sufficient to prevent overflow of trash. 18. Greenwaste Management. To the extent feasible, cannabis plant material and other organic materials will be composted and/or mulched on site or hauled to an appropriate location for composting. 19. Water Conservation. Water conserving techniques and technologies will be employed to supplement water demand of cannabis activities, including, but not limited to: a. Install water storage system on site only after obtaining the appropriate permit or registration for water storage from the Division of Water Rights. b. Implement conservation tillage to reduce or eliminate erosion and runoff. c. Install rainwater catchment to reduce demand on streams (see MM HYDRO-2.2, *Rainwater Harvesting*). d. Create contours across slopes to catch surface runoff and promote groundwater recharge. e. Implement drip irrigation, mulch, and vegetate around cultivated areas. f. Implement irrigation technologies that have higher distribution uniformities and water use efficiencies (e.g., precision drip and micro-sprinkler irrigation systems). g. Monitor the soil moisture below the root zone to monitor excess irrigation. h. Water only when the soil is dry. i. Water deeply late in the evening or early in the morning to avoid evapotranspiration. j. Water at rates that avoid runoff.		

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
k. Inspect water delivery system for leaks prior to planting each year and periodically during the season. l. Install float valves on tanks to prevent tanks from overflowing. Provide for secondary containment in the event of rupture or overflow of water storage. Containment must be sufficient to capture or infiltrate the maximum contents of the tank. m. Implement mechanical retrofits on watering systems to improve water efficiency, such as changing droplet size on nozzles, spraying closer to the ground, and lower water pressure. n. Water plants at the appropriate time of day and frequency, according to month, season, and availability. Avoid watering in the wind and heat. o. Document watering schedule, and implement weather-based irrigation scheduling. p. Implement water harvesting reuse practices and recapture and reuse water wherever possible. q. Use greywater that does not contain chlorine bleach, salts, or boron to irrigate plants, as it also acts as a gentle fertilizer. Do not let greywater runoff into any water bodies. r. Measure and monitor the quantity of all water used, including fresh, recycled, and harvested. s. Set goals to increase the percentage of water use from rainwater catchment or recycled water (MM HYDRO-2.2, Rainwater Harvesting). 20. Renewable Energy Sources. Renewable energy sources will be employed to supplement energy demand of cannabis activities, including, but not limited to: a. Generate alternative power onsite (e.g., solar, wind). Solar panels may be installed on greenhouses or other structures used for cannabis cultivation and manufacturing. b. Utilize power from alternative energy sources such as solar panels, wind power, geothermal, or alternative energy co-op. c. Limit use of open flame burners and petroleum products. 21. Energy Conservation. Maximize energy efficiency of cannabis activities, including, but not limited to: a. Conduct an annual energy audit. b. Measure and record net energy usage. c. Maintain efficient heating/cooling/dehumidification systems.		

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
d. Implement energy efficient lighting, specifically LEDs over HID or HPS lighting where feasible. e. Implement automated lighting systems. f. Utilize natural light when possible. g. Utilize an efficient circulation system. h. Ensure that energy use is above or in-line with industry benchmarks. i. Implement phase-out plans for the replacement of inefficient equipment. 22. Organic Cultivation and Permaculture. Maximize the use of organic and permaculture techniques for cannabis productions, including, but not limited to: a. Restrict the use of Genetically Modified Organisms (GMOs). b. Use only non-chemically treated clones and planting materials. c. Maintain an appropriately detailed database for all seeds used. d. Only use naturally occurring mineral fertilizers and only as a supplement to biologically-based fertility methods. e. Grow nitrogen-fixing plants such as clover, alfalfa or legumes following a heavy cannabis rotation. These plants have symbiotic bacteria in their roots, and pull nitrogen from the atmosphere and transfer it to the soil in a way that benefits the surrounding plants, as nitrogen is essential for a plant's growing cycle. f. Use intercropping with companion plants to help replenish the soil, attract pollinators, and deter pests. g. Implement an integrated Pest Management Plan, which includes considerations for human and environmental health, and is based on integrated pest management (IPM) principles. This IPM plan shall use a hierarchy of practices: prevention, observation, intervention including physical/mechanical/biological methods, approved substances. h. Incorporate pest deterring plants and/or beneficial insect attracting plants into the cultivation system. i. Implement policies and deterrents to eliminate contamination from pests and disease. j. Train staff to identify common pests and disease, and implement a schedule for monitoring plant health. k. Have a plan in place to remove, quarantine, and treat plants contaminated with pests and/or disease once they are identified, with protocols to identify the source of the infestation.		

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
l. Use natural pest control techniques such as MET-52, yeast, and citric acid (to control spider mites).		
Public Services		
None required.		
Population, Employment, and Housing		
MM POP-1.1. Affordable Housing Fee for Agricultural Buildings Used for Commercial Cannabis. The County shall review and update its AHIF as needed to address agricultural buildings used for licensed commercial cannabis activities involving more employee-intensive crops or processes so that additional affordable housing resources are available to be leveraged with other resources to create new affordable housing, including for agricultural employee housing units.	The County Licensing Office and Planning Department shall ensure affordable housing impact fees are collected as required by SCCC Chapter 17.10, as may be amended.	The County Planning Department shall review the AHIF Program as needed as part of Program implementation, and shall report recommended updates to the Board of Supervisors within one year of Program adoption.
Transportation and Traffic		
MM TRA-1.1. Payment Transportation Impact Fees. To reduce direct impacts of the Program on the overall performance of the circulation system and potential for increased demand for transportation infrastructure and traffic congestion, the County shall update its impact fee program. The Cannabis Licensing Officer, in coordination with the County Public Works Department of Transportation, shall require all cannabis cultivation and manufacturing operations to pay into the County's Transportation Improvement Area Fee Program, at an appropriate level (e.g., industrial use) to help fund circulation improvements required to help improve performance of the circulation system.	County compliance monitoring staff shall verify that Licensees have paid fee prior to issuance of a license.	Reasonable fee amounts shall be determined during Program adoption and shall be identified and applied during the license review process. The Licensing Officer shall submit findings and recommendations as part of the licensing application determination with payment based on the established fee program prior to issuance of a license.
MM TRA-2.1. Rural Road Management. Where cannabis related sites are located outside of an existing CSAs, but within a rural road maintenance association, the County Licensing Officer, in coordination with the County Department of Public Works, Transportation Division, shall require proof of registrant participation in the rural road maintenance	County Licensing Office compliance monitoring staff shall verify that Licensees and any development applicants	The location of a cannabis related site outside of County established CSAs but within rural road maintenance association

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
association, if applicable, to ensure the safe access and compatibility of proposed operations, prior to issuance of a license to cultivate cannabis.	have joined, and continue to be member of, the applicable rural road maintenance association.	site shall be identified through canvassing during the license review or building permit process. The Licensing Officer shall ensure participation in the rural road maintenance association by requiring proof of resident membership and participation.
MM TRA-2.2. Adequate Access Roadway Design. The County Licensing Officer, in coordination with the County Department of Public Works, Transportation Division and the County Fire Marshal, shall consider the adequacy of private access roads and driveways to each cannabis related site to ensure 1) that roadways are built and maintained to meet Santa Cruz County Code requirements, and 2) that roadways are designed to accommodate the vehicles required by the cannabis operations, including the type, number, size, and clearance requirements. If roadway improvements are needed to meet these requirements, the Licensee shall either perform the improvements or provide the County with a plan and timeline for improvement within the first 6 months following license issuance.	Licensing Office compliance monitoring staff shall verify that Licensees and any development applicants have improved and maintained private access roads and driveways consistent with the License approval.	Review of existing private access road and driveways service the cannabis related site shall occur as part of license review by the County Licensing Official and the County Department of Public Works, Transportation Division and the County Fire Marshal. The Licensing Officer shall ensure either these access roads are adequate to serve the cannabis site prior to operations or within 6 months of license issuance.
Utilities and Energy Conservation		
MM UE-1.1. Cannabis Soil, Plant Material, and Waste Management. Each Licensee shall prepare and submit a Cannabis Soil, Plant Material, and Solid Waste Management Plan for the cannabis site, which describes the type and amount of solid waste that would be generated by the cultivation and/or manufacturing operation. The Plan shall maximize to the extent practicable composting of soil and cannabis plant waste onsite, and implement BMPs for solid waste handling. Transfer of cannabis plant waste material from the site shall only occur as allowed by state regulations, either through pre-treatment onsite to render	The County Cannabis Licensing Office shall ensure ongoing compliance with the Plan during annual renewals and inspections	The Plan shall be submitted by the Licensee and reviewed and approved by the Cannabis Licensing Official prior to license issuance.

Mitigation Measure	Monitoring Responsibility	Plan Requirements and Timing
the waste acceptable to licensed landfill or composting facilities, or using a commercial hauler that meets state regulations for the treatment and disposal of cannabis waste.		