ENVIRONMENTAL INITIAL STUDY

INITIAL STUDY CHECKLIST
PROPOSED MITIGATED NEGATIVE DECLARATION

Little Hill Cultivators - Type 3 Cannabis Conditional Use Permit and Variance
Cannabis Cultivation Use Permit No.: P-19-30

Prepared by:

Trinity County
Department of Building & Planning
530 Main Street
Weaverville, CA 96093
(530) 623-1351

October 2022

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Trinity County
Environmental Checklist Form

1. **Project Title:** Little Hill Cultivators - Type 3 Cannabis Conditional Use Permit and Variance (P-19-30)

2. **Lead Agency Name and Address**:

   Trinity County
   Department of Building & Planning
   530 Main Street
   Weaverville, CA 96093
   (530) 623-1351

3. **Contact Person and Phone Number:** Skylar Fisher, Planning Department, Cannabis Division (530) 623-1351

4. **Project Location:** The proposed project is situated in an unincorporated part of Trinity County, approximately 23.6 miles southwest of the unincorporated community of Hayfork, California. Specifically, the proposed project is located at 1760 West Hettenshaw Road, Zenia, on Trinity County Assessor Parcel Number (APN) 020-120-25, approximately 80 acres in size. Refer to Figure 1 - Project Location and Figure 2 - Site Plan for specific information on the project location and activities.

5. **Applicant's Name and Address:**
   Jeff Ghidella
   PO Box 626
   Willits, CA 95490

6. **General Plan Designation:** Resource (RE)

7. **Zoning:** Unclassified (U)

8. **Description of Project:** The purpose of this project is to expand cannabis cultivation operations on the project site as a permitted use under the County's cannabis ordinances. The applicant is currently licensed to cultivate up to 10,000 square feet of cannabis canopy area on the project site and the applicant is applying for a Type 3 (T3) license to expand cultivation to up to one-acre (43,560 square feet) of canopy area.

9. **Surrounding Land Uses and Setting:** The parcels immediately surrounding the project are designated by the County's General Plan as a part of the Resource (RE) land designation and are zoned as Unclassified (U). Surrounding parcels, ranging from 7.5 acres to 552.9 acres in size, include privately or publicly owned U.S. Forest Service (USFS) timberland, grazing land, and open space. Access to the site is provided by West Hettenshaw Road, by way of Ruth-Zenia Road. Vegetation in the area consists primarily of Douglas-fir forest, chaparral; annual grassland; and ruderal/urbanized vegetation communities.

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):** Trinity County as Lead Agency for the proposed project has discretionary authority over the primary project proposal. To implement this project, the applicant may need to obtain, at a minimum, the following discretionary permits/approvals from other agencies:

    - California Department of Fish and Wildlife (Region 1) – Lake and Streambed Alteration Agreement
    - California Department of Cannabis Control – Cannabis Cultivation Licenses
    - State Water Resources Control Board – Cannabis General Order Waste Discharge Requirements (WDRs) or Waiver of WDRs
    - Trinity County Building Department – Building Permit
    - Trinity County Department of Environmental Health
    - Trinity County Solid Waste

Figure 1: Project Location Map

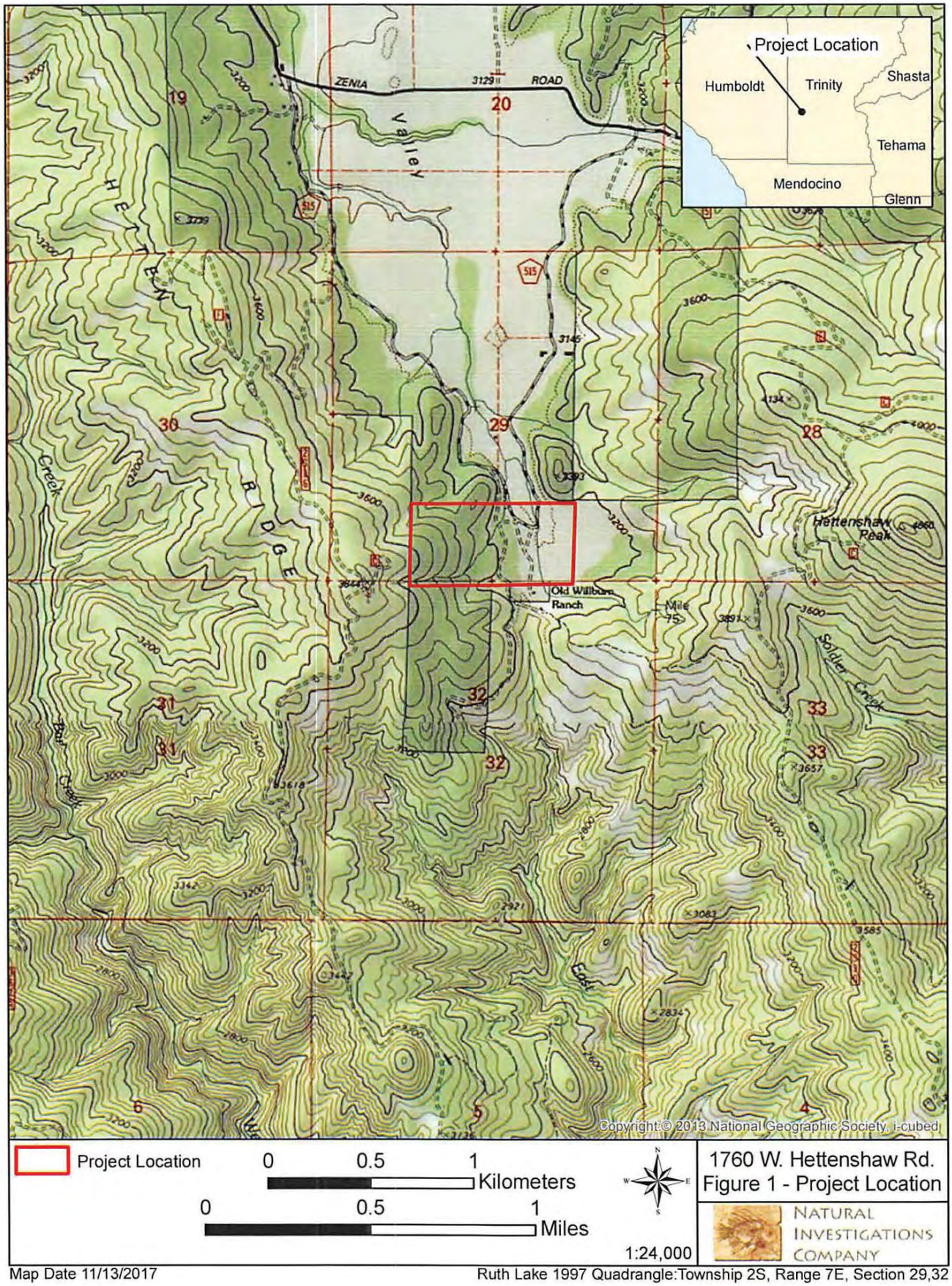
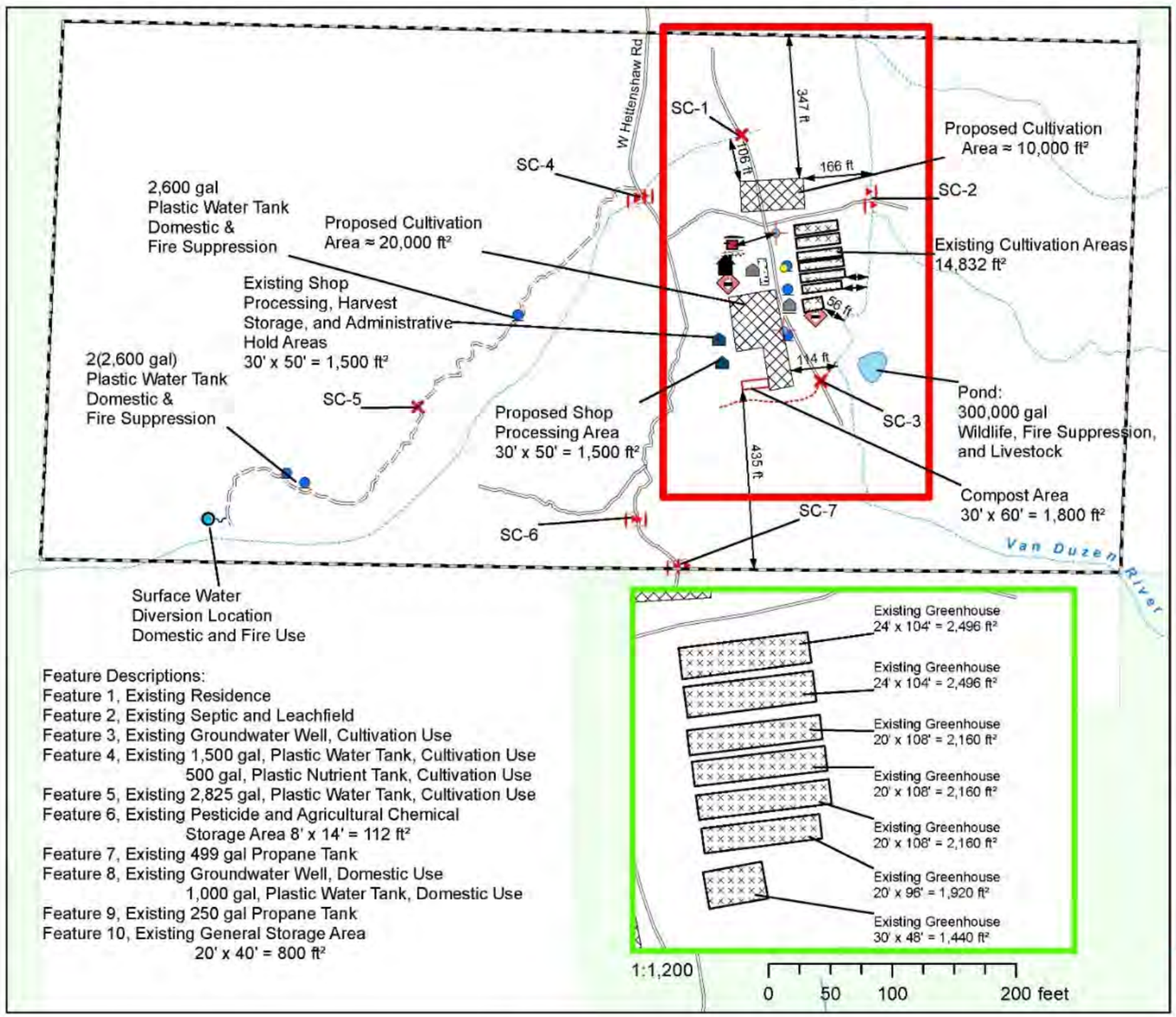
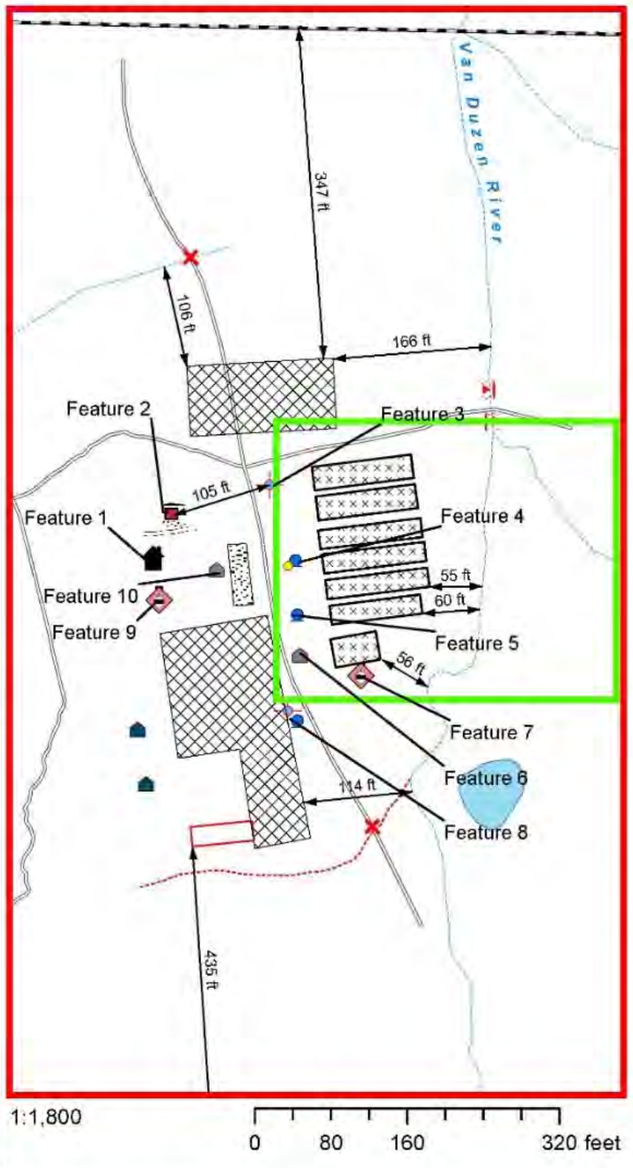


Figure 2: Site Plan



Feature Descriptions:
Feature 1, Existing Residence
Feature 2, Existing Septic and Leachfield
Feature 3, Existing Groundwater Well, Cultivation Use
Feature 4, Existing 1,500 gal, Plastic Water Tank, Cultivation Use
500 gal, Plastic Nutrient Tank, Cultivation Use
Feature 5, Existing 2,825 gal, Plastic Water Tank, Cultivation Use
Feature 6, Existing Pesticide and Agricultural Chemical
Storage Area 8' x 14' = 112 ft²
Feature 7, Existing 499 gal Propane Tank
Feature 8, Existing Groundwater Well, Domestic Use
1,000 gal, Plastic Water Tank, Domestic Use
Feature 9, Existing 250 gal Propane Tank
Feature 10, Existing General Storage Area
20' x 40' = 800 ft²



Off-Site Activities:
*Packaging

While we strive to have the most accurate data possible, GIS data has limitations. The approximate scale, distances, positions, and site conditions may vary.

Trinity River CONSULTING

A variance is required for the 500 ft property line setback.
No variance is required for a residential setback.
The closest residence is located ≈ 2,600 ft north of the proposed cultivation areas.

TRINITY COUNTY PLANNING DEPARTMENT
APPLICANT PREPARED SITE PLAN
Application No. _____

Drawn By:	S.Elliott	APN:	020-120-25-00
Date:	07/13/2022	Zoning:	UNC
Scale:	1:3,600	Lot Area:	80 Acres

11. **Tribal Consultation:** Consultation and correspondence with various culturally affiliated Tribal groups and agencies were conducted as in accordance with Public Resources Code (PRC) Section 21080.3.1 (AB 52). On December 3, 2019, the County initiated environmental review under the California Environmental Quality Act (CEQA) for the proposed project. The County sent certified project notification letters to culturally affiliated Tribal groups on December 3, 2019 and January 27, 2020, pursuant to PRC Section 21080.3.1, notifying that the project was under review and to provide the Tribes 30 days from the receipt of the letter to request consultation on the project in writing. No responses were received requesting initiation of consultation under the provisions of AB 52.

Note: *Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process (see PRC Section 21080.3.2.). Information may also be available from the California Native American Heritage Commission's Sacred Lands File per PRC Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that PRC Section 21082.3(c) contains provisions specific to confidentiality.*

Information contained in the Cultural Resources Assessment for the Cannabis Cultivation Operation at 1760 W. Hettenshaw Road, Zenia, Trinity County, California (NIC, 2019) related on the specific location of prehistoric and historic sites is confidential and exempt from the Freedom of Information Act (FOIA) and the California Public Records Act (CPRA); therefore, site specific cultural resource investigations are not attached to this Initial Study. Professionally qualified individuals, as determined by the California Office of Historic Preservation, may contact the Trinity County Planning Department directly in order to inquire about its availability

12. **Purpose of this Document:** This document analyzes the environmental impacts of the development of the proposed use of Cannabis Cultivation of up to one-acre and makes appropriate findings in accordance with Section 15070 of the State CEQA Guidelines. In addition, this document has been prepared to the degree of specificity appropriate to the current proposed action, as required by Section 15146 of the State CEQA Guidelines. The analysis considers the actions associated with the proposed project to determine the short-term and long-term effects associated with their implementation

Section 1 – Introduction and Purpose

1.1 Introduction

Trinity County (County), as the Lead Agency, has prepared this Initial Study to provide the general public and interested public agencies with information about the potential environmental impacts of the proposed Little Hill Cultivators Cannabis Conditional Use Permit Project (P-19-30) (proposed project). Details about the proposed project are included in Section 2.0 - PROJECT DESCRIPTION, of this Initial Study. This Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 (as amended), codified in California Public Resources Code Section 21000 *et seq*., and the State CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3). Pursuant to these regulations, this Initial Study identifies potentially significant impacts and, where applicable, includes mitigation measures that would reduce all identified environmental impacts to less than significant levels. Mitigation measures have been proposed to avoid or minimize any significant impacts that were identified. This Initial Study supports a MND pursuant to CEQA Guidelines Section 15070.

1.2 Lead Agency

The Lead Agency is "*the public agency which has the principal responsibility for carrying out or approving a project,*" which may be subject to CEQA (PRC Section 21067). Accordingly, Trinity County is the CEQA Lead Agency.

1.3 Purpose of the Initial Study

CEQA requires that public agencies document and consider the potential environmental effects of the agency's actions that meet CEQA's definition of a "project." Briefly summarized, a "project" is an action that has the potential to result in direct or indirect physical changes in the environment. A project includes the agency's direct activities as well as activities that involve public agency approvals or funding. Guidelines for an agency's implementation of CEQA are found in the "CEQA Guidelines" (Title 14, Chapter 3 of the California Code of Regulations).

Provided that a project is not exempt from CEQA, the first step in the agency's consideration of its potential environmental effects is the preparation of an Initial Study. The purpose of an Initial Study is to determine whether the project would involve "significant" environmental effects, as defined by CEQA, and to describe feasible mitigation measures that would avoid significant effects or reduce them to a level that is less than significant. If the Initial Study does not identify significant effects, then the agency prepares a Negative Declaration. If the Initial Study notes significant effects but also identifies mitigation measures that would reduce these significant effects to a level that is less than significant, then the agency prepares a Mitigated Negative Declaration. If a project would involve significant effects that cannot be readily mitigated, then the agency must prepare an Environmental Impact Report. The agency may also decide to proceed directly with the preparation of an Environmental Impact Report without an Initial Study.

The proposed project is a "project" as defined by CEQA and is not exempt from CEQA consideration. The County has determined that the project may potentially have significant environmental effects and therefore would require preparation of an Initial Study. This Initial Study describes the proposed project and its environmental setting, discusses the potential environmental effects of the project, and identifies feasible mitigation measures that would eliminate any potentially significant environmental effects of the project or reduce them to a level that would be less than significant. This IS/MND evaluates the proposed project's operations and maintenance activities for both existing and proposed activities at full project build out (e.g., when all construction phases have been completed).

This Initial Study is a public information document that describes the proposed project, existing environmental setting at the project site, and potential environmental impacts of construction and operation of the proposed project. It is intended to inform the public and decision-makers of the proposed project's potential environmental impacts and to document the lead agency's compliance with CEQA and the State CEQA Guidelines.

This Initial Study concludes that the project would have potentially significant environmental effects, all of which would be avoided or reduced to a level that would be less than significant with recommended mitigation measures. The project

applicant has accepted all the recommended mitigation measures. As a result, the County has prepared a Mitigated Negative Declaration and has issued a Notice of Intent to adopt the Mitigated Negative Declaration for the project. The time available for public comment on the Initial Study and Mitigated Negative Declaration is shown on the Notice of Intent.

1.4 Regulatory Background

State Regulatory Framework

Until 1996, the cultivation, use, and sale of cannabis (also known as marijuana) for any purpose was illegal in the State of California. In 1996, California voters approved Proposition 215, which allowed seriously ill Californians the right to obtain and use cannabis for medical purposes when recommended by a physician. In 2015, the State Legislature enacted the Medical Cannabis Regulation and Safety Act (MCRSA), which mandated a comprehensive State licensure and regulatory framework for cultivation, manufacturing, distribution, transportation, testing, and dispensing of medical cannabis on a commercial basis.

As the State was drafting regulations in compliance with MCRSA, California voters in 2016 approved Proposition 64, which legalized the use and possession of non-medicinal cannabis products within California by adults age 21 years and older. In June 2017, the State Legislature passed a budget trailer bill, Senate Bill (SB) 94, which repealed MCRSA and integrated its medicinal licensing requirements with Proposition 64 to create the Medicinal and Adult-Use Cannabis Regulation and Safety Act (MAUCRSA). MAUCRSA provides the regulatory structure for commercial cannabis activities in California.

MAUCRSA designated applicable responsibilities for oversight of cannabis commerce in California to several State agencies. The Bureau of Cannabis Control (BCC) was tasked as being the lead agency in regulating commercial cannabis licenses for retailers, distributors, testing labs, and microbusinesses involved with medical and adult-use cannabis. CalCannabis Cultivation Licensing, a division of the California Department of Food and Agriculture (CDFA), was tasked with licensing and regulating commercial cannabis cultivators and managing the State's "track-and-trace" system that tracks cannabis and its products from cultivation to sale. The Manufactured Cannabis Safety Branch of the California Department of Public Health (CDPH) was tasked with regulating commercial cannabis manufacturing. It is noted that commercial cannabis regulation and licensing previously under the California Department of Food and Agriculture, the Manufactured Cannabis Safety Branch, and the Bureau of Cannabis Control have been consolidated into a single new department, the California Department of Cannabis Control.

It is important to note that, although California allows medicinal and adult use, cannabis remains classified as a Schedule 1 controlled substance under the federal Controlled Substances Act of 1970. Individuals engaging in cultivation and other cannabis-related activities risk prosecution under federal law.

Local Regulatory Framework

Ordinance 315-823 (and associated amendments 315-829, 315-830, 315-841, and 315-843) regulates cannabis cultivation. The license grants provisional permission to cultivate cannabis in accordance with state law. The ordinance allows outdoor, mixed-light, and indoor cultivation under the following license types as defined in Section 315-843(3)(a)(i). The ordinance caps the total number of cannabis cultivation licenses at 530. The ordinance also identifies the following caps:

- "Specialty Cottage Outdoor" – for outdoor cultivation up to 25 mature plants.
- "Specialty Cottage Indoor" – for indoor cultivation with 500 square feet or less of total canopy.
- "Specialty Cottage Mixed-Light Tier 1 and 2" – for cultivation using mixed light (i.e., sunlight and artificial light) with 2,500 square feet or less of total canopy. "Tier 1" means the use of artificial light at a rate of six watts or less per square foot, and "Tier 2" means the use of artificial light at a rate greater than six watts but no greater than 25 watts per square foot.
- "Specialty Outdoor" – for outdoor cultivation less than or equal to 5,000 square feet of total canopy, or up to 50 mature plants on noncontiguous plots.
- "Specialty Mixed-Light Tier 1 and 2" – for cultivation using mixed light between 2,501 and 5,000 square feet of total canopy.

- "Small Outdoor" – for outdoor cultivation between 5,001 and 10,000 square feet of total canopy.
  "Small Mixed-Light Tier 1 and 2" – for cultivation using mixed light between 5,001 and 10,000 square feet of total canopy.
- "Medium Outdoor" – for outdoor cultivation between 10,001 square feet and one acre in total canopy.

1.5 Incorporation by Reference

In accordance with Section 15150 of the State CEQA Guidelines to reduce the size of the report, the following documents are hereby incorporated by reference into this Initial Study and are available for public review at the Trinity County Planning Department. A brief synopsis of the scope and content of each of these documents is provided below.

Trinity County General Plan

The Trinity County General Plan (General Plan) is a long-range planning guide for growth and development for the County. The General Plan serves two basic purposes: 1) to identify the goals for the future physical, social, and economic development of the County; and 2) to describe and identify policies and actions adopted to attain those goals. The General Plan is a comprehensive document that addresses seven (7) mandatory elements/ issues in accordance with State law. These elements include Land Use, Housing, Circulation, Conservation, Open Space, Noise, and Public Safety. Other issues that affect the County, including Public Facilities and Services, Recreation, and Economic Development are addressed on a local level in the Douglas City, Hayfork, Junction City, Lewiston, and Weaverville Community Plans. The County's General Plan was utilized throughout this Initial Study as the fundamental planning document governing development on the proposed project site. Background information and policy information from the General Plan is cited in several sections of this Initial Study.

Trinity County Zoning Ordinance

The Trinity County Ordinance No. 315 established a Zoning Plan in an effort to promote and protect public health. The Zoning Plan serves three (3) basic purposes: 1) to assist in providing a definite plan of development for the County, and to guide, control and regulate the future growth of the County, in accordance with said plan; 2) to protect the character and the social and economic stability of agricultural, residential, commercial, industrial, and other areas, within the County and to assure the orderly and beneficial development of such areas; and 3) to minimize harm to public safety resulting from the location of buildings, and the uses thereof, and of land adjacent to highways which are a part of the Circulation Element of the General Plan, or which are important thoroughfares, in such manner as to cause interference with existing or prospective traffic movement on said highways. The Zoning Plan specified and established designations, locations, and boundaries of zoning districts. The districts explicitly established permitted uses including building types, building heights, lot dimensions, yard dimensions, lot setbacks, lot coverage, allowable uses, density, and allowable accessory buildings and uses.

Trinity County currently regulates licensing of commercial cannabis cultivation in the unincorporated area of the county under Ordinance 315-823 (as modified by Ordinances 315-829, 315-830, 315-841, 315-843, and 315-849). These provisions are found in Chapter 17.43 of the Trinity County Code of Ordinances (County Code of Ordinances).

Licensed commercial operations are required to comply with the limitations on the location of cannabis cultivation and with performance standards that address noise; water supply; water quality; restrictions on the use and storage of fertilizers, pesticides, fungicides, rodenticides, and herbicides; and nighttime lighting restrictions. Licensed cultivation operations are also required to obtain state licensing (known as CalCannabis Cultivation Licensing) and comply with the requirements associated initially under the North Coast Regional Water Quality Control Board Order #2015-0023. This order has been superseded by the SWRCB Cannabis Cultivation Policy – Guidelines for Cannabis Cultivation, which includes Cannabis General Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (Cannabis General Order); General Water Quality Certification for Cannabis Cultivation Activities; Cannabis Small Irrigation Use Registration; and Water Rights Permitting and Licensing Program. In addition, County ordinances are used to regulate the following commercial noncultivation cannabis uses:

- testing (Ordinance 315-824 [Chapter 17.43C of the County Code of Ordinances]),
- nurseries (Ordinances 315-826, 315-827, and 315-833 [Chapter 17.43A of the County Code of Ordinances]),
- distribution (Ordinances 315-828 and 315-834 [Chapter 17.43B of the County Code of Ordinances]),

- non-storefront retail (Ordinance 315-835 [Chapter 17.43C of the County Code of Ordinances]),
- microbusiness (Ordinance 315-837), and
- manufacturing (Ordinances 315-838 and 315-842).

On December 28, 2020, the Trinity County Board of Supervisors adopted Ordinance 315-849 (Chapter 17.43 of the County Code of Ordinances) related to implementing mitigation measures for the County's Commercial Cannabis Program.

Trinity County Cannabis Program EIR (SCH No. 2018122049)

In 2020, the Trinity County Board of Supervisors approved the Trinity County Cannabis Program (Cannabis Program) to regulate commercial cannabis operations in the unincorporated area of the county. The County prepared an Environmental Impact Report (EIR) (State Clearinghouse No. 2018122049) for the Cannabis Program that evaluated the environmental impacts associated with commercial cannabis operations based on the assumptions in the Cannabis Program (Trinity County, 2020).

The EIR was prepared at the program "first-tier" level of environmental review consistent with the requirements of California Environmental Quality Act (CEQA) Sections 15152 and 15168. The program-level analysis considered the broad environmental impacts of the overall Cannabis Program. The EIR acknowledged that subsequent projects/actions under the Cannabis Program would occur in multiple years and locations. As those projects/actions are proposed, such as the project, they are being evaluated to determine whether the entitlements/actions proposed fall within the scope of the approved EIR and incorporate all applicable performance standards and mitigation measures identified therein. Should the subsequent projects/actions not be consistent with the approved Cannabis Program, additional environmental review through the subsequent review provisions of CEQA for changes to previously-reviewed and approved projects may be warranted (CEQA Guidelines Sections 15162 through 15164).

The proposed project is subject to the Amended Cannabis Program Ordinance, and consistency with the Cannabis Ordinance and Program EIR are discussed in relevant sections of this document. As discussed in this document, the project proposes cannabis activities that are consistent with the assumptions and analysis conducted in the EIR and it is not anticipated that any new significant impacts or substantially more severe impacts would occur from implementation of the proposed project. Therefore, the findings of the Cannabis Program EIR are relevant to the proposed project and, where applicable, project-specific analysis and studies are provided to supplement the analysis from the EIR.

1.6 Project Environmental Studies

As part of the preparation of this Initial Study, the following studies, which are included in Section 5 – TECHNICAL APPENDIX, were prepared or utilized to develop baseline information and project-related impact discussions. Hard copies of these studies are available for inspection at the Trinity County Planning Department, 530 Main Street, California 96093, during normal business hours (8:00 AM to 5:00 PM Monday through Friday).

- Natural Investigations Company (NIC). 2019a. *Biological Site Assessment for the Cannabis Cultivation Operation at 1760 West Hettenshaw Road, Zenia, California.* February 2019.
- Natural Investigations Company (NIC). 2019b. *Cultural Resources Assessment for the Cannabis Cultivation Operation at 1760 W. Hettenshaw Road, Zenia, Trinity County, California.* March 2019.

Information contained in the *Cultural Resources Assessment for the Cannabis Cultivation Operation at 1760 W. Hettenshaw Road, Zenia, Trinity County, California* (Appendix B; NIC, 2019b) related on the specific location of prehistoric and historic sites is confidential and exempt from the Freedom of Information Act (FOIA) and the California Public Records Act (CPRA); therefore, this information is not included in Section 5 – TECHNICAL APPENDIX. Professionally qualified individuals, as determined by the California Office of Historic Preservation, may contact the Trinity County Planning Department directly to inquire about its availability.

1.7 Environmental Review Process

This Initial Study is being circulated for public and agency review as required by CEQA. Because State agencies will act as responsible or trustee agencies, the County will circulate the Initial Study to the State Clearinghouse of the Governor's Office of Planning and Research for distribution and a 30-day review period. During the review period, written comments may be submitted to:

Trinity County
Department of Building & Planning
P.O. Box 2819
Weaverville, CA 96093

Skylar Fisher, Cannabis Division
sfisher@trinitycounty.org
(530) 623-1351

Section 2 – Project Description

2.1 Project Location and Setting

Regional Setting

The proposed Little Hill Cultivators Cannabis Conditional Use Permit Project (P-19-30) is located within Trinity County in the Outer North Coast Ranges geographic subregion, which is contained within the Northwestern California geographic subdivisions of the larger California Floristic Province. This region has a Mediterranean-type climate, characterized by distinct seasons of warm dry summers and wet, moderately-cold winters with occasional snow accumulation. The project area is located in the Van Duzen River Basin, which drains into the Eel River before emptying into the Pacific Ocean west of Trinity County. Most herbaceous growth occurs during a relatively short period in late spring, ceasing as soil moisture depletes in early summer. Several plant communities are present in the region, including Klamath mixed conifer, foothill pine (gray pine), mixed chaparral, montane hardwood, montane riparian, and riverine flora.

Local Setting

The proposed project is located in the Hettenshaw Valley and Upper Subbasin of the Van Duzen River watershed. This area is identified by the Trinity County General Plan as the Southern Trinity Planning Area. The topography of the project area is characterized by mountainous terrain tapering to a flat valley. The majority of the Southern Trinity Planning Area is in public ownership by the U.S. Forest Service (USFS) as part of the Six Rivers National Forest. USFS land is managed for open space, resource production, recreation, and wildlife habitat and grazing. The unincorporated community of Zenia is located approximately 5.6 miles southwest from the project. The proposed project does not fall within a Federal Emergency Management Agency (FEMA) floodplain.

Project Location

The proposed project is located in a rural and unincorporated region of Trinity County. The project is located at 1760 West Hettenshaw Road, Zenia, on Assessor Parcel Number (APN) 020-120-25. The subject parcel is approximately 80 acres in size. Access to the site is provided by West Hettenshaw Road, by way of Ruth-Zenia Road. The project site, as well as the surrounding parcels, are within the Resource (RE) General Plan designation and Unclassified (U) zoning district. The site is located in the Ruth Lake, California 7.5-minute USGS quadrangle, Township 2S, Range 7E, Section 29, Mount Diablo Base Meridian (MDBM). The location of the proposed project is shown on Figure 1 – Project Location and Figure 2 – Site Plan.

Existing Conditions

The applicant is currently licensed by Trinity County and the California Department of Cannabis Control (DCC) to cultivate up to 10,000 square feet of mature cannabis canopy. Six (6) existing greenhouses (total 14,832 square feet) are used for the 10,000 square feet of cultivation using the light deprivation method and one (1) existing greenhouse (1,440 square feet) is used for the propagation of immature plants and/or clones. The immature plants and/or clones are used for onsite transplant and cultivation of mature cannabis plants. Previously, two (2) additional greenhouses (each 2,700 square feet) to the west of the primary cultivation area, were utilized for cannabis cultivation but have since been retired.

The applicant currently utilizes two (2) cultivations cycles per year. Cannabis plants will be harvested, dried, processed, and stored in existing and proposed processing buildings (both buildings approximately 1,500 square feet). Additional cannabis-related uses include a fertilizer and fuel storage facility, and a composting site (approximately 1,200 square feet). Vegetative waste is composted and mixed into the soil. Other uses onsite include non-cannabis related activities such as a two-bedroom residence, a shop, sheds, gardens, grazing lands, a pond, and access roads.

The headwaters of Van Duzen River flow through the eastern half of the project site. Additionally, several channels enter the subject property from the surrounding forested slopes. Some channels dissipate upon entering the grasslands of the valley floor, forming willow-scrub wetlands. Other drainages converge to form an intermittent stream, passing to the east of the existing cultivation area (see Figure 2 – Site Plan).

2.2 Proposed Uses

The purpose of this project is to expand cannabis cultivation operations onsite as a permitted use under the County's cannabis ordinances. The project, as proposed, meets the requirements for uses compatible within the Resource (RE) General Plan designation and is consistent with the Unclassified (U) zoning. The applicant proposes to use a combination of full-sun outdoor, light deprivation cultivation techniques, and mixed-light cultivation using artificial light not to exceed 6 watts of light per square foot of mature canopy. The proposed project includes expansion of cultivation to up to one-acre (43,560 square feet) of cannabis canopy under a Type 3 (Outdoor – Medium) or multiple Type 2 (Mixed-Light – Small) licenses.

Related Zoning and Uses

The subject property has been zoned by the County as Unclassified (U). U zoning allows for single family dwellings, Christmas tree farms, forestry, orchards, or row and field crops without requiring a use permit (i.e., principally permitted). The surrounding properties all have Unclassified (U) zoning as well. Privately and publicly (USFS) owned lands occur in the project vicinity. The proposed uses, as described by the applicant and evaluated in this document, are consistent with the uses allowed for Unclassified (U) zoned lands.

Variance Request. The proposed project has also applied for a Variance from Section 17.43.050.A.8 of the County Code, which requires a 500-foot setback from the property line for a medium cannabis cultivation site (see Figure 2 – Site Plan). As a condition of approval of the use permit, the Variance must be approved before the applicant can proceed with cultivation in the proposed cultivation area(s) requiring the Variance. The purpose of the 500-foot property line setback requirement provision in Trinity County Code Section 17.43.050.A.8. is to mitigate potential impacts (e.g., odors, noise, lighting, fugitive dust, etc.) to adjacent neighbors from cannabis cultivation activities.

The project site is surrounded by vacant, undeveloped land or agricultural uses and there are no structures or sensitive receptors immediately adjacent to the site. Proposed cultivation areas are approximately 347 feet from APN 020-120-024 to the north and 435 feet from APN 020-120-010 to the south. The basis for the Variance request is that due to forested slopes and drainage-wetland setbacks on the property, there is limited area for the proposed cannabis cultivation activity to occur without encroaching into the 500-foot setback. If the 500-foot setback were complied with, it has the potential to result in greater impacts to the forested slopes and surface water features than would occur under the proposed project design. According to the applicant, the nearest sensitive receptor (residence) is located on parcel 020-120-023 approximately 2,250 feet from the northern property line and approximately 2,600 feet from the nearest proposed cultivation area. In addition, two property owners to the north and south of the project site have written letters of support for the applicant and the proposed project (Caballero, 2019; Mills, 2019).

It is important to note that upon issuance of a Variance by the County, the Variance is evaluated on an annual basis. Should impacts such as odors, noise, lighting, and fugitive dust from the project become an issue, the County could terminate the Variance approval and require relocation of the cultivation activity subject to the Variance.

Proposed Cannabis Operation

The applicant proposes to expand the existing cannabis operation by developing cultivation areas for approximately 30,000 square feet of new mature cannabis canopy. New cultivation will occur in two locations near the existing greenhouses, providing approximately 10,000 square feet and 20,000 square feet of mature cannabis canopy, respectively. Refer to Figure 2 – Site Plan for proposed locations. New cultivation will occur within raised beds, parallel rows, and/or individual pots, and utilize full sun cultivation methods. Exclusionary fencing will form a perimeter around proposed cultivation areas. The fencing will be approximately 6 feet tall and made of metal wire. Minor grading and vegetation removal will be required to prepare the proposed cultivation areas for the construction of the raised beds and/or placement of individual pots.

As described above, the applicant proposes the addition of 30,000 square feet of outdoor cannabis cultivation. However, the Applicant's proposal also includes the potential to transition proposed outdoor cultivation areas into mixed-light cultivation areas of equal size (i.e., 30,000 square feet). In the future, should Trinity County allow the stacking of multiple cannabis cultivation license types, this CEQA document analyzes potential outdoor and mixed-light cultivation activities on the project site. Future potential mixed-light cultivation will use artificial light not to exceed 6 watts of light per square foot of mature canopy. Tarping systems would be used to shield artificial lighting and prevent light pollution in the project vicinity.

The seven (7) existing greenhouses near the center of the property will continue to be used for the cultivation of mature and immature cannabis using light deprivation methods. One (1) existing greenhouse that is currently used for the cultivation of mature cannabis will be converted to the propagation of immature cannabis plants and/or clones for onsite cultivation. At full build-out of the proposed project, the Applicant's total cultivation area will include up to one-acre of mature cannabis canopy and 3,936 square feet of immature cannabis canopy.

The proposed project will include a minimum of two (2) cultivations cycles per year. If portions of the cultivation areas are converted to Tier 1 mixed-light cultivation in the future, using artificial lighting and tarps to shield lighting, up to three (3) cultivation cycles could occur per year. Plants will be harvested, dried, processed, and stored in existing and proposed processing buildings (both buildings approximately 1,500 square feet). Fertilizer and fuel storage will occur according to existing requirements. The existing 1,200-square foot composting site will be expanded to approximately 1,800 square feet.

Construction and Site Preparation

The proposed project would be developed near existing development within a relatively flat and open area on the property (see Figure 2 – Site Plan). Construction of the proposed project would require limited site preparation, clearing, and construction activities. Off-road construction vehicles/equipment will complete the proposed construction activities to prepare the site for cultivation activities. Construction activities will disturb less than one acre.

Employees

The applicant has identified the following types of employees for the proposed cannabis operation:

- Permanent Employees - There are no permanent employees at this site. Operations will be seasonal and staffed by a combination of seasonal and temporary employees.

- Seasonal Employees - Approximately three (3) seasonal employees will be working and living onsite in the existing residence. These employees will be onsite for 8-10 months each year. No seasonal employees will occupy the residence year-round.

- Temporary Employees - Approximately five (5) temporary employees will be used for growing and harvesting activities. The number of growing cycles per year may be variable, but at a minimum, temporary employees would be required to assist with growing and harvesting activities for at least two cycles per year. For the purposes of the analysis in this document, it is assumed that the temporary employees would commute to work each day.

Site Access

The project site is accessed by West Hettenshaw Road, an existing unpaved county-maintained road that accesses the Ruth-Zenia Road (a two-lane paved county-maintained road). A locked gate at the project site entrance limits unauthorized vehicle access. Internal access at the project site is provided by existing roads/skid trails. Vehicle trips are anticipated to consist of passenger cars, light-duty trucks, delivery vehicles (FedEx™, UPS™, and US Postal Service), larger dual axel delivery vans, and larger 3-axel semi-tractor trailers.

The project does not propose any new roads. However, the site has a total of seven (7) stream crossings, varying in design and condition. The applicant has a draft Lake and Streambed Alteration Agreement (LSAA) with the California Department of Fish and Wildlife (CDFW) for the improvement of three (3) existing stream crossings as follows (CDFW, 2018):

Stream Crossing No.1. This crossing consists of an existing low-grade seasonal ford on an unnamed Class Ill stream. The ford is sufficient to pass 100-year stream flow and associated debris. The stream disperses into an alluvial fan below the crossing, and sediment delivery potential to downstream surface waters is low. The road approaches, however, are at a slight grade and require erosion treatment to prevent sediment from entering the stream. The road approaches will be seeded with an erosion control mix and surfaces will be mulched with weed-free straw. There will be no project-related ground disturbance within the bed and banks of the stream at this location.

Stream Crossing No. 2. This crossing is a remnant of an abandoned county road and consists of two side by side steel culverts (one 18-inch diameter, one 24-inch diameter) within an unnamed Class Ill stream. The existing culverts are failing. The 18-inch culvert remains within the fill; however, the 24-inch culvert is exposed due to erosion. These culverts have been determined to be undersized for passing a 100-year storm flow event and associated debris. Sediment delivery potential to the stream from the road approaches is low; the approaches are nearly flat and heavily vegetated with annual and perennial grasses.

The culverts and remaining road fill will be removed from the crossing and an armored ford will be constructed for seasonal, dry channel access. The road approaches will be lowered to remove road fill and set slopes to 4:1 in order to accommodate 100-year flow events and associated debris passage. Approximately 20 cubic yards of 0.5 to 1.5-foot diameter angled rock will be used to construct the armored fill, extending beyond the lateral limits of a 100-year event and adjacent side slopes. Armoring will be combined with willow sprig planting to minimize erosion. Disturbance within the bed and banks of the stream will be limited to the remaining county road footprint of the crossing measuring approximately 17 feet wide by 31 feet long (527 square feet) and will require removal of approximately 10 cubic yards of earthen fill material.

Stream Crossing No. 3. This crossing consists of a seasonal ford on an unnamed Class III stream that has been abandoned and is no longer utilized. The ford is sufficient to pass a 100-year storm flow event and associated debris. The channel and road approach grades are low and densely vegetated with annual and perennial grasses; the sediment delivery potential to the stream is minimal. There will be no ground disturbance within the bed and banks of the stream at this location. This crossing will be monitored and erosion treatment including seeding and mulch will be applied as necessary.

There is also an additional stream crossing on the project site (SC-5) that requires improvement (placement of wattles and gravel has been recommended) and is not currently included in the draft CDFW LSAA. The applicant will be required to notify CDFW of this additional improvement to determine whether an amendment to the draft LSAA will be required (TRC, 2020). The applicant shall be required to obtain a final LSAA prior to performing any work within CDFW jurisdictional areas and comply with the avoidance and minimization measures required by the agreement.

Trip Generation

As noted above, eight (8) seasonal and temporary employees are anticipated during peak operational activity for the cannabis operation. Three (3) of the employees would live onsite seasonally and five (5) are anticipated to commute to work each day. During peak operation, the proposed project is estimated to generate up to 30 vehicle/truck trips per day. This will include 26 employee vehicles trips per day (conservative estimate of 4 trips per day per commuting employee and 2 trips per day per employee living onsite), 2 trips per day for the import of agricultural materials and supplies needed for the cultivation operation (1 in/1 out), and 2 trips per day for the export of cannabis products (1 in/1 out).

Lighting

The proposed project site currently has outdoor lighting that is used for security purposes. In addition, there is limited lighting associated with the existing residence, processing building, and other accessory buildings. These sources of light are limited and do not generate large amounts of light either on or offsite. Similar lighting would be used in the additional areas proposed for cultivation by this application. In addition, there would be limited lighting associated with the proposed processing building. The County Cannabis Cultivation Ordinance (Ordinance No. 315-823 and amendments) requires that the light generated by the proposed project meets the following requirement: 1) lighting shall be downcast, shielded and/or screened to keep light from emanating offsite or into the sky, and (2) lighting in greenhouses shall be shielded so that little to no light escapes, and light shall not escape at a level that is visible from neighboring properties between sunset and sunrise. If portions of the cultivation areas are converted to mixed-light cultivation in the future, using artificial lighting, the applicant will be required to comply with the County Cannabis Ordinance and ensure that little to no light escapes from the greenhouses. As discussed above, the applicant proposes the use of tarps to shield artificial lighting and prevent light pollution in the project vicinity.

Sewage Disposal

An existing onsite wastewater treatment system (OWTS) serves the existing residence. The applicant proposes to use the existing OWTS for permanent and seasonal employees at the cannabis operation. The applicant will provide portable toilets for additional temporary employees that may be needed on a seasonal basis when the number of employees exceeds six (6) persons. Portable toilet wastewater will be disposed of at a permitted disposal facility.

Water Supply

As shown in Figure 2 – Site Plan, water for the residence is primarily supplied by a domestic well, which is approximately 100 feet deep and has a flow rate of approximately 7.5 gallons per minute (gpm). Additional domestic water is supplied by a year-round spring on the property. Irrigation water for the cannabis operation is supplied by an agricultural well, which is approximately 200 feet deep and has a flow rate of approximately 40 gpm (see Figure 2 – Site Plan). The agricultural well will serve all cultivation activities and can produce over 20 million gallons annually. Irrigation methods include hand watering, drip irrigation, and sprinklers. The total water usage for the proposed cannabis project is estimated to be approximately 600,000 gallons per year.

The applicant's draft CDFW LSAA includes the improvement of the existing spring diversion system. The existing diversion consists of a PVC pipe protruding horizontally from the origin of a year-round flowing spring to its confluence with an unnamed Class Ill stream approximately 100 feet downstream. The Class Ill stream terminates in an alluvial fan approximately one-half mile downstream of the confluence. The diversion will be upgraded by the installation of a gravity-feed spring box around the PVC pipe and the intake will be screened. The spring box will include two separate outlets: one for bypass flow and one for domestic diversion. The domestic diversion outlet will be placed several inches above the bypass outlet. Placing the diversion outlet above the bypass outlet is intended to ensure the majority of flow is directed into the downstream tributary and that domestic diversion only occurs when water is abundant. An in-line flow meter will be installed at the domestic outlet to measure and monitor water volumes diverted from the source. The spring box will be hand dug into the bed of the spring and will disturb an area approximately four feet by four feet. No vegetation removal is required, and work will be performed in late summer under the driest conditions possible. Any flow from the existing PVC pipe will be diverted around the work area using hose or pipe and directed back into the channel.

As indicated on Figure 2 – Site Plan, water storage for the cannabis operation includes 4,825 gallons in total. The water storage for domestic uses includes approximately 8,800 gallons in total. Water supply for fire suppression is provided by an approximately 300,000-gallon pond that captures rainwater.

Water Quality

Impacts to water quality associated with the existing cannabis cultivation activities at the project site were initially regulated by the North Coast Regional Water Quality Control Board (NCRWQCB) under Order No. 2015-0023 and were required to transition to regulations of the State Water Resources Control Board (SWRCB) Order No. WQ 2019-0001-DWQ (previously WQ 2017-0023-DWQ) by July 1, 2019. Additionally, the Cannabis Ordinances developed by the County identifies specific requirements for water use and water quality, including compliance with Senate Bill 94 (SB 94) and any applicable NCRWQCB or SWRCB regulations. These existing regulatory requirements address implementation of all applicable best practicable treatment or control (BPTC) measures and submittal of a Site Management Plan (SMP). The Site Management Plan prepared for the project site can be found in Appendix C (TRC, 2020). As the proposed build-out of the project occurs, this Plan will need to be amended to reflect the modified conditions at the site.

Electricity and Gas

Electricity is provided to the project site by Pacific Gas & Electric (PG&E). The existing trailers are not permanent and are not connected to electric or water utilities. The site utilizes two (2) propane tanks for gas service. One propane tank is for domestic use, and the other is for heating the greenhouse used for the propagation of immature cannabis plants and/or clones. If portions of the cultivation areas are converted to mixed-light cultivation in the future, using artificial lighting, it is anticipated

that emergency generators will be required in the case of a power outage or public power safety shutoff. All electricity sources used for commercial cannabis cultivation shall be from renewable-compliant sources by conforming to standards consistent with California Code of Regulations Title 3, Division 8, Chapter 1, Section 8305 by January 1, 2023.

Biological Resources

Vegetation communities on the project parcel include of Douglas-fir forest, chaparral, annual grassland, and ruderal/developed areas. The overstory is dominated by Douglas fir (*Pseudostuga menziesii*), Oregon white oak (*Quercus garryana*), California black oak (*Quercus kelloggii*), and ponderosa pine (*Pinus ponderosa*), with additional canopy coverage provided by Pacific madrone (*Arbutus menziesii*). The understory is comprised of manzanita (*Arctostaphylos spp.*) and there is adequate ground cover from grasses throughout the property. Several surface water features are located on the project parcel, including a rainwater pond, a spring, seasonal wetland, and several channels forming the headwaters of the Van Duzen River. In areas around the pond and stream channel's, riparian vegetation is primarily composed of willow (*Salix spp.*) (Appendix C; TRC, 2020).

A Biological Assessment (BA) was prepared for the project by Natural Investigations Company (Appendix A; NIC, 2019a), which analyzes the potential impacts to special-status animal and plant species from the proposed expansion of cannabis cultivation on the site. The BA concludes that with the implementation of the recommendations in the report, impacts to special-status plant and animal species would be reduced to less than significant.

Documentation and References

CDFW (California Department of Fish and Wildlife). 2018. *Draft Lake or Streambed Alteration Agreement, Notification No. 1600-2018-0134-R1, Water Diversion on Unnamed Tributary to the Van Duzen River, Trinity County APN# 202-120-25-00*. May 24, 2018.

NIC (Natural Investigations Company). 2019a. *Biological Site Assessment for the Cannabis Cultivation Operation at 1760 West Hettenshaw Road, Zenia, California.* February 11, 2019.

Trinity County. 2020. *Volume 2 Revised Draft Environmental Impact Report – Trinity County Cannabis Program.* November 2020.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

Trinity County. 1988. *General Plan – Land Use Element.* 1988.

TRC (Trinity River Consulting). 2020. *Site Management Plan, Jeff Ghidella, 1760 West Hettenshaw Road, Hettenshaw Valley, California, 95595, Trinity County APN: 020-120-25-00*. WDID: 1_53CC417759. June 2.

Section 3 – Environmental Impacts and Mitigation Measures

This chapter provides an evaluation of the potential environmental impacts of the proposed cannabis cultivation for the Little Hill Type 3 Cannabis Cultivation Conditional Use Permit (P-19-30) project, as well as the CEQA Mandatory Findings of Significance. A discussion of cumulative impacts is included at the end of this chapter. The issue areas evaluated in this Initial Study include:

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

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the State CEQA Guidelines and used by the County in its environmental review process. For the preliminary environmental assessment undertaken as part of this Initial Study's preparation, a determination that there is a potential for significant effects indicates the need to more fully analyze the proposed project's impacts and identify mitigation.

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the development. To each question, there are four possible responses:

- **No Impact.** The development will not have any measurable impact on the environment.

- **Less Than Significant Impact.** The development will have the potential for impacting the environment, although this impact will be below established thresholds that are considered to be significant.

- **Potentially Significant Impact Unless Mitigation Incorporated.** The development will have the potential to generate impacts which may be considered as a significant effect on the environment, although mitigation measures or changes to the development's physical or operational characteristics can reduce these impacts to levels that are less than significant.

- **Potentially Significant Impact.** The development will have impacts which are considered significant, and additional analysis is required to identify mitigation measures that could reduce these impacts to less than significant levels.

All answers must take into account the whole action involved, including potential off and onsite, indirect, direct, construction, and operation, except as provided for under State CEQA Guidelines Section 15183 and State CEQA Statute Section 21083. The setting discussion under each resource section in this chapter is followed by a discussion of impacts and applicable mitigation measures.

This Initial Study identifies several potentially significant environmental effects related to the proposed project. Some effects are mitigated by implementation of existing provisions of law and standards of practice related to environmental protection. Such provisions are considered in the environmental impact analysis, and the degree to which they would reduce potential environmental effects is discussed. Additional mitigation measures are specifically identified when necessary, to avoid potential environmental effects or to reduce them to a level that is less than significant.

I. **AESTHETICS:** *Would the project:*	Potentially Significant Impact	Potentially Significant Impact Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?				**X**
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?				**X**
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			**X**	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			**X**	

Environmental Setting

The project site is located in a rural and unincorporated region of Trinity County known as Hettenshaw Valley. The project area is characterized by forested mountainous terrain surrounding an open valley floor. The project site is within a relatively flat and open area surrounded by forested slopes to the east and west (Trinity County, 2022b). The existing built environment in the vicinity of the proposed project includes West Hettenshaw Road, East Hettenshaw Road, private driveways, and rural residential development to the south.

Scenic vistas are defined as expansive views of highly valued landscapes from publicly accessible viewpoints. Scenic vistas include views of natural features such as topography, water courses, outcrops, and natural vegetation, as well as man-made scenic structures. The County has not designated specific scenic vistas in the immediate project area as a part of the General Plan (Trinity County, 1973).

California's Scenic Highway Program was created by the Legislature in 1963. Its purpose is to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. According to Caltrans' California Scenic Highway Program and the National Scenic Byways Program, the proposed project is not located near a highway which has been listed as a State or federal Scenic Highway or as an Eligible State Scenic Highway-Not Officially Designated (Caltrans, 2022). Additionally, the project is not located on a National Scenic Byway System route.

The existing use of the site is typical of a rural cannabis cultivation operation and includes cultivation areas, residence, processing building, and other accessory buildings and associated improvements (e.g., access roads, wells, etc.). The project site currently has outdoor lighting that is used for security purposes at the existing residence, processing building, and other accessory buildings. These sources of light are limited and do not generate large amounts of light either on- or off-site.

Impact Analysis

The following includes an analysis of environmental parameters related to *Aesthetics* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department and other agency staff, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

a) *Would the project have a substantial adverse effect on a scenic vista?*

There are no designated scenic vistas in the project vicinity, and the proposed development is consistent with current uses. The proposed project would also be required to comply with the County Cannabis Cultivation regulations, which includes performance standards related to site maintenance and visual screening requirements (Trinity County, 2022). Based on these factors, the proposed project would not have a substantial adverse effect on a scenic vista. Therefore, the proposed project would result in no impact on this resource category.

b) *Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?*

The proposed project is not located near a highway which has been listed as a State or federal Scenic Highway or as an Eligible State Scenic Highway-Not Officially Designated (Caltrans, 2022). Additionally, the project is not located on a National Scenic Byway System route. The project proposes expansion of an existing cannabis cultivation operation and would not change the visual character of the area. Based on these factors, the proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway. Therefore, the proposed project would result in no impact on this resource category.

c) *Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

The project site is located in a rural and unincorporated region of Trinity County. Public views of the project site and its surroundings are sparse due to its rural location and limited access. The existing visual character of the project site is typical of a rural cannabis cultivation operation, including cultivation areas, residence, processing building, and other accessory buildings and associated improvements (e.g., access roads, wells, etc.). Cannabis operations of similar visual character occur in the project vicinity, particularly to the south. Because the project proposes to develop additional cultivation areas nearby existing developed areas, the proposed project will be consistent with the existing visual character of the site. The proposed project is subject to the 2020 Trinity County Cannabis Program FEIR's mitigation measures relating to aesthetics (3.1-1a, 3.1-1b, 3.1-1c, 3.1.2). The mitigation measures require screening cultivation sites from scenic roadways, require a trash-free project site, and ensure fencing/ covering blend in with natural conditions onsite. Current project design is following established mitigation measures, and applications for license renewal require the County inspect the property for continued compliance with these measures before approval (Trinity County, 2020).

Based on the information provided above, the proposed project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. Therefore, the proposed project would result in a less than significant impact on this resource category.

d) *Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

Light pollution occurs when nighttime views of the stars and sky are diminished by an over-abundance of light coming from the ground. Light pollution is a potential impact from the use of any light source at night. Proper light shields, lighting design, and landscaping are commonly used to reduce light pollution generated from lighting by blocking the conveyance of light upwards. The result is that the lights are not visible from above; therefore, ambient light is not added to the nighttime sky. In addition, light reflecting off surfaces during daylight hours has the potential to create a source of glare in the vicinity of a project.

The project site currently has outdoor lighting that is used for security purposes, as well as outdoor lighting associated with the existing residence, processing building, and other accessory buildings. Similar lighting would be used in the additional areas proposed for cultivation. In addition, there would be limited lighting associated with the proposed processing building. Pursuant to 3 CCR Section 8304(c), all outdoor lighting used for security purposes would be shielded and downward facing. The proposed project would also be required to comply with County Code Sections 17.43.060.L, which requires that all lighting associated with the proposed project shall be downcast, shielded and/or screened to

keep light from emanating offsite or into the sky. The lighting performance standards in the County Code are consistent with CCR Section 8304(c) regarding state licensing requirements for cannabis cultivation.
In the future, the proposed project could potentially include the conversion of outdoor cultivation areas to mixed-light cultivation areas using artificial lighting. Pursuant to 3 CCR Section 8304(g), the applicant would be required to utilize tarps to ensure that lights used for cultivation are shielded from sunset to sunrise to avoid nighttime glare. If the applicant modified their operations to switch to artificial lighting for mixed-light cultivation activities, they would also be subject to the requirements of County Code Section 17.43.060.M. Section 17.43.060.M requires that "Those cultivations using artificial lighting for mixed-light cultivations shall shield greenhouses so that little to no light escapes. Light shall not escape at a level that is visible from neighboring properties between sunset and sunrise." The lighting performance standards in the County Code are consistent with CCR Section 8304(g) regarding state licensing requirements for cannabis cultivation.

Based on the information provided above, the proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Therefore, the proposed project would result in a less than significant impact on this resource category.

Mitigation Measures

No mitigation measures are required. Impacts would be less than significant.

Findings

In the course of the above evaluation, impacts associated with *Aesthetics* were found to be less than significant.

Documentation and References

Caltrans (California Department of Transportation). *California Scenic Highway System*. 2022. [Online]: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed February 5, 2022.

NSBP (National Scenic Byways Program). 2022. [Online]: fhwa.dot.gov/byways/states/CA. Accessed February 5, 2022.

NWSRS (National Wild and Scenic Rivers System). 2022. [Online]: https://www.rivers.gov/california.php. Accessed February 5, 2022.

Trinity County. 2022a. *Trinity County, CA - Code of Ordinances*. [Online]: https://library.municode.com/ca/trinity_county/codes/code_of_ordinances. April 1.

Trinity County. 2022b. *Trinity County Parcel Viewer.* [Online]: http://trinitycounty.maps.arcgis.com/apps/Viewer/index.html?appid=320cf1c1558c43c8b1f2f70c23d35026. Accessed: February 5, 2022.

Trinity County. 2020. *Volume 2 Revised Draft Environmental Impact Report – Trinity County Cannabis Program.* November 2020.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

Trinity County. 1988. *General Plan – Land Use Element.* 1988.

Trinity County. 1973. *General Plan – Open Space and Conservation Element*. April 1973.

II. AGRICULTURE AND FORESTRY RESOURCES: *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural, Land Evaluation and Site Assessment Mode (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:*	**Potentially Significant Impact**	**Potentially Significant Impact Unless Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				**X**
b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?				**X**
c) 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))?				**X**
d) Result in the loss of forest land or conversion of forest land to non-forest use?				**X**
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				**X**

Environmental Setting

The project site is located in a rural and unincorporated region of Trinity County known as Hettenshaw Valley. The project area is characterized by forested mountainous terrain surrounding an open valley floor. The project site is within a relatively flat and open area surrounded by forested slopes to the east and west. The project site has a County General Plan designation of Resource (RE), which promotes natural resource and agricultural uses, and a Zoning designation of Unclassified (U), which allows forestry and agricultural uses, as well as other related uses under a County Use Permit. The existing use of the site is typical of a rural cannabis cultivation operation and includes cultivation areas, a residence, processing building, and other accessory buildings and associated improvements (e.g., access roads, wells, etc.).

Impact Analysis

The following includes an analysis of environmental parameters related to *Agricultural Resources* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department and other agency staff, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

a) *Would the project convert Prime Farmland, Unique Farmland, or Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

Prime Farmland within Trinity County has not yet been mapped by the California Department of Conservation's Important Farmland Series Mapping and Monitoring Program (DOC, 2022). In addition, according to NRCS, soils contained within the project site are not considered Prime Farmland (NRCS, 2022). The project site has been developed to accommodate the existing residence and cannabis cultivation operation. The County General Plan has designated the area as Resource (RE), which allows for agricultural production. Based on the above information, the proposed project will not convert Prime Farmland, Unique Farmland, or Statewide Importance (Farmland) to non-agricultural use. No impact would occur in this regard.

b) *Would the project conflict with existing zoning for agricultural use, or a Williamson Act Contract?*

The proposed project site is not currently zoned for agricultural uses or under a Williamson Act contract. Therefore, project implementation would not result in conflicts with existing agricultural zoning. No impact would occur in this regard.

c) *Would the project 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))?*

The project site is zoned Unclassified (U) and is not under a current Timberland Production contract. No impact would occur in this regard.

d) *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

The project site is within a relatively flat and open area surrounded by forested slopes to the east and west. Minor grading and vegetation removal will be required to prepare the proposed cultivation areas for the construction of the raised beds and/or placement of individual pots. However, the County has designated the area as Resource (RE), which allows for agricultural production. Developing the property for uses consistent with the County General Plan would not result in the conversion of Farmland to non-agricultural use or forest land to a non-forest use. No impact would occur in this regard.

e) *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?*

As discussed above, implementation of the proposed project would not result in a conversion of farmland to non-agricultural use or forest land to non-forest use. Although the proposed project would expand the cannabis operation on the project site, it would not result in the loss of farmland or forest land. The County has designated the area as Resource (RE), which allows for agricultural production. Developing the property for uses consistent with the County General Plan would not result in the conversion of Farmland to non-agricultural use or forest land to a non-forest use. No impact would occur in this regard.

Mitigation Measures

No mitigation measures are required. Impacts would be less than significant.

Findings

In the course of the above evaluation impacts associated with *Agricultural Resources* were found to be less than significant.

Documentation and References

DOC (California Department of Conservation). 2022. Farmland Mapping and Monitoring Program. [Online]: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed February 4, 2022.

NRCS (Natural Resource Conservation Service). 2022. *Web Soil Survey.* [Online]: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed February 4, 2022.

Trinity County. 2020. *Volume 2 Revised Draft Environmental Impact Report – Trinity County Cannabis Program.* November 2020.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

Trinity County. 1973. *General Plan – Open Space and Conservation Element*. April 1973.

III. AIR QUALITY: *Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:*	**Potentially Significant Impact**	**Potentially Significant Impact Unless Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?			**X**	
b) 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?			**X**	
c) Expose sensitive receptors to substantial pollutant concentrations?			**X**	
d) Result in other emissions (such as those leading to odors) affecting a substantial number of people?			**X**	

Environmental Setting

The project is located in Trinity County, which is a part of the North Coast Air Basin (NCAB). The NCAB extends for 250 miles from Sonoma County in the south to the Oregon border. The climate of NCAB is influenced by two major topographic units: the Klamath Mountains and the Coast Range provinces. The climate is moderate with the predominant weather factor being moist air masses from the ocean. Average annual rainfall in the area is approximately 50 to 60 inches with the majority falling between October and April. Predominate wind direction is typically from the northwest during summer months and from the southwest during winter storm events.

North Coast Unified Air Quality Management District. Project activities are subject to the authority of the North Coast Unified Air Quality Management District (NCUAQMD) and the California Air Resources Board (CARB). The NCUAQMD is listed as "attainment" or "unclassified" for all the federal and state ambient air quality in Trinity County. The only exception is for 24-hour particulate (PM_{10}) standards in Humboldt County (which is not a part of the project area) (NCUAQMD, 2022). Due to the large size of the NCUAQMD, it is well understood that particulate matter can travel from other areas into Humboldt County (such as from Trinity County) and affect air quality. In the NCUAQMD, particulate matter has been determined to be primarily from vehicles, with the largest source of fugitive emissions from vehicular traffic on unpaved roads.

In determining whether a project has significant air quality impacts on the environment, agencies often apply their local air district's thresholds of significance to project in the review process. The District has not formally adopted specific significance thresholds, but rather utilizes the Best Available Control Technology (BACT) emissions rates for stationary sources as defined and listed in the NCUAQMD Rule and Regulations, Rule 110 – New Source Review (NSR) and Prevention of Significant Deterioration (PSD), Section 5.1 – BACT (pages 8-9) (NCUAQMD, 2022).

Sensitive Receptors. Sensitive receptors (e.g., children, senior citizens, and acutely or chronically ill people) are more susceptible to the effect of air pollution than the general population. Land uses that are considered sensitive receptors typically include residences, schools, parks, childcare centers, hospitals, convalescent homes, and retirement homes.

The project site is surrounded by vacant, undeveloped land, or agricultural uses and there are no structures or sensitive receptors immediately adjacent to the site. Proposed cultivation areas are approximately 347 feet from APN 020-120-024 to the north and 435 feet from APN 020-120-010 to the south. According to the applicant, the nearest sensitive receptor (residence) is located on parcel 020-120-023 approximately 2,250 feet from the northern property line and approximately 2,600 feet from the nearest proposed cultivation area.

Criteria Air Pollutants. Criteria air pollutants and toxic air contaminants are regulated by the NCUAQMD, CARB, and the Environmental Protection Agency (EPA). Exposure to criteria air pollutants and toxic air contaminants can cause a myriad of adverse health effects in humans. Human health effects of criteria air pollutants are summarized below in Table 1.

Table 1
Criteria Air Pollutants, Common Sources, and Health Effects

Pollutant	Major Sources	Human Health Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust (CAPCOA, 2022).	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death (CAPCOA, 2022).
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel (CAPCOA, 2022).	A respiratory irritant; aggravates lung and heart problems. A precursor to ozone. Contributes to global warming and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere (CAPCOA, 2022).
Ozone (O_3)	A colorless or bluish gas (smog) formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (NO_x) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills (CAPCOA, 2022).	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield (CAPCOA, 2022).
Particulate Matter (PM_{10} & $PM_{2.5}$)	Produced by power plants, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and others (CAPCOA, 2022).	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; asthma; chronic bronchitis; irregular heartbeat; non-fatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (CAPCOA, 2022).
Sulfur Dioxide (SO_2)	A colorless gas formed when fuel containing sulfur is burned and when gasoline is extracted from oil. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships (CAPCOA, 2022).	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain (CAPCOA, 2022).
Hydrogen Sulfide (H_2S)	A colorless gas with the odor of rotten eggs. The most common sources of H_2S emissions are oil and natural gas extraction and processing, and natural emissions from geothermal fields. It is also formed during bacterial decomposition of human and animal wastes and is present in emissions from sewage treatment facilities and landfills. Industrial sources include petrochemical plants, coke oven plants, and kraft paper mills (CARB, 2022a).	Can induce tearing of the eyes and symptoms related to overstimulation of the sense of smell, including headache, nausea, or vomiting. A few studies suggest that asthmatics may be at increased risk of exacerbation of their asthma symptoms (CARB, 2022a).
Lead	Metallic element emitted from metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries (CARB, 2022b).	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems (CARB, 2022b).
Sulfate	A sub-fraction of ambient particulate matter. Emissions of sulfur-containing compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. A small amount of sulfate is directly emitted from combustion of sulfur-containing fuels, but most ambient sulfate is formed in the atmosphere (CARB, 2022c).	Much like health effects of $PM_{2.5}$, sulfate can cause reduced lung function, aggravated asthmatic symptoms, and increased risk of emergency department visits, hospitalizations, and death in people who have chronic heart or lung diseases (CARB, 2022c).
Vinyl Chloride	A colorless gas with a mild, sweet odor. Most vinyl chloride is used in the process of making polyvinyl chloride (PVC) plastic and vinyl products, thus may be emitted from industrial processes. Vinyl chloride has been detected near landfills, sewage treatment plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents (CARB, 2022d).	Short-term exposure to high levels (10 ppm or above) of vinyl chloride in air causes central nervous system effects, such as dizziness, drowsiness, and headaches. The primary non-cancer health effect of long-term exposure to vinyl chloride through inhalation or oral exposure is liver damage. Inhalation exposure to vinyl chloride has been shown to increase the risk of angiosarcoma, a rare form of liver cancer in humans (CARB, 2022d).
Visibility Reducing Particles	These particles vary greatly in shape, size and chemical composition, and come from a variety of natural and manmade sources. Some haze-causing particles are directly emitted to the air such as windblown dust and soot. Others are formed in the air from the chemical transformation of gaseous pollutants (e.g., sulfates, nitrates, organic carbon particles) which are the major constituents of fine PM. These fine particles, caused largely by combustion of fuel, can travel hundreds of miles causing visibility impairment (CARB, 2022e).	Haze not only impacts visibility, but some haze-causing pollutants have been linked to serious health problems and environmental damage as well. Exposure to particles up to 2.5 ($PM_{2.5}$) and 10 microns (PM_{10}) in diameter in the ambient air can contribute to a broad range of adverse health effects, including premature death, hospitalizations and emergency department visits for worsened heart and lung diseases (CARB, 2022e).

Naturally Occurring Asbestos. Naturally Occurring Asbestos (NOA) was identified as a Toxic Air Contaminant (TAC) in 1986 by the California Air Resources Board (CARB). NOA is located in many parts of California, and is commonly associated with ultramafic rocks, according to a special publication by the California Geological Survey (Churchill and Hill, 2000). Asbestos is the common name for a group of naturally occurring fibrous silicate minerals that can separate into thin but strong and durable fibers. Ultramafic rocks form in high-temperature environments well below the surface of the earth. By the time they are exposed at the surface by geologic uplift and erosion, ultramafic rocks may be partially to completely altered into a type of metamorphic rock called serpentinite. Sometimes the metamorphic conditions are right for the formation of chrysotile asbestos or tremolite-actinolite asbestos in the bodies of these rocks, along their boundaries, or in the soil. According to the report, A General Location Guide to Ultramafic Rocks in California—Areas More Likely to Contain Naturally Occurring Asbestos, there are areas of Trinity County in which asbestos is likely to occur (Churchill and Hill, 2000). The project site is located in the Hettenshaw Valley and is not identified as an area that likely to contain NOA (USGS, 2011).

Impact Analysis

The following includes an analysis of environmental parameters related to *Air Quality* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department and other agency staff, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

a) *Would the project conflict with or obstruct implementation of the applicable air quality plan?*

The NCUAQMD prepared a *Draft Particulate Matter Attainment Plan* in May 1995, which is only applicable to portions of the District which are nonattainment for PM_{10} (e.g., Humboldt County). Since Trinity County is in attainment or unclassified for all federal and state ambient air quality standards, including the standards for particulate matter, the project is not subject to the NCUAQMD Attainment Plan. As such, the proposed project would not conflict or obstruct implementation of an applicable air quality plan. Therefore, the proposed project would result in a less than significant impact on this resource category.

b) *Would the project 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?*

Criteria air pollutants have the potential to be generated during both construction and operation of the proposed project. Trinity County is listed as being in attainment for all federal and State ambient air quality standards (AAQS). Although Trinity County is in attainment or unclassified for all federal or State AAQS, it is still appropriate to analyze whether the project would result in a cumulatively considerable net increase, since other counties in the NCAB are nonattainment for PM_{10}.

Construction. As described in Section 2 – PROJECT DESCRIPTION, the proposed project requires limited site preparation and construction activities. These activities have the potential to create minor amounts of fugitive dust and diesel exhaust (i.e., PM_{10}). However, due to the limited scope and scale of construction activities, the proposed project is not of the nature to generate significant amounts of criteria air pollutants. Heavy equipment used for site preparation and construction are generally subject to off-road equipment emission standards from the California Air Resources Board (CARB) and exceeding those standards may constitute a "nuisance" condition and can be mitigated by proper equipment maintenance. Emissions from construction equipment will occur for a limited period of time and the equipment will be maintained to meet current emissions standards as required by the CARB.

Furthermore, because construction activities associated with the proposed project would not result in emissions of criteria air pollutants for which the Trinity County is considered in "nonattainment", construction emissions would not result in a cumulatively considerable net increase of "nonattainment" criteria air pollutants in Trinity County.

Operation. The project site is accessed from Highway 36, Van Duzen Road, Ruth-Zenia Road, and W Hettenshaw Road, which are paved for most of the route to the project site. For example, the distance from Highway 36 to the project site is approximately 18 miles, and less than 10 percent of this route occurs on unpaved roads. Since 90 percent of the route from Highway 36 to the project site is paved, vehicle use associated with the project would primarily be on paved roads that would minimize the potential generation of fugitive dust emissions. Vehicle/truck trips during operation of the project are estimated to be up to 30 trips daily. The conclusion in the Trinity County Cannabis Program FEIR related to particulate matter from vehicle travel on dirt roads (i.e., cumulatively significant and unavoidable) is based on the assumption that many cannabis operations would be accessed by long stretches of unpaved roads. However, that is not the case for the project site. Since a very small portion of the route to the project site would occur on unpaved roads, vehicle traffic associated with the project is not expected to generate dust emissions that would cause a substantial increase in PM_{10} within the surrounding area, Trinity County, or the NCUAQMD. Expansion of an existing cannabis cultivation operation within the Hettenshaw Valley is not anticipated to result in a significant increase in vehicle miles traveled (see Section XVII – TRANSPORTATION) and associated vehicular exhaust emissions.

If portions of the cultivation areas are converted to mixed-light cultivation using artificial lighting, it is anticipated that emergency generators will be required in the case of a power outage or public power safety shutoff. Use of emergency generators has the potential to generate diesel exhaust (i.e., PM_{10}). However, use of emergency generators will be reserved for situations where existing Pacific Gas & Electricity (PG&E) lines are unable to provide electricity to the project site. All generators used would follow the California Air Resources Board (CARB) threshold for participation in the Portable Equipment Registration Program (PERP). The purpose of the PERP program is to reduce diesel particulate matter emissions from portable diesel-fueled engines with a horsepower of 50 or greater (CARB, 2020). Generators under this threshold would not be considered to generate significant emission. Additionally, generators will be required to comply with 3 CCR Section 8306, which establishes specific requirements for the use and registration of generators rated below or above fifty (50) horsepower.

To reduce potential impacts from the generation of criteria air pollutants, the proposed project is required to comply with the following air quality performance standards established in the Trinity County Cannabis Program EIR:

- 3.3-1a: Prohibit Burning Vegetation
- 3.3-1b: Implement Diesel Engine Exhaust Control Measures and Dust Control
- 3.3-1c: Use Alternative Fuels
- 3.3-2a: Limit the Use of Fossil Fuel-Powered Outdoor Power Equipment at All Commercial Cannabis Cultivation and Noncultivation Sites
- 3.3-2b: Require Use of Low Emission Diesel Back-Up Generators at All Commercial Cannabis Cultivation and Noncultivation Sites

Compliance with the above requirements would be verified by County staff through the annual review process required for cannabis licenses.

Based on the size, location, nature of the proposed project, compliance with the requirements of the Cannabis Program, and the fact that Trinity County is designated as "attainment" or "unclassified" for all the federal and State ambient air quality standards, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment (i.e., PM_{10}). As such, impacts from the proposed project would be less than significant.

c) *Would the project expose sensitive receptors to substantial pollutant concentrations?*

This discussion addresses whether the proposed project would expose sensitive receptors to substantial concentrations of criteria air pollutants or toxic air contaminants. As noted in the *Environmental Setting*, high concentrations of criteria air pollutants and toxic air contaminants can result in adverse health effects to humans. Some population groups are considered more sensitive to air pollution than others; in particular, children, elderly, and acutely or chronically ill persons, especially those with cardio-respiratory diseases such as asthma and bronchitis. Land uses that generally house more sensitive people include residences, schools, parks, childcare centers, hospitals, convalescent homes, and retirement homes.

The project site is surrounded by vacant, undeveloped land or agricultural uses and there are no structures or sensitive receptors immediately adjacent to the site. Proposed cultivation areas are approximately 347 feet from APN 020-120-024 to the north and 435 feet from APN 020-120-010 to the south. According to the applicant, the nearest sensitive

receptor (residence) is located on parcel 020-120-023 approximately 2,250 feet from the northern property line and approximately 2,600 feet from the nearest proposed cultivation area. Due to the nature and size of the project, construction and operational activities are not expected to generate air quality pollutants that would cause a significant impact.

Construction. During construction of the proposed project, there is the potential for the generation of emissions of criteria air pollutants and toxic air contaminants including, but not limited to, NO_x, CO, fugitive dust, and diesel particulate matter. Due to the size and nature of the proposed project, construction activities are not expected to generate significant emissions of criteria air pollutants or toxic air contaminants. As discussed above, the project site does not contain NOA that could be released during construction activities such as site preparation and grading (USGS, 2011). Since the closest sensitive receptors to the project site are approximately 2,250 feet from the northern property line, the potential to impact sensitive receptors with emissions from construction is limited, and impacts would be less than significant.

Operation. A cannabis cultivation operation is not a type of land use that would generally be considered to emit toxic emissions that would expose sensitive receptors to substantial pollutant concentrations. These types of land uses typically include combustion related power plants, gasoline dispensing facilities, asphalt batch plants, warehouse distribution centers, and quarry operations. However, the proposed project does have the potential to result in the emissions of criteria air pollutants and toxic air contaminants including fugitive dust and diesel particulate matter, which would be primarily from vehicle/truck traffic and the use of generators.

As discussed above, approximately 90 percent of the route from Highway 36 to the project site is paved. As such, vehicle use associated with the project would primarily be on paved roads that would minimize the potential generation of fugitive dust emissions. Vehicle/truck trips during operation of the project are estimated to be up to 30 trips daily. The conclusion in the Trinity County Cannabis Program FEIR related to particulate matter from vehicle travel on dirt roads (i.e., cumulatively significant and unavoidable) is based on the assumption that many cannabis operations would be accessed by long stretches of unpaved roads. However, that is not the case for the project site. Since a very small portion of the route to the project site would occur on unpaved roads, vehicle traffic associated with the project is not expected to generate substantial dust concentrations. Expansion of an existing cannabis cultivation operation within the Hettenshaw Valley is not anticipated to result in a significant increase in vehicle miles traveled (see Section XVII – TRANSPORTATION) and associated vehicular exhaust emissions. Therefore, vehicle trips associated with the project are not expected to generate emissions that would expose sensitive receptors to substantial pollutant concentrations.

If portions of the cultivation areas are converted to mixed-light cultivation using artificial lighting, it is anticipated that emergency generators will be required in the case of a power outage or public power safety shutoff. Use of emergency generators has the potential to generate diesel exhaust. However, use of emergency generators will be reserved for situations where existing PG&E lines are unable to provide electricity to the project site. Emergency generators will be required to comply with 3 CCR Section 8306, which establishes requirements for the use and registration of generators rated above or below fifty (50) horsepower. Therefore, the operation of generators for emergency use would not result in substantial pollutant concentrations affecting sensitive receptors.

Cultivation operations also have the potential to generate emissions from pesticide use. State buffer zone regulations typically require pesticide applications to be administered a minimum of 300 feet from sensitive receptors (e.g., residences) (Owens and Feldman, 2004). Pursuant to 3 CCR Section 8106, the proposed project will implement a Pest Management Plan that includes chemical, biological, and cultural methods the applicant anticipates using to control or prevent the introduction of pests on the cultivation site. Furthermore, the proposed project would be required to comply with 3 CCR Section 8307, which among other requirements, includes protocols for the prevention of pesticide drift to reduce potential impacts from pesticide application. As such, the proposed project is not anticipated to result in substantial pollutant concentrations from pesticide use.

Based on the size, location, nature of the proposed project, and compliance with the requirements of the Cannabis Program, the project would not expose sensitive receptors to substantial pollutant concentrations. Therefore, impacts from the proposed project would be less than significant.

d) *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

Construction. During construction of the proposed cannabis operations, there is the potential for the generation of objectionable odors in the form of diesel exhaust, which may be considered offensive to some individuals. The generation of these odorous emissions would vary on a day-to-day basis depending on the type of onsite activities taking place. However, the types of diesel emitting equipment would not be unlike other diesel-powered equipment used in developed areas of the county. Moreover, such emissions would be intermittent in nature and would dissipate rapidly with increasing distance from the source.

Operation. During long-term operation of the proposed cannabis operations, there is the potential for the generation of objectionable odors in the form of cannabis cultivation, drying, and processing activities. The potential for odors to be perceived and considered objectionable depends on the size of a cannabis operation, the receptors, the strain of cannabis being cultivated/processed, the presence of nearby vegetation, and topographic and atmospheric conditions.

The Trinity County Cannabis Program Revised Draft EIR notes that dispersion modeling has been conducted by other counties to determine the distance from which cannabis odor may be detected. The results of this modeling indicated that specific cannabis compounds may be detectable at a distance of two miles or more depending on weather conditions. The EIR states that although research is limited, it is anticipated that the concentration of cannabis odors is not significant enough to create a public health concern for off-property residential receptors (Trinity County, 2020).

As described in the *Environmental Setting*, the proposed project is located in a rural region of Trinity County. Sensitive receptors in the vicinity of the project have the potential to occur within residences on adjacent parcels. According to the applicant, the nearest sensitive receptor (residence) is located on parcel 020-120-023 approximately 2,250 feet from the northern property line and approximately 2,600 feet from the nearest proposed cultivation area. While odors from flowering cannabis plants can be strong within the immediate vicinity of cultivation sites (especially right before and during harvest), the distance of the proposed cultivation areas to the nearest sensitive receptors and the low density of sensitive receptors will reduce any impacts to less than significant. In addition, many of the nearest sensitive receptors are themselves either cultivating cannabis and/or have immediate neighbors that are cultivating cannabis. As such, their tolerance for cannabis odors may be greater than that of the general public.

Additionally, Trinity County Code Section 17.43.G.040.E requires cannabis cultivation operators to develop and implement an Odor Control Plan (excluding properties zoned agricultural, agricultural-forest, or agricultural preserve). Any parcels cultivating cannabis surrounding the subject property would also be required to individually identify and describe odor-emitting activities and controls for reducing/controlling odors onsite. Since this Odor Control Plan requirement is inclusive of the Trinity County Cannabis Program, and no adjacent parcels are exempt zones (i.e., agricultural zoning), it is assumed that any adjacent cannabis projects would also be required to incorporate odor control measures into their individual projects, which would further reduce potential cumulative impacts in the project area. Creation and implementation of an Odor Control Plan is a requirement of the County Code and has been included as a condition of approval for the project. Odor control measures can include, but are not limited to, hoop/tarping outdoor cultivation, carbon filtration located within project structures, and planting companion plants (mint/rosemary) that blend with the cannabis odors.

As described in Section 2 – PROJECT DESCRIPTION, the applicant has applied for a Variance from Section 17.43.050.A.8 of the County Code, which requires a 500-foot setback from the property line for a medium cannabis cultivation site (see Figure 2 – Site Plan). The applicant is requesting a Variance to reduce the property line setback for cultivation activity from 500 feet to between 347-435 feet. The basis for the Variance request is that due to forested slopes and drainage-wetland setbacks on the property, there is limited area for the proposed cannabis cultivation activity to occur without encroaching into the 500-foot setback. If the 500-foot setback were complied with, it has the potential to result in greater impacts to the forested slopes and surface water features than would occur under the proposed project design.

The purpose of the 500-foot property line setback requirement provision in Trinity County Code Section 17.43.050.A.8. is to mitigate potential impacts (e.g., odors, noise, lighting, fugitive dust, etc.) to adjacent neighbors from cannabis cultivation activities. With the reduced setback from the property lines, the proposed project would still meet the functional equivalent of the minimum 500-foot setback since the nearest residence is approximately 2,600 feet away from the closest cultivation area. Due to the distance to the nearest sensitive receptor and the low density of residences in the project area, the reduced setback from the property lines would not expose a substantial number of people to odors. Additionally,

two property owners to the north and south of the project site have submitted letters of support for the applicant and the proposed project (Caballero, 2019; Mills, 2019).

As a condition of approval of the use permit, the Variance must be approved before the applicant can proceed with cultivation in the proposed cultivation area requiring the variance. Once a variance is issued by the County, the Variance is evaluated on an annual basis. Should odor from the project become an issue, the County could terminate the Variance approval and require relocation of the cultivation areas.

Since there are no sensitive receptors within close proximity to (within 500 feet of) the proposed cultivation areas, the reduced setback from the property lines would not expose a substantial number of people to odors. Based on the analysis above, the proposed project would result in a less than significant impact.

Mitigation Measures

No mitigation measures are required. Impacts would be less than significant.

Findings

In the course of the above evaluation impacts associated with *Air Quality* were found to be less than significant.

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IV. **BIOLOGICAL RESOURCES:** *Would the project:*	Potentially Significant Impact	Potentially Significant Impact Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Have a substantial effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local of regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			X	
c) Have a substantial adverse effect on state or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community, Conservation Plan, or other approved local, regional, or State habitat conservation plan?				X

Environmental Setting

The proposed project is located in a rural and unincorporated region of Trinity County, known as Hettenshaw Valley. Hettenshaw Valley is located in the West Fork Van Duzen River-Van Duzen River sub-watershed (HUC 12 180101050701). The project area is characterized by forested mountainous terrain surrounding an open valley floor. Maximum elevations on the project parcel range from approximately 3,160 feet in the eastern grassland slopes to 3,560 feet in the western forested slopes. On average, the project site receives approximately 64.88 inches of precipitation annually. The annual mean high temperature is 65.7 °F and the average low temperature in this area is 38.3°F (Appendix C; TRC, 2020).

As described in Section 2 – PROJECT DESCRIPTION, the current use of the project site includes up to 10,000 sf of cannabis cultivation, a residential dwelling and related infrastructure (e.g., groundwater well, water storage and distribution system, septic system, etc.). The applicant is currently licensed by Trinity County and the California Department of Cannabis Control (DCC) to cultivate up to 10,000 square feet of cannabis canopy. Existing development is concentrated at the center of the property, within a relatively flat and open area on the valley floor.

Implementation of the proposed project would require limited site preparation, clearing, and construction activities. Off-road construction vehicles/equipment will complete the proposed construction activities to prepare the site for cultivation activities. Construction activities will disturb less than one acre. Four project improvements (one spring diversion and three seasonal stream crossings) are included in the Draft Lake or Streambed Alteration Agreement Notification No. 1600-2018-0134-R1 prepared for the project (CDFW, 2018a). An additional unimproved Class III stream crossing (SC-5) was identified in the Site Management Plan prepared for the project along the access road leading to the stream (Appendix C; TRC, 2020).

Vegetation communities on the project parcel include of Douglas-fir forest, chaparral, annual grassland, and ruderal/developed areas. The overstory is dominated by Douglas fir (*Pseudostuga menziesii*), Oregon white oak (*Quercus garryana*), California black oak (*Quercus kelloggii*), and ponderosa pine (*Pinus ponderosa*), with additional canopy coverage provided by Pacific madrone (*Arbutus menziesii*). The understory is comprised of manzanita (*Arctostaphylos* spp.) and there is adequate ground cover from grasses throughout the property. Several surface water features are located on the project parcel, including a rainwater pond, a spring, seasonal wetland, and several channels forming the headwaters of the Van Duzen River. In areas around the pond and stream channel's, riparian vegetation is primarily composed of willow (*Salix* spp.) (Appendix C; TRC, 2020).

A query of the California Natural Diversity Database (CNDDB) reported no special-status species within the project parcel. During the field survey, no special-status species were detected within the project parcel. The grassland and ruderal/developed habitats in the eastern portion of the project parcel have a low potential to support special-status species (NIC., 2019a). According to the CNDDB, the closest reported historical Northern Spotted Owl (NSO) Activity Center (TRI0375) is located approximately 1 mile to the northeast of the cultivation area, with last reported observation in 2011 (CDFW, 2020). The forested area of this Activity Center has been recently burned by wildfire.

Impact Analysis

The following includes an analysis of environmental parameters related to *Biological Resources* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department and other agency staff, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

a) *Would the project have a substantial effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

A Biological Site Assessment was prepared for the project by Natural Investigations Co. (Appendix A; NIC, 2019a), which analyzes the potential impacts to special-status animal and plant species from the proposed expansion of cannabis cultivation on the site and the continued use of the site access road. The Biological Site Assessment included a review of literature and relevant databases to determine special-status animal and plant species with the potential to occur in the project area (Appendix A; NIC, 2019a). Based on a review of this information, reconnaissance-level surveys were conducted on the project site in January 2019.

The Biological Site Assessment identifies the special-status plant and animal species reported by CNDDB in the vicinity of the Study Area. No special-status plant or animal species were observed on the site during filed review. The non-native grasslands and ruderal/developed habitats within the Study Area have a low potential for harboring special-status plant species due to the dominance of aggressive non-native grasses and forbs. The forested portions of the project parcel have a moderate potential to support special-status plants, and the aquatic habitats within the project parcel provide suitable habitat for various special-status plant and animal species. Implementation of the proposed project may involve clearing of previously disturbed areas adjacent to existing development, but will not impact the forested habitat. The spring, pond, watercourses, seasonal wetlands, and willow-scrub wetlands within the Study Area can sustain aquatic special-status species and diverse wildlife species. (Appendix A; NIC, 2019a).

The Biological Site Assessment identified the potential to occur onsite, and included an impact analysis for the following:

- Northern spotted owl
- Nesting birds
- Aquatic wildlife
- Special-status plants

Northern Spotted Owl. Project implementation could result in disturbance to nesting northern spotted owls if they are present, potentially resulting in nest abandonment, nest failure, or mortality of chicks or eggs. The project is proposed to occur near existing development within a relatively flat and open area on the property (see Figure 2 – Site Plan). Construction of the proposed project would require limited site preparation, clearing, and construction activities. Off-road construction vehicles/equipment will complete the proposed construction activities to prepare the site for cultivation activities. Construction activities will disturb less than one acre.

The Biological Site Assessment notes that the Northern Spotted Owl (NSO) is unlikely to occur within the project parcel, particularly within the un-forested eastern portion of the parcel where the project is proposed. Although Designated

Critical Habitat for NSO is mapped by CNDDB immediately adjacent to the project parcel to the south and west, the western portion of the project parcel is younger forest regenerating from logging and does not exhibit typical habitat for this species (Appendix A; NIC, 2019a).

Mapped NSO habitat to the south of the project parcel includes primarily open grasslands which is not a habitat component typically used by this species, as defined by USFWS (Appendix A; NIC, 2019a). According to the CNDDB, the closest reported NSO Activity Center (TRI0375) is located approximately 1 mile to the northeast of the cultivation area on the project parcel, with last reported observation in 2011 (CDFW, 2020). The forested habitat for this Activity Center and surrounding area was burned by the August Complex fire in 2020 (USFS, 2020) and would no longer considered suitable habitat as described in the 2012 Revised Critical Habitat Rule for NSO (50 CFR Part 17) which applies to this region (USFWS, 2012). Expansion of the existing cannabis cultivation operations on the project parcel will be located in the grassland portion of the parcel and will not remove any suitable NSO habitat. Furthermore, the project will be subject to compliance with performance standards and regulations in the Trinity County Commercial Cannabis Cultivation Ordinance, including noise level standards, lighting standards, and rodent repellent use standards which have the potential to affect NSO.

Existing noise standards of the Trinity County Cannabis Ordinance are as follows: The cultivation of cannabis shall not exceed the noise level standards as set forth in the County General Plan: 55 A-weighted decibels (dBA) from 7:00 a.m. to 7:00 PM and 50 dBA from 7:00 PM to 7:00 AM measured at the property line, except that generators associated with a commercial grow are not to be used between 10:00 PM and 7:00 AM (Section 315-843[6][b]). The following additional noise performance standards shall apply to generator use:

- Project-generated sound must not exceed ambient nesting conditions by 20-25 dBA. Project-generated sound, when added to existing ambient conditions, must not exceed 90 dBA.

- The proposed project is powered by PG&E and would only use generators on an emergency back-up basis.

Existing lighting standards of the Trinity County Cannabis Ordinance are as follows: All lighting associated with the operation shall be downcast, shielded and/or screened to keep light from emanating offsite or into the sky. Those cultivations using artificial lighting for mixed-light cultivations shall shield greenhouses so that little to no light escapes. Light shall not escape at a level that is visible from neighboring properties between sunset and sunrise. Mixed-light cultivation does not include the use of artificial lighting. Any external security lighting will adhere to these standards.

Existing rodent repellent standards are as follows:

- All uses of pesticide products shall be in compliance with state pesticide laws and regulations enforced by the County Agricultural Commissioner's Office, Trinity County Environmental Health, and the California Department of Pesticide Regulation.

- Rodenticides that require a California Restricted Materials permit cannot be used, those that are designated as federally restricted use products can only be used by a certified applicator.

- The following rodent repellents may be used in and around cannabis cultivation sites consistent with the label: Capsicum oleoresin, putrescent whole egg solids and garlic.

While the proposed project occurs within 1.3 miles of known NSO occurrences, further mitigation will not be required for project activities due to the following: 1) habitat for the one historical Activity Center within 1.3 miles of the project was burned by the August Complex fire in 2020 and would no longer be considered suitable habitat for occupancy; 2) the proposed project will not remove any suitable NSO habitat; and 3) the project will comply with noise, lighting, and rodent repellant standards. Therefore, significant impacts to NSO would not occur from the proposed project.

Nesting Birds. Suitable nesting bird habitat is present on the property in the form of trees, poles, and dense brush. The project proposes minor grading and vegetation removal to prepare the proposed cultivation areas for the construction of the raised beds and/or placement of individual pots. Removal of vegetation, especially riparian vegetation, as well of conversion of natural habitats could disturb nesting birds if they are present, potentially resulting in nest abandonment,

nest failure, or mortality of chicks or eggs. Due to the potential for nesting and roosting activities on the perimeter of the project site, vegetation removal and other ground-disturbing activities for the proposed project should occur outside of the typical nesting season for migratory birds (non-nesting season, September through January).

The trees, shrubs, and grasses within the project parcel could be used by nesting migratory birds. Nesting migratory birds are protected under the Federal Migratory Bird Treaty Act and CDFW code. Consistent with the EIR for the Trinity County Cannabis Program (Trinity County, 2020), nesting bird surveys will occur for any vegetation clearing that is proposed to occur during the reproductive season. If project construction activities cannot occur outside the nesting bird season (generally February 1 through August 31, including raptors), Mitigation Measure BIO-1 shall be implemented, requiring a qualified biologist to conduct nesting bird surveys within the construction limits and within 100 feet (200 feet for raptors) of the construction limits. If active nests are encountered, species-specific measures shall be prepared by a qualified biologist in consultation with the U.S. Fish and Wildlife Service (USFWS) and CDFW and implemented to prevent the abandonment of active nests. Consistent with Mitigation Measure BIO-1, the following steps shall be taken:

- A qualified biologist shall conduct surveys no more than seven days prior to activities, within the construction limits and within 100 feet (200 feet for raptors) of the construction limits.

- If an active nest is located during the survey, a no-disturbance buffer shall be established around the nest by the qualified biologist, in consultation with CDFW and USFWS.

- Protective buffers (no-disturbance area around the nest) will be established at a distance determined by the biologist based on the nesting species, its sensitivity to disturbance, and type of and duration of disturbance expected. Protective buffers shall remain in place until the young have fledged.

- Construction activities outside buffers may proceed while active nests are being monitored, at the discretion of the qualified biologist. If active nests are found to be at risk due to construction activities, construction activities shall be delayed until the qualified biologist determines that the young have fledged.

Aquatic Wildlife. The project includes the improvement of a spring diversion and several stream crossings, for which the Applicant has received a draft Lake and Streambed Alteration Agreement (LSAA) from the California Department of Fish and Wildlife (Notification No. 1600-2018-0134-R1). Due to the potential to impact aquatic species during the above noted improvements, pre-construction surveys for special-status aquatic species shall be conducted. To the greatest extent feasible, work shall be conducted when the affected stream channel is void of surface water. If surface water is present at the time of construction, the permittee shall have a biologist or other qualified professional survey the site and adjacent area for fish, amphibians, and turtles within three days prior to commencing project activities. If fish, amphibians, or turtles are detected, CDFW will be contacted, and work shall not commence until authorized by a CDFW representative. If invasive aquatic species such as American bullfrog (*Lithobates catesbeianus*) are observed, CDFW will be notified for management guidance to avoid impacts on native aquatic species. The above-described pre-construction aquatic species surveys have been included as Mitigation Measure BIO-2 to reduce potential impacts to aquatic species to less-than-significant. Furthermore, the draft LSAA includes avoidance and minimization measures that shall be implemented to reduce impacts to aquatic species.

Special-status Plants. According to the Biological Site Assessment, the non-native grasslands and ruderal/developed habitats within the property have a low potential for harboring special-status plant species due to the dominance by non-native grasses and forbes. The Chaparral areas within the property also have a low potential to support special-status plants due to the lack of diversity. The Douglas-fir forest in the western portion of the property has a moderate potential to harbor special-status plants due to the high diversity of native plants and microhabitats. The Douglas-fir forest has a moderate potential for harboring special-status plant species such as Pacific fuzzwort (*Ptilidium caufomicum*), Tracy's sanicle (*Sanicula tracyi*), Mad River fleabane daisy (*Erigeron maniopotamicus*), Jepson's dodder (*Cuscuta jepsonii*), South Fork Mountain lupine (*Lupinus elmeri*), Oregon fireweed (*Epilobium oreganum*), northern meadow sedge (*Carex praticola*) and coast fawn lily (*Erythronium revolutum*). There are no proposed project activities within the Douglas-fir forest. The aquatic habitats within the Study Area provide suitable habitat for various special-

status plant and animal species (Appendix A; NIC, 2019a). Because protocol-level botanical surveys were not conducted as part of the Biological Site Assessment, pre-construction surveys for special-status plants will be required as described in Mitigation Measure BIO-3, below. Impacts would be less than significant in this regard.

b) *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local of regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

According to the Biological Site Assessment, the project parcel contains various water features, including one pond, one spring, two seasonal wetlands, one willow-scrub wetland, two intermittent watercourses and eleven ephemeral watercourses (Appendix A; NIC, 2021). Riparian habitat, primarily composed of willow (*Salix* spp.), is present in areas around the pond and several of the stream channels (Appendix C; TRC, 2020). No riparian vegetation is proposed for permanent removal. Proposed cannabis cultivation areas will occur in a relatively flat and open area near the center of the property, adjacent to existing development. Apart from the improvements to the spring diversion and stream crossings, the project does not propose any development that would result in impacts to riparian habitat or any sensitive natural community existing on the project parcel.

The applicant has received a draft LSAA from CDFW for the improvement of the spring diversion and stream crossings (Notification No. 1600-2018-0134-R1). There is also an additional stream crossing on the project site (SC-5) that requires improvement (placement of wattles and gravel has been recommended) and is not currently included in the draft CDFW LSAA. The applicant will be required to notify CDFW of this additional improvement to determine whether an amendment to the draft LSAA will be required (TRC, 2020). The applicant shall be required to obtain a final LSAA prior to performing any work within CDFW jurisdictional areas and comply with the avoidance and minimization measures required by the agreement. Potential impacts to hydrology and water quality are discussed in Section X – HYDROLOGY AND WATER QUALITY. Several of the improvements will result in the incidental and temporary impact to young riparian vegetation, but no permanent vegetation removal is required. Furthermore, the draft LSAA includes avoidance and minimization measures that shall be implemented to reduce impacts to riparian habitat, including development setbacks which are consistent with the State Water Quality Control Board Cannabis General Order (Order WQ 2019-0001-DWQ). The Trinity County Cannabis EIR has established the minimum riparian setbacks for all cannabis activities around riparian areas as follows: Class I perennial watercourses: 150 feet; Class II ephemeral watercourses: 100 feet; and Class III intermittent watercourses: 50 feet (Trinity County, 2020). The proposed project is compliant with the required setbacks. Riparian setbacks for springheads shall be measured from the spring head in all directions (circular buffer). The NCRWQCB has developed a set of 12 Standard Conditions that shall be followed and implemented to protect and improve water quality as required under the NCRWQCB's Order. For a property to become compliant with the Order, all 12 Standard Conditions must be fully satisfied. A Water Resources Protection Plan has been prepared for the project which identifies remedial actions necessary to comply with the Order (PWA, 2016). Therefore, potential impacts to riparian habitat and other sensitive natural communities would be reduced through compliance with the above regulatory requirements.

In complying with the existing regulatory requirements, the proposed project will not result a substantial adverse effect on riparian habitat or other sensitive natural community identified in local of regional plans, policies, regulations, or by the CDFW or USFWS. Impacts would be less than significant in this regard.

c) *Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

According to the Biological Site Assessment, the project parcel contains various water features, including one pond, one spring, two seasonal wetlands, one willow-scrub wetland, two intermittent watercourses and eleven ephemeral watercourses. Willow-scrub wetlands are located in various places within the valley floor (Appendix A; NIC, 2019a and NIC, 2021). Proposed cannabis cultivation areas will occur in a relatively flat and open area near the center of the property, adjacent to existing development, and further away from the water resources onsite than the existing development. No jurisdictional wetlands meeting the USACE three-parameter criteria were observed in the areas proposed for development on the project site during the field surveys conducted for preparation of the Biological Site Assessment, although a formal wetland delineation was not conducted (Appendix A; NIC, 2019a). The USFWS National Wetland Inventory also does not indicate the potential presence of wetlands on the project site (USFWS, 2020). Because

no potential wetlands were identified in the areas that would be developed by the project, a formal delineation was deemed unnecessary. Since no known three-parameter wetlands will be disturbed by the proposed project, a less than significant impact to federally protected wetlands would occur.

d) *Would the project 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?*

Migratory Fish. The project site contains two intermittent watercourses and eleven ephemeral watercourses. The project includes the improvement of a spring diversion and several stream crossings, for which the applicant has received a draft LSAA from CDFW (Notification No. 1600-2018-0134-R1). Although the project proposes improvements within watercourses, stream crossings improvements are intended to support adequate aquatic organism passage. Furthermore, the draft LSAA includes avoidance and minimization measures that shall be implemented to reduce impacts to native resident or migratory fish or aquatic wildlife species. Prior to the construction of the proposed project, the draft LSAA will be completed in negotiation with CDFW. As illustrated on Figure 2 – Site Plan, the proposed expansion of cultivation activities is designed to comply with required setbacks from these aquatic resources. These regulations require a 100-foot setback from Class II intermittent watercourses or wetlands and a 50-foot setback from ephemeral watercourses (Trinity County, 2020). No fencing or other physical features that may impede wildlife movement are proposed along the riparian corridors on the project parcel. Potential impacts to native resident or migratory fish or aquatic wildlife species would be reduced through compliance with regulatory requirements.

Migratory Birds. As discussed above under subsection a), the trees, shrubs, and grasses within the project parcel could be used by nesting migratory birds. Nesting migratory birds are protected under the Federal Migratory Bird Treaty Act and the CDFW code. Consistent with the EIR for the Trinity County Cannabis Program (Trinity County, 2020), nesting bird surveys will occur for any vegetation clearing that is proposed to occur during the reproductive season. As previously discussed, if vegetation removal and ground disturbing activities cannot occur outside the nesting bird season (generally February 1 through August 31). Mitigation Measure BIO-1 shall be implemented to reduce impacts to migratory birds nesting and roosting in the project vicinity. Lighting requirements will minimize impacts to any aerial migratory flyways in the vicinity.

Wildlife Corridors. Trinity County contains several large areas of relatively undisturbed wildlife habitat. Some of these areas were mapped as Essential Connectivity Areas (ECA) for the California Essential Habitat Connectivity Project (CDFW, 2022). The project site does not lie within the mapped areas in the vicinity. The development of exclusionary fencing around the perimeter of the proposed cultivation areas will not be an impediment to migration of deer or other animals. The director shall review all wildlife exclusionary fencing for esthetic and wildlife and/or human safety concerns, and can prohibit fencing he/she deems unacceptable (Trinity County Cannabis Ordinance (315-849) Section 17.43.060 E.) Proposed cannabis cultivation areas will occur in a relatively flat and open area near the center of the property, adjacent to existing development. Construction of the proposed project would require limited site preparation, clearing, and construction activities. Construction activities will disturb less than one acre. Existing development and activities may have altered wildlife migration or local travel patterns, but this impact is part of the baseline condition and is not an impact of the proposed project. Based on the location of the areas that would be developed for the project, and the nature of the proposed cultivation activity, there will be limited potential for the project to impact wildlife movement.

With the implementation of the Mitigation Measure BIO-1 and suitable measures outlined in the EIR for the Trinity County Cannabis Program (Trinity County, 2020), in combination with existing regulatory requirements of State and federal agencies, the project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Impacts would be less than significant in this regard.

e) *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

The County General Plan Conservation Element discusses the need for the protection and conservation of natural resources including biological resources within the County (Trinity County, 1973). According to the Biological Site Assessment (Appendix A; NIC, 2019a), for Trinity County, no relevant county or municipal tree ordinances were identified that would protect non-commercial tree species such as native oaks (*Quercus spp*.). There has been no policy developed related to specific biological resources, tree preservation, or management that would specifically apply to

the project and the lands where the project is located. The project does not propose to remove any trees or otherwise impact tree vegetation, as there are no trees on the project site that would be impacted. Any pesticide use on the property will comply with the legal practices outlined by the California Department of Pesticide Regulation (2017 and 2018). Impacts would be less than significant in this regard.

f) *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community, Conservation Plan, or other approved local, regional, or State habitat conservation plan?*

No habitat conservation plans, or other similar plans have been adopted for the project site or project area. As such, the proposed project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community, Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, no impact would result from the proposed project on this resource category.

Mitigation Measures

The following mitigation measures shall be required for the proposed project to reduce biological impacts to less than significant levels:

Mitigation Measure BIO-1: If project activities cannot occur outside the bird nesting season (generally February 1 through August 31), the following steps shall be taken to prevent the abandonment of active nests:

- A qualified biologist shall conduct surveys no more than seven days prior to activities, within the construction limits and within 100 feet (200 feet for raptors) of the construction limits.
- If an active nest is located during the survey, a no-disturbance buffer shall be established around the nest by the qualified biologist, in consultation with CDFW and USFWS.
- Protective buffers (no-disturbance area around the nest) will be established at a distance determined by the biologist based on the nesting species, its sensitivity to disturbance, and type of and duration of disturbance expected. Protective buffers shall remain in place until the young have fledged.
- Construction activities outside buffers may proceed while active nests are being monitored, at the discretion of the qualified biologist. If active nests are found to be at risk due to construction activities, construction activities shall be delayed until the qualified biologist determines that the young have fledged.

Mitigation Measure BIO-2: If surface water is present at the time of construction, the permittee shall have a biologist or other qualified professional survey the site and adjacent area for fish, amphibians, and turtles within three days prior to commencing project activities. If fish, amphibians, or turtles are detected, CDFW will be contacted and work shall not commence until authorized by a CDFW representative. If American bullfrog is observed during surveys, CDFW will be notified for management guidance.

Mitigation Measure BIO-3: The following measures are provided to reduce potential impacts to special-status plant species to a less then significant level:

- Prior to commencement of new development related to cannabis activities or execution of the Lake or Streambed Alteration Agreement No. 1600-2018-0134-R1, during the blooming period for the special-status plant species with potential to occur on the site, a qualified botanist approved by the County shall conduct protocol-level surveys for special-status plants in all proposed disturbance areas following survey methods from CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018a).
- If special-status plants are not found, the botanist shall document the findings in a letter report to CDFW and the applicant, and no further mitigation will be required. Reports shall be submitted to CDFW via email at RI LSARedding@wildlife.ca.gov and shall include the project applicant's name, address, and Assessor's Parcel Number

in the subject line. If special-status plant species are found, the qualified botanist shall consult with CDFW to designate a no-disturbance buffer that will be reflected in the application to the County.

Findings

In the course of the above evaluation, impacts associated with *Biological Resources* were found to be less than significant with the implementation of the mitigation measures.

Documentation and References

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V. CULTURAL RESOURCES: *Would the project:*	**Potentially Significant Impact**	**Potentially Significant Impact Unless Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?				**X**
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		**X**		
c) Disturb any human remains, including those interred outside of formal cemeteries?		**X**		

Environmental Setting

The project site is located within the ancestral territory of the Southern Athapaskans speaking Lassik. The Lassik occupied the drainage of the Main Eel River between the mouths of Dobbyn and Kekawake creeks, and the headwaters of the North Fork Eel River and Mad River. The Lassik were bordered by the Nongatl to the north, the Wintu to the east, the Sinkyone to the west, and the Eel River Wailaki to the south (Appendix B; NIC, 2019b).

In the 1830's, explorer Jedediah Smith ventured into what is modern-day Trinity County. The discovery of gold in the late 1840's brought immigrants from around the world, marking the beginning of historical development in the region, including mining and logging operations, stagecoach routes, old family ranches, prospector cabins, and communities. In 1850, the newly created California Legislature divided up modern-day Humboldt, Del Norte, and Trinity Counties to form the Trinity County that exists today.

Impact Analysis

The analysis in this section has been prepared in accordance with Section 15064.5 of the State CEQA Guidelines, which considers the potential impacts on prehistoric, historic, and paleontological resources. This section describes the potential cultural resources within the project study area, and the applicable regulations that govern those resources.

CEQA requires a lead agency to determine whether a project may have a significant effect on historical resources (Section 21084.1). If it can be demonstrated that a project will cause damage to resources Eligible for or Listed in the California Register of Historic Resources (CRHR), Tribal Cultural Resources (TCRs) and other resources on local County or Local lists, or those determined by the lead agency to be significant. The lead agency may require reasonable efforts be made to permit any or all of the resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2[a], [b], and [c]).

PRC Section 5024.1 requires an evaluation of historical resources to determine their eligibility for listing in the CRHR. The purpose of the register is to maintain listings of the state's historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, enumerated below. According to PRC Section 5024.1(c) (1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of installation, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A historical resource is a resource listed in, or determined to be eligible for listing, in the CRHR (Section 21084.1), a resource included in a local register of historical resources (Section 15064.5[a][2]), or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (Section 15064.5[a][3]).

A Cultural Resources Assessment was prepared by Natural Investigations Company in March 2019 and included a literature search, Sacred Lands File search, and an intensive-level pedestrian survey (Appendix B; NIC, 2019b). The Cultural Resources Assessment found no cultural resources had been previously recorded within the project area; however, prehistoric resources are recorded within the 0.25-mile search radius. No properties are listed on the California Historical Resources database in or near the project site. No newly identified prehistoric or historic-era archaeological sites, ethnographic sites, or historic-era built resources were identified during the survey of the project site (Appendix B; NIC, 2019b).

The following includes an analysis of environmental parameters related to *Cultural Resources* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department and other agency staff, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

a) *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?*

Results from the intensive-level pedestrian survey and associated record search did not identify any prehistoric or historic archaeological sites, ethnographic sites, or historic-era built environment resources on the project site (Appendix B; NIC, 2019b). There are no National Register of Historic Places (NRHP) or California Register of Historic Resources (CRHR) sites located at the project, or within close proximity of the site, that would call for the retention of the historical structure or listing. Therefore, no impacts to historical resources would occur from the implementation of the proposed project.

b) *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?*

The proposed project requires limited site preparation and construction activities. Results from the pedestrian survey and associated record search did not identify any prehistoric or historic archaeological sites, ethnographic sites, or historic-era built environment resources on the project site (Appendix B; NIC, 2019b). Two prior studies conducted within the Project area are on file at the Northeast Information Center. No cultural resources have been previously recorded within the project area; however, three prehistoric resources are recorded within the 0.25-mile search radius. However, there is a possibility that cultural resources, including buried archaeological materials, could exist in the area and may be uncovered during project development. Therefore, if any resources are found during the construction of the proposed project, they will be mitigated through implementation of Mitigation Measure CR-1. Adherence to protocols established by Mitigation Measure CR-1 would serve to avoid impacts that would result in a substantial adverse change in the significance of an archaeological resource as defined in CEQA Section 15064.5. Impacts would be less than significant with mitigation incorporated.

c) *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

There are no known burial sites on or immediately adjacent to the proposed project site. If human remains are unearthed during future development of the site, the provisions of California Health and Safety Code Section 7050.5 shall apply. Under this Section, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition, pursuant to California Public Resources Code Section 5097.98 and Mitigation Measure CR-2. Impacts are considered less than significant with mitigation incorporated.

Mitigation Measures

The following mitigation measures have been developed, to reduce potential impacts related to undocumented cultural resources and unknown human burials to less than significant levels:

Mitigation Measure CR-1. If cultural resources, such as chipped or ground stone, or bone are discovered during ground-disturbance activities, work shall be stopped within 50 feet of the discovery, as required by the California Environmental Quality Act (CEQA; January 1999 Revised Guidelines, Title 14 California Code of Regulations [CCR] 15064.5 (f)). Work near the archaeological finds shall not resume until a professional archaeologist, who meets the Secretary of the Interior's Standards and Guidelines, has evaluated the material, and offered recommendations for further action.

Mitigation Measure CR-2. If In the event that previously unidentified evidence of human burial or human remains are discovered during project construction, work will stop at the discovery location, within 20 meters (66 feet), and any nearby area reasonably suspected to overlie human remains (Public Resources Code, Section 7050.5), the Trinity County Coroner must be informed and consulted, per State law. If the coroner determines the remains to be Native American, he or she shall contact the Native American Heritage Commission within 24 hours. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descendent. The most likely descendent will be given an opportunity to make recommendations for means of treatment of the human remains and any associated grave goods. when the commission is unable to identify a descendant or the descendants identified fail to make a recommendation, or the landowner or his or her authorized representative rejects the recommendation of the descendants and the mediation provided for in subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance. Work in the area shall not continue until the human remains are dealt with according to the recommendations of the County Coroner, Native American Heritage Commission and/or the most likely descendent have been implemented.

Findings

With the implementation of the mitigation measures identified the proposed project will have a less than significant impact to *Cultural Resources*.

Documentation and References

NIC (Natural Investigations Company). 2019b. *Cultural Resources Assessment for the Cannabis Cultivation Operation at 1760 W. Hettenshaw Road, Zenia, Trinity County, California.* March 2019.

Trinity County. 2020. *Volume 2 Revised Draft Environmental Impact Report – Trinity County Cannabis Program.* November 2020.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

VI. ENERGY:	Potentially Significant Impact	Potentially Significant Impact Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

Environmental Setting

In Trinity County, energy is used as a transportation fuel and as electrical and heat energy in homes, businesses, industries, and agriculture. Trinity Public Utilities District (TPUD) serves most of the customers in Trinity County with power generated at Trinity Dam (TPUD, 2021). However, the project site has existing connections to Pacific Gas & Electric (PG&E) electrical transmission lines. The project site also contains two existing propane tanks for heating purposes. The existing cultivation operation uses natural light and does not use any artificial lighting for cultivation. Existing energy use at the project site includes gas for vehicles, equipment, and the residence.

Impact Analysis

The following includes an analysis of environmental parameters related to *Energy* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department and other agency staff, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

a) *Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

Construction. The proposed project requires limited site preparation and construction activities. Energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles/equipment, as well as vehicles traveling to and from the project site for worker commute and/or materials transport.

There are no unusual project characteristics that would need construction equipment or practices that would be less energy efficient than at comparable construction sites in the region or state. Construction activity would be temporary and fuel consumption would cease once construction ends. Further, various equipment would be supplied by onsite generators, and would not require permanent connections to or otherwise burden local utilities. Due to the temporary nature of construction activities, the fuel and energy needed during project construction would not be considered a wasteful or inefficient use of energy. Therefore, it is expected that construction energy consumption associated with the proposed project would be comparable to other similar construction projects, and would therefore not be inefficient, wasteful, or unnecessary.

Operation. During long-term operation of the proposed project, energy would be consumed in the form of petroleum-based fuel for vehicles and equipment. Vehicle trips during peak operation of the project are estimated to be approximately 30 trips daily. Expansion of an existing cannabis cultivation operation is not anticipated to result in a significant increase in vehicle miles traveled (see Section XVII – TRANSPORTATION). Therefore, vehicle trips associated with the project would not be considered a wasteful, inefficient, or unnecessary consumption of energy resources.

The proposed project includes the potential conversion of outdoor cultivation areas to mixed-light cultivation areas using artificial lighting connected to the PG&E electrical grid. Due to the limited scope of the proposed project as an expansion of existing cannabis cultivation operation, the additional energy use from the operation of the project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project operation. If portions of the cultivation areas are converted to mixed-light cultivation using artificial lighting, it is anticipated that emergency generators will be required in the case of a power outage or public power safety shutoff. However, use of emergency generators will be reserved for situations where existing PG&E lines are unable to provide electricity to the project site. Emergency generators will be required to comply with 3 CCR § 8306, which establishes requirements for the use and registration of generators rated above or below fifty (50) horsepower. Therefore, the operation of generators for emergency use would not result in wasteful, inefficient, or unnecessary consumption of energy resources.

Energy use from operations of the project would be similar to other cultivation operations in the County. Based on the above evaluation, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project operation. Impacts are considered less than significant in this regard.

b) *Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

There are no local plans for renewable energy or energy efficiency. California passed AB 32 which requires local governments to take an active role in addressing climate change and reducing greenhouse gas (GHG) emissions using methods such as energy efficiency in new development. As noted above, the proposed project would not use natural and/or artificial lighting for cultivation and would be similar to other cultivation operations and rural dwellings in the County. Due to the limited energy use that would result from the proposed project, it is not anticipated that the proposed expansion of an existing agricultural operation would conflict with or obstruct a state plan for renewable energy or energy efficiency. Impacts are considered less than significant in this regard.

Mitigation Measures

No mitigation measures are required. Impacts would be less than significant.

Findings

In the course of the above evaluation impacts associated with *Energy* were found to be less than significant.

Documentation and References

Trinity County. 2020. *Volume 2 Revised Draft Environmental Impact Report – Trinity County Cannabis Program.* November 2020.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

TPUD (Trinity County Public Utility District). 2021. *Trinity County Public Utility District Website – Renewable Energy*. [Online]: https://www.trinitypud.com/about/renewable-energy.aspx. Accessed: February 4, 2021.

VII. GEOLOGY AND SOILS: *Would the project:*	**Potentially Significant Impact**	**Potentially Significant Impact Unless Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a.i) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake, fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publications 42.			**X**	
a.ii) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?			**X**	
a.iii) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?			**X**	
a.iv) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?			**X**	
b) Result in substantial soil erosion or the loss of topsoil?			**X**	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			**X**	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			**X**	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?		**X**	**X**	
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		**X**		

Environmental Setting

The project site ranges in elevation between 3,622 to 3,166 feet above mean sea level in the California Coast physiographic province. The project is proposed within a relatively flat and open area surrounded by forested slopes to the east and west. The underlying geologic formations consist of Quaternary terrace deposits within the Hettenshaw Valley and volcanic rocks of Franciscan Formation dating from Cretaceous and/or Jurassic ages through with the valley was eroded from (Appendix B; NIC, 2019b). Soils are mapped by the U.S. Department of Agriculture (USDA) National Resource Conservation Service (NRS) as including Oxalis-Hecker-Doty families association, Skalan-Kristirn-Holland families association, and Clallam-Hugo-Holland families association. These soil types are largely made up of clay loam and generally well drained (NRCS, 2020).

Trinity County has historically experienced very low levels of seismicity and has a relatively low seismic risk compared to the rest of California. Trinity County was not determined to be affected by existing Earthquake Fault Zones under the Alquist-Priolo Earthquake Fault Zoning Act and does not have a relatively high potential for ground rupture (Trinity County, 2002). However, the region may be subjected to low to moderate levels of ground shaking from nearby or distant earthquakes.

Liquefaction is a phenomenon in which loose, saturated, granular soil deposits lose a significant portion of their shear strength because of excess pore water pressure buildup. An earthquake typically causes the increase in pore water pressure and subsequent liquefaction. These soils are behaving like a liquid during seismic shaking and re-solidify when shaking stops. The potential for liquefaction is highest in areas with high groundwater and loose, fine, sandy soils at depths of less than 50 feet (Trinity County, 2020).

According to various publicly available sources there are no Alquist-Priolo earthquake fault zones identified near the project site and it is not in a location with a potential for liquefaction (DOC, 2020).

The California Building Code (CBC) (CCR Title 24) is based on the International Building Code. The CBC has been modified from the International Building Code for California conditions, with more detailed and/or more stringent regulations. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design. Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, while Chapter 18A regulates construction on unstable soils, such as expansive soils and areas subject to liquefaction. Appendix J of the CBC regulates grading activities, including drainage and erosion control. The CBC contains a provision that provides for a preliminary soil report to be prepared to identify "the presence of critically expansive soils or other soil problems which, if not corrected, would lead to structural defects."

Impact Analysis

The following includes an analysis of environmental parameters related to *Geology and Soils* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

a) *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

i) Rupture of a known earthquake fault:

The California Geological Survey has the responsibility for mapping active earthquake faults in California, through legislation referred to as the Alquist-Priolo Earthquake Fault Zoning Act. However, seismic factors must be considered in structural design as per the (CBC) (CCR Title 24). There are no Alquist-Priolo earthquake fault zones identified in close proximity to the project site. In addition, there is no supplemental geologic data to suggest unmapped active faults in the region (USGS, 2022). As such, the proposed project will not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. Based on this existing information, there will be no impact to the project components from impacts related to surface fault rupture.

ii) Strong seismic ground shaking:

Although there are no known earthquake faults in the project vicinity, the entire northern California region is subject to the potential for moderate to strong seismic shaking due to distant seismic sources. Seismic shaking can be generated on faults many miles from the project vicinity. Seismic shaking potential is considered minimal, and the hazard is not higher or lower at the project site than throughout the region. Standard design and construction practices meeting current California Building Code (where applicable) will provide adequate protection for buildings and related facilities proposed by the project. In compliance with these standards, the proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Therefore, the proposed project would result in a less than significant impact.

iii) Seismic-related ground failure, including liquefaction:

Although located in a seismically active region (northern California), the project site is not likely to be subject to seismic shaking of adequate strength or duration to generate seismic-related ground failure, including liquefaction. These soil types are largely made up of clay loam and generally well drained (NRCS, 2020). The potential for liquefaction is highest in areas with high groundwater and loose, fine, sandy soils at depths of less than 50 feet (Trinity County, 2020). Likely seismic sources are too far from the project site to generate sufficient long-duration strong shaking. As such, the proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Therefore, the proposed project would result in a less than significant impact on this resource category.

iv) Landslides:

Soils throughout Trinity County are susceptible to erosion and landslide. The project is proposed within a relatively flat and open area surrounded by forested slopes to the east and west. However, due to the relatively flat terrain upon which the proposed project would occur, the risk of landslides affecting the proposed project or the proposed project resulting in landslides is low (DOC, 2021). As such, the proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Therefore, the proposed project would result in no impact on this resource category.

b) *Would the project result in substantial soil erosion or the loss of topsoil?*

As described in Section 2 – PROJECT DESCRIPTION, the proposed project requires limited site preparation and construction activities that have the potential to result in soil erosion or the loss of topsoil. The project is proposed within a relatively flat and open area surrounded by forested slopes to the east and west. Due to the relatively flat terrain upon which the proposed project would occur, the risk of erosion is low. Furthermore, the operation of the proposed project will be subject to the waste discharge requirements of the State Water Board for cannabis cultivation, which requires the implementation of best practicable treatment or control measures, including those intended to minimize erosion. These requirements include plans that address site erosion and sediment control, disturbed areas stabilization, site closure procedures, and monitoring and reporting requirements. In addition, the Order contains requirements for land development maintenance, erosion control, drainage features, stream crossing installation and maintenance, soil disposal and spoils management, and roadway design and maintenance (SWRCB Order WQ 2019-0001-DWQ). Based on existing requirements and the above evaluation, the proposed project would not result in substantial soil erosion or the loss of topsoil. Therefore, the proposed project would result in a less than significant impact.

c) *Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?*

See the discussion under subsection a) above. Impacts would be less than significant in this regard.

d) *Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

Expansive soils are those that undergo a change in volume when exposed to fluctuations in moisture, causing shrinking when dry and swelling when moist. Such a change in volume can distort structural elements and damage structures, such as footings, building foundations, etc. As previously described above, the proposed project includes the expansion of cannabis cultivation operations. Proposed cannabis cultivation will occur either outdoors or within greenhouse structures. The project does not propose structures or structural elements that are susceptible to expansive soils and that would create a hazard to life or property. As such, the proposed project will not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property. Therefore, the proposed project would result in no impact on this resource category.

e) *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

An existing onsite wastewater treatment system (OWTS) serves the existing residence. In order to receive approval from the Trinity County Environmental Health Department for an OWTS, an analysis of the soil conditions at the site must occur to ensure they are suitable for receiving wastewater discharge. As indicated by the receipt of a permit from the County Environmental Health Department, the soils at the site have been determined to be adequate to support the use of the existing OWTS.

The applicant proposes to use the existing OWTS for employees at the proposed cannabis operation. It's estimated that the OWTS has adequate capacity to serve approximately 6 persons, which is adequate for typical operation of the proposed project. However, during peak operation of the proposed project approximately 3 seasonal employees and 5 temporary employees will be present at the project site (8 employees in total). Therefore, to ensure the OWTS does not exceed its designed capacity, the applicant will be required to provide portable toilets when the number of employees at the site exceeds 6 persons, such as on occasions when additional temporary employees may be needed on a seasonal

basis. Portable toilet wastewater will be disposed of at a permitted disposal facility. This requirement has been included at Mitigation Measure UTY-1. Therefore, the proposed project would result in a less than significant impact with mitigation incorporated.

f) *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Paleontological resources are classified as nonrenewable scientific resources, such as vertebrate, invertebrate, and plant fossils. No paleontological resources or unique geologic features have been identified on the proposed project site, and the potential for their occurrence is considered minimal.

However, ground-disturbing activities associated with the proposed project has the potential to result in the accidental damage of previously undiscovered paleontological resources if such exist at the project site. As such, if a paleontological discovery is made during construction, the contractor shall immediately cease all work activities in the vicinity (within approximately 100 feet) of the discovery and shall immediately contact the County. A qualified paleontologist shall be retained to observe all subsequent grading and excavation activities in the area of the find and shall salvage fossils as necessary. The paleontologist shall establish procedures for paleontological resource surveillance and shall establish, in cooperation with the project developer, procedures for temporarily halting or redirecting work to permit sampling, identification, and evaluation of fossils. If major paleontological resources are discovered that require temporarily halting or redirecting of grading, the paleontologist shall report such findings to the County. The paleontologist shall determine appropriate actions, in cooperation with the applicant and the County, that ensure proper exploration and/or salvage. Excavated finds shall first be offered to a state-designated repository such as the Museum of Paleontology, University of California, Berkeley, or the California Academy of Sciences. Otherwise, the finds shall be offered to the County for purposes of public education and interpretive displays. The paleontologist shall submit a follow-up report to the County that shall include the period of inspection, an analysis of the fossils found, and the present repository of fossils. To prevent potential impacts to unknown paleontological resources at the project site, an inadvertent discovery protocol is included as Mitigation Measure GEO-1. With implementation of Mitigation Measure GEO-1, the project will not disturb any unique paleontological resource or unique geologic feature. Therefore, the proposed project would result in a less than significant impact with mitigation incorporated

Mitigation Measures

The following mitigation measures have been developed to reduce potential impacts related to the inadvertent discovery of paleontological resources to less than significant levels:

Mitigation Measure GEO-1: If a paleontological discovery is made during construction, the contractor shall immediately cease all work activities in the vicinity (within approximately 100 feet) of the discovery and shall immediately contact the County. A qualified paleontologist shall be retained to observe all subsequent grading and excavation activities in the area of the find and shall salvage fossils as necessary. The paleontologist shall establish procedures for paleontological resource surveillance and shall establish, in cooperation with the project developer, procedures for temporarily halting or redirecting work to permit sampling, identification, and evaluation of fossils. If major paleontological resources are discovered that require temporarily halting or redirecting of grading, the paleontologist shall report such findings to the County. The paleontologist shall determine appropriate actions, in cooperation with the applicant and the County, that ensure proper exploration and/or salvage. Excavated finds shall first be offered to a state-designated repository such as the Museum of Paleontology, University of California, Berkeley, or the California Academy of Sciences. Otherwise, the finds shall be offered to the County for purposes of public education and interpretive displays. The paleontologist shall submit a follow-up report to the County that shall include the period of inspection, an analysis of the fossils found, and the present repository of fossils.

Findings

With the implementation of the mitigation measures identified the proposed project will have a less than significant impact to *Geology and Soils*.

Documentation and References

CGS (California Geological Survey). 2018. *Fault-Rupture Hazard Zones in California, Special Publication 42, Interim Revision 2018*. Sacramento, California. 2018.

Trinity County. 2020. *Volume 2 Revised Draft Environmental Impact Report – Trinity County Cannabis Program.* November 2020.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

Trinity County. 2002. *Trinity County General Plan – Safety Element.* 2002.

USGS (United States Geological Survey). 2022. *U.S. Quaternary Faults*. [Online]: https://www.usgs.gov/programs/earthquake-hazards/faults. Accessed February 5, 2022.

IIX. GREENHOUSE GAS EMISSIONS: *Would the project:*	Potentially Significant Impact	Potentially Significant Impact Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

Environmental Setting

Greenhouse gases (GHGs) are gases in the atmosphere that absorb and emit radiation. The greenhouse effect traps heat in the troposphere through a three-fold process, summarized as follows: short wave radiation emitted by the sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of longwave (thermal) radiation, and GHGs in the upper atmosphere absorb and emit this longwave radiation into space and toward the Earth. This "trapping" of the longwave radiation emitted back toward the Earth is the underlying process of the greenhouse effect. Other than water vapor, the primary GHGs contributing to global climate change include the following gases:

- Carbon dioxide (CO_2), primarily a byproduct of fossil fuel combustion in stationary and mobile sources.
- Nitrous oxide (N_2O), a byproduct of fuel combustion and also associated with agricultural operations such as the fertilization of crops;
- Methane (CH_4), commonly created by off-gassing from agricultural practices (e.g., livestock), wastewater treatment, and landfill operations;
- Chlorofluorocarbons (CFCs), which were used as refrigerants, propellants, and cleaning solvents, although their production has been mostly prohibited by international treaty;
- Hydrofluorocarbons (HFCs), which are now widely used as a substitute for chlorofluorocarbons in refrigeration and cooling; and
- Perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6) emissions, which are commonly created by industries such as aluminum production and semiconductor manufacturing.

Global climate change is not confined to a particular project area and is generally accepted as the consequence of GHG emissions from global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough GHG emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact.

California passed Assembly Bill 32 (Global Warming Solutions Act) in 2006, mandating a reduction in greenhouse gas (GHG) emissions and Senate Bill 97 in 2007, evaluating and addressing GHG under CEQA. On April 13, 2009, the Governor's Office of Planning and Research (OPR) submitted to the Secretary for Natural Resources its proposed amendments to the state CEQA Guidelines for GHG emissions, as required by Senate Bill 97 {Chapter 185, 2007} and they became effective March 18, 2010. As a result of these revisions to the CEQA Guidelines, lead agencies are obligated to determine whether a project's GHG emissions significantly affect the environment and to impose feasible mitigation to eliminate or substantially lessen any such significant effects. A lead agency is not responsible for wholly eliminating all GHG emissions from a project; the CEQA standard is to mitigate to a level that is "less-than-significant" or, in the case of cumulative impacts, less than cumulatively considerable (SMAQMD, 2018).

The Global Warming Solutions Act (AB 32) also directed CARB to develop the Climate Change Scoping Plan (Scoping Plan), which outlines a set of actions to achieve the AB 32 goal of reducing GHG emissions to 1990 levels by 2020, and to maintain such reductions thereafter. CARB approved the Scoping Plan in 2008 and first updated it in May 2014. The second update in November 2017 also address the actions necessary to achieve the further GHG emissions reduction goal of reducing GHG emissions to 40 percent below 1990 levels by 2030, as described in Senate Bill 32 (SB 32). In addition, the 2017 Scoping Plan looks forward to the reduction goal of reducing emissions 80 percent under 1990 levels by 2050, as described in Executive Order S-3-05 (EO-S-3-05).

The project site is located in the North Coast Air Basin and is under the jurisdiction of the North Coast Unified Air Quality Management District (NCUAQMD). Neither Trinity County nor the NCUAQMD have adopted quantitative thresholds for determining the significance of greenhouse gas emissions. In addition, Trinity County does not have an adopted Climate Action Plan. In the absence of quantitative thresholds or a Climate Action Plan, the NCUAQMD recommends the use of thresholds and guidance provided by other air districts in the State.

The site is currently provided power from Pacific Gas & Electric (PG&E), and generators for backup power only. Existing PG&E infrastructure onsite requires no extension of utility lines or systems.

Impact Analysis

The following includes an analysis of environmental parameters related to *Greenhouse Gas Emissions* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department and other agency staff, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

a) *Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

There are several unique challenges to analyzing GHG emissions and climate change largely because of the global nature of climate change. Most environmental analyses examine the "project specific" impacts that a particular project is likely to generate. With regard to 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 impacts are highly unlikely.

As described in Section 2 – PROJECT DESCRIPTION, the proposed project involves the expansion of an existing cannabis cultivation operation to allow up to 1-acre of cultivation. The proposed project would generate both direct and indirect GHG emissions. Direct GHG emissions would include emissions from construction activities, use of generators for electricity, and mobile sources (vehicles and equipment). Typically, mobile sources make up the majority of direct emissions from land use projects. Indirect GHG emissions would be generated by waste generation. Typically, electricity and water use are considered indirect sources of emissions, but the proposed project will obtain electricity through existing connections to the PG&E electrical grid and water from an onsite groundwater well.

As noted above, neither the NCUAQMD nor Trinity County has established thresholds of significance for evaluating a project's GHG emissions. Since there are no applicable thresholds for projects in the Air District or Trinity County, the NCUAQMD recommends the use of thresholds and guidance provided by other air districts in the State such as the Bay Area Air Quality Management District (BAAQMD). The BAAQMD has developed project screening criteria to provide lead agencies and project applicants with a conservative indication of whether a project could result in potentially significant impacts related to GHG emissions. Projects below the applicable screening criteria would not exceed the GHG threshold of 1,100 metric tons (MT) of CO_2e ($MTCO_2e$) per year, established by the BAAQMD for land use projects, other than permitted stationary sources. However, the BAAQMD has not established screening criteria for agricultural uses such as crop production. The BAAQMD screening criteria focuses on residential, commercial, industrial, and public facility projects. As noted in the CARB Scoping Plan, quantitative thresholds for the exchange of CO_2 between the atmosphere and California's natural and working lands (e.g., natural ecosystems and agricultural lands) have not been developed (CARB, 2017). Typical emission sources considered for quantitative thresholds of significance involve construction and ongoing operational emissions from stationary industrial projects with high rates of combustion emissions (e.g., refineries, power plants, other processing that uses industrial boilers) or the construction and increased power and transportation needs from newly constructed residential or commercial projects.

Construction. The use of heavy equipment for site preparation and construction activities has the potential to generate GHG emissions. However, due to the limited scope and scale of construction activities, the proposed project is not of the nature to generate significant amounts of GHG emissions. For comparison, a project proposing the construction of 100 single-family residences would fall well below the 1,100 $MTCO_2e$ annual threshold used by the BAAQMD and other air districts in the State (e.g., MCAQMD, SMAQMD, etc.) to determine whether GHG emissions would be significant. Due to the size and nature of the proposed project, it is not anticipated that construction activities would result in the generation of substantial GHG emissions that would have a significant impact on the environment.

Operation. Mobile emissions are often the greatest source of emissions from land use projects. As discussed in Section XVII – TRANSPORTATION, during peak operation of the proposed project, the project is estimated to generate up to 30 vehicle trips per day. The number of trips and VMT from the project is minimal and would not be expected to generate significant GHG emissions. For comparison, a project that generates 300 daily trips would not exceed the 1,100 $MTCO_2e$ annual threshold.

The project proposes the expansion of outdoor cannabis cultivation. However, the applicant's proposal includes the potential to transition proposed outdoor cultivation areas into mixed-light cultivation areas. Future potential mixed-light cultivation will use artificial light and would require compliance with the renewable energy mandates pursuant to 3 CCR §8305, which requires electrical power used for commercial cannabis activity to meet the average electricity greenhouse gas emissions intensity required by their local utility provider (i.e., PG&E) pursuant to the California Renewables Portfolio Standard Program. Compliance with the existing regulatory requirements enforced by the California Department of Cannabis Control (DCC) will be effective towards reducing GHG emissions generated from potential mixed-light cultivation using artificial light. Due to the size and nature of the proposed project, it is not anticipated that cultivation activities would result in the generation of substantial GHG emissions that would have a significant impact on the environment.

Based on the above evaluation, the proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Impacts would be less than significant in this regard.

b) *Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

The proposed project involves the expansion of a cannabis cultivation operation. As a result, the proposed project could generate both direct and indirect GHG emissions. A GHG impact would be significant if GHG emissions from the proposed project would conflict with an applicable plan, policy, or regulation for the purpose of reducing GHG emissions. As noted in the *Environmental Setting*, a Climate Action Plan has not been adopted by Trinity County. For the proposed project, it is analyzed whether the emissions obstruct compliance with the GHG emission reduction goals in Assembly Bill (AB 32), Senate Bill 32 (SB 32), and Executive Order S-3-05 (EO S-3-05). According to CARB, in 2019, emissions from GHG-emitting activities statewide were 418.2 million metric tons of carbon dioxide equivalent (MMTCO2e), 7.2 MMTCO2e lower than 2018 levels and almost 13 MMTCO2e below the 2020 GHG limit of 431 MMTCO2e (CARB, 2021).

The project is subject to a myriad of state regulations applicable to project design, construction, and operation that would reduce GHG emissions, increase energy efficiency, and provide compliance with the California Air Resources Board (CARB) Climate Change Scoping Plan (CARB, 2017). The State of California has the most comprehensive GHG regulatory requirements in the United States, with laws and regulations requiring reductions that affect project emissions. Legal mandates to reduce GHG emissions from vehicles, for example, reduce project-related vehicular emissions. Legal mandates to reduce per capita water consumption and impose waste management standards to reduce methane and other GHGs from solid wastes are all examples of mandates that reduce GHGs.

The project is required to comply with Trinity County's Cannabis Program EIR's mitigation measures relating to Greenhouse Gas Emissions. These mitigation measures include the following (Trinity County, 2020):

- 3.8-1a: Implement Mitigation Measures 3.3-1a (Prohibit Burning Vegetation), 3.3-1b (Implement Diesel Exhaust Control Measures and Dust Control), and 3.3-1c (Use Alternative Fuels)
- 3.8-1b: Implement Mitigation Measures 3.3-2a (Limit the Use of Fossil Fuel-Powered Outdoor Power Equipment at All Commercial Cannabis Cultivation and Noncultivation Sites) and 3.3-2b (Require Use of Low Emission Diesel Back-Up Generators at All Commercial Cannabis Cultivation and Noncultivation Sites)

- 3.8-1c: Renewable Electricity Requirements
- 3.8-1d: Lighting Efficiency Requirements

Compliance with the above requirements would be verified by County staff through the annual review process required for cannabis licenses.

Electricity is provided to the project site by Pacific Gas & Electric (PG&E) and two (2) propane tanks are used for gas service. One propane tank is for domestic use, and the other is for heating the greenhouse used for the propagation of immature cannabis plants and/or clones. If portions of the cultivation areas are converted to mixed-light cultivation in the future, using artificial lighting, it is anticipated that emergency generators will be required in the case of a power outage or public power safety shutoff. All electricity sources used for commercial cannabis cultivation shall be from renewable-compliant sources by conforming to standards consistent with California Code of Regulations Title 3, Division 8, Chapter 1, Section 8305 by January 1, 2023.

As noted in the CARB Scoping Plan, quantitative thresholds for the exchange of CO_2 between the atmosphere and California's natural and working lands (e.g., natural ecosystems and agricultural lands) have not been developed (CARB, 2017). The CARB Scoping Plan focuses on the rehabilitation and maintenance of natural and working lands to increase and/or maintain carbon sequestration as part of the state's climate solution. The Scoping Plan notes that natural and working lands have potential for carbon sequestration. The Scoping Plan also notes that some natural and working lands may be sources of GHG emissions; however, reductions in these emissions are not part of the state's strategy for achieving the longer-term GHG reductions targets for 2030 and 2050 (CARB, 2017).

As described above, dues to the size, design, location, and nature the proposed project, it is not anticipated that it would result in the generation of substantial GHG emissions during either construction or operation. The potential GHG emissions from construction activities, vehicle trips, electricity use, and solid waste would be minimal and are anticipated to fall below the 1,100 $MTCO_2e$ annual threshold used by the BAAQMD and other air districts in the State (e.g., MCAQMD, SMAQMD, etc.) to determine whether GHG emissions would be significant. As designed and in compliance with existing regulatory requirements, the proposed project would not generate GHG emissions that would conflict with an applicable plan, policy, or regulation for the purpose of reducing GHG emissions. Impacts would be less than significant in this regard.

Mitigation Measures

No mitigation measures are required. Impacts would be less than significant.

Findings

In the course of the above evaluation impacts associated with *Greenhouse Gas Emissions* were found to be less than significant.

Documentation and References

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NCUAQMD (North Coast Unified Air Quality Management District). 2022. Air Quality Planning & CEQA. [Online]: http://ncuaqmd.org/index.php?page=aqplanning.ceqa. Accessed January 24, 2022.

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IX. HAZARDS AND HAZARDOUS MATERIALS: *Would the project:*	Potentially Significant Impact	Potentially Significant Impact Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			**X**	
b) 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?			**X**	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				**X**
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				**X**
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				**X**
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			**X**	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			**X**	

Environmental Setting

Hazards are those physical safety factors that can cause injury or death, and while by themselves in isolation may not pose a significant safety hazard to the public, when combined with development of projects can exacerbate hazardous conditions. Hazardous materials are typically chemicals or processes that are used or generated by a project that could pose harm to people, working at the site or on adjacent areas. Many of these chemicals can cause hazardous conditions to occur should they be improperly disposed of or accidentally spilled as part of project development or operations. Hazardous materials are also those listed as hazardous pursuant to Government Code Section 65962.5.

Lists of hazardous materials are maintained by federal and State agencies and are available for public review. The US Environmental Protection Agency (USEPA) maintains a database of hazardous materials as well as radiological materials as part of its RCRAInfo database (USEPA, 2022). The State of California Department of Toxic Substances Control (DTSC) maintains a list of hazardous substances and contaminated sites as part of its Envirostor database (DTSC, 2022), as well as other hazardous and waste sites being overseen by the various State Water Resources Control Board which are inventoried in their Geotracker database (SWRCB, 2022). These databases are available to the public for review. No hazardous facilities or sites have been documented to be present at the project site or in the adjacent area.

The State of California Department of Toxic Substances Control (DTSC) is the administering agency and the Certified Unified Program Agency (CUPA) for Trinity County with responsibility for regulating hazardous materials handlers, hazardous waste generators, underground storage tank facilities, above ground storage tanks, and stationary sources handling regulated substances. A Hazardous Materials Business Plan (HMBP) is required of businesses in Trinity County that handle, use, generate, or store hazardous materials. The primary purpose of this plan is to provide readily available information regarding the location, type, and health risks of hazardous materials to emergency response personnel, authorized government officials, and the public. Large cases of hazardous materials contamination or violations are referred to the Regional Water Quality Control Board (RWQCB) and the DTSC.

Under Government Code Section 65962.5, both the DTSC and the State Water Resources Control Board (SWRCB) are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites. A search of the DTSC and SWRCB lists identified no open cases of hazardous waste violations within one mile of the project site.

The EPA maintains the Enforcement and Compliance History Online (ECHO) program. The ECHO website provides environmental regulatory compliance and enforcement information for approximately 800,000 regulated facilities nationwide. The ECHO website includes environmental permit, inspection, violation, enforcement action, and penalty information about EPA-regulated facilities. Facilities included on the site are Clean Air Act (CAA) stationary sources; Clean Water Act (CWA) facilities with direct discharge permits, under the National Pollutant Discharge Elimination System; generators and handlers of hazardous waste, regulated under the Resource Conservation and Recovery Act (RCRA); and public drinking water systems, regulated under the Safe Drinking Water Act (SDWA). ECHO also includes information about EPA cases under other environmental statutes. When available, information is provided on surrounding demographics, and ECHO includes other EPA environmental data sets to provide additional context for analyses, such as Toxics Release Inventory data. According to the ECHO program, the project site is not listed as having a hazardous materials violation.

The project site is not located within an airport land use plan and is not within two miles of a public airport or public use airport. The closest airport to the project site is the Dinsmore Airport, which is a public airport approximately 19 miles northwest of the site.

Fire suppression for the area is provided by a combination of first responders such as CALFIRE (designated as a State Responsibility Area), with additional firefighting support from the nearby US Forest Service (USFS) stations, and local volunteer fire departments. The CALFIRE Fire and Resource Assessment Program (FRAP), designates lands in three general classifications, “Moderate”, “High” and “Very High” Fire Hazard Severity Zones (FHSZ). However, the project site has not been identified on FRAP FHSZ mapping (CALFIRE, 2021). Although the project site is not mapped on CALFIRE maps identifying FHSZs, the project site and surrounding area have been affected by recent wildfires. Therefore, for the purpose of this analysis, the project site is assumed to be designated a High or Very High FHSZ.

Impact Analysis

The following includes an analysis of environmental parameters related to *Hazards and Hazardous Materials* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department and other agency staff, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

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

Small quantities of potentially hazardous substances (e.g., petroleum and other chemicals used to operate and maintain equipment, fertilizers, pesticides, etc.) are currently and would continue to be used at the project site. However, none of these materials will be stored at the project facilities in quantities to be considered a significant hazard. Fertilizers and soil amendments would be used during cultivation operations and are purchased and transported to the site as needed and stored onsite. Pest management consists of applications of commercially available neem oil, sulfur, and citric acid. The products are listed by the California Department of Pesticide Regulation (CDPR) as “Legal to Use on Cannabis” (CDPR, 2017). Pursuant to 3 CCR Section 8106, the cultivation operation would adhere to pest management plan submitted to California Department of Cannabis Control (DCC). The proposed project would also be required to comply with 3 CCR Section 8307, which among other requirements, includes pesticide application and storage protocols.

Application of fertilizers and pesticides would be used on cultivation areas only. Any used fertilizer and chemical containers would be disposed of according to manufacturer’s requirements. The proposed project will also be subject to the requirements of the State Water Resources Control Board Cannabis Cultivation Waste Discharge Regulatory

Program and the County Cannabis Ordinance. The SWRCB program and County ordinance have standard requirements applicable to cannabis cultivation operations that address impacts from the storage and use of hazardous materials. These include implementation of spill prevention, control, and countermeasures (SPCC) and the maintenance of appropriate cleanup materials onsite.

Compliance with standard transport and handling procedures of the chemical manufacturers, and the existing regulatory requirements of the County cannabis ordinances, CDPR, and the SWRCB, would ensure that impacts from the proposed project would be less than significant.

b) *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

The proposed project could expose workers, the public, or the environment to hazardous materials through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Small quantities of potentially hazardous substances (e.g., petroleum and other chemicals used to operate and maintain equipment, fertilizers, pesticides, etc.) are currently and would continue to be used at the proposed project site. Accidental releases of these substances could potentially contaminate soils and degrade the quality of surface water and groundwater, resulting in a public safety hazard. Compliance with standard safety procedures, hazardous materials handling regulations, and pesticide application requirements would minimize potential impacts from the project. For example, the proposed project would be required to comply with 3 CCR Section 8307, which among other requirements, includes pesticide application and storage protocols. As discussed above, the proposed project will also be subject to the requirements of the State Water Resources Control Board Cannabis Cultivation Waste Discharge Regulatory Program and the County Cannabis Ordinance. The SWRCB program and County ordinance have standard requirements applicable to cannabis cultivation operations that address impacts from the storage and use of hazardous materials. These include implementation of spill prevention, control, and countermeasures (SPCC) and the maintenance of appropriate cleanup materials onsite. Therefore, in compliance with existing regulatory requirements, impacts from the proposed project would be less than significant.

c) *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

The proposed project is located in a rural region of Trinity County. Although the proposed project includes the application of pesticides, the project site is not located within one-quarter mile of an existing or proposed school. As such, the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Therefore, no impacts would result from the proposed project.

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

Pursuant to 3 CCR § 8102, a hazardous materials record search was completed for the proposed premises. According to the DTSC Envirostor database and SWRCB Geotracker database, no hazardous facilities or hazardous materials contamination have been documented at the project site or in the adjacent area (DTSC, 2022; SWRCB, 2022). As such, the proposed project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment. Therefore, the proposed project would result in no impacts to this resource category.

e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project site?*

The project site is not located within an airport land use plan and is not within two miles of a public airport or public use airport. The closest airport to the project site is the Dinsmore Airport, which is a public airport approximately 19 miles northwest of the site. No impact would occur in this regard.

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

The project proposes the expansion of existing cannabis cultivation activities at the site. The project site is accessible from West Hettenshaw Road and private access roads. Based on the estimated number daily vehicle trips (up to 30 trips), the proposed project will not significantly impact traffic intensity on the roadway or impair access to the roadway or surrounding properties. Furthermore, the project will be required to comply with State and local Fire Safe Standards and applicable regulations for emergency vehicle access to the project sites including implementation of requirements by the Trinity County Department of Transportation and as directed by CALFIRE for compliance with State Fire Safe Standards. The proposed cultivation areas and associated features are not of the nature to impair implementation of, or physically interfere, with an adopted emergency response plan or emergency evacuation plan. Less than significant impacts would occur in this regard.

g) *Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?*

Fire suppression for the area is provided by a combination of first responders such as CALFIRE (designated as a State Responsibility Area), with additional firefighting support from the nearby US Forest Service (USFS) stations, and local volunteer fire departments. The CALFIRE Fire and Resource Assessment Program (FRAP), designates lands in three general classifications, "Moderate", "High" and "Very High" Fire Hazard Severity Zones (FHSZ). However, the project site has not been identified on FRAP FHSZ mapping (CALFIRE, 2021). Although the project site is not mapped on CALFIRE maps identifying FHSZs, the project site and surrounding area have been affected by recent wildfires. Therefore, for the purpose of this analysis, the project site is assumed to be designated a High or Very High FHSZ.

The project proposes the expansion of existing cannabis cultivation activities at the site. Water supply for fire suppression is provided by an approximately 300,000-gallon pond that captures rainwater. Development of the project would comply with State Fire Safe Standards for protection of life and property from wildfires through appropriate vegetation management around proposed structures, the availability and accessibility of onsite water storage, maintenance of access for emergency vehicles, and other measure required for fire protection/suppression as may be determined by the County or CALFIRE. Additionally, the Trinity County General Plan Safety Element discusses wildland fires and outlines Wildland Urban Interface Zones Fuels Treatment Goals that describe fuel treatment activities around residential and other structures (Trinity County, 2002).

Based on the above evaluation, and the existing baseline condition of the project site and surrounding area, the proposed project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. Therefore, the proposed project would result in a less than significant impact on this resource category.

Mitigation Measures

No mitigation measures are required. Impacts would be less than significant.

Findings

In the course of the above evaluation impacts associated *Hazards and Hazardous Materials* were found to be less than significant.

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Trinity County. 2002a. *General Plan Safety Element.* Revised March 2002.

Trinity County. 2002b. *General Plan Circulation Element.* Revised 2002.

USEPA (U.S. Environmental Protection Agency). 2022. *RCRA Database*. [Online]: https://enviro.epa.gov/facts/rcrainfo/search.html. Accessed February 5,2022.

X. HYDROLOGY AND WATER QUALITY: *Would the project:*	Potentially Significant Impact	Potentially Significant Impact Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?			X	
c.i) Substantially alter the existing drainage pattern of the site or area, through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or offsite?			X	
c.ii) Substantially alter the existing drainage pattern of the site or area, through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding or- or offsite?			X	
c.iii) Substantially alter the existing drainage pattern of the site or area, through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
c.iv) Substantially alter the existing drainage pattern of the site or area, through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would Create or contribute runoff which would Impede or redirect flood flows?			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

Environmental Setting

The proposed project is located in a rural and unincorporated region of Trinity County, known as Hettenshaw Valley. Hettenshaw Valley is located in the Eel River hydrologic unit (HU), Van Duzen River hydrologic area (HA), in the Bridgeville Hydrologic sub-area (No. 111.22). The project area is characterized by forested mountainous terrain surrounding an open valley floor. The project site ranges in elevation between 3,622 to 3,166 feet above mean sea level. On average, the project site receives approximately 64.88 inches of precipitation annually. The annual mean high temperature is 65.7 °F and the average low temperature in this area is 38.3°F. Several surface water features are located on the project parcel, including a rainwater pond, a spring, seasonal wetland, and several channels forming the headwaters of the Van Duzen River. In areas around the pond and stream channel's, riparian vegetation is primarily composed of willow (*Salix spp.*; Appendix C; TRC, 2020).

The current use of the project site includes up to 10,000 square feet of cannabis cultivation. The applicant is currently licensed by Trinity County and the California Department of Cannabis Control (DCC) to cultivate up to 10,000 square feet of cannabis canopy. Existing development and licensed cultivation activities are concentrated at the center of the property, within a relatively flat and open area on the valley floor.

The North Coast Regional Water Quality Control Board (NCRWQCB) adopts and implements the Water Quality Control Plan (Basin Plan) for the North Coast Region, which identifies beneficial uses and recognizes water quality problems unique to the region. Impacts to water quality associated with existing cannabis cultivation activities at the project site were initially regulated by the NCRWQCB under Order No. R1-2015-0023. However, cultivation operations were required to comply with regulations of the State Water Resources Control Board (SWRCB) Order No. WQ 2019-0001-DWQ (previously WQ 2017-0023-DWQ), referred to as Cannabis Cultivation General Order, by July 1, 2019. All BMPs in the order are considered enforceable conditions under the Order as applicable to a given site. The Order includes standard conditions regarding:

- Site maintenance, erosion control and drainage features
- Stream crossing maintenance and improvement
- Stream and wetland buffers
- Spoils management
- Water storage and use
- Irrigation runoff
- Fertilizers and soil amendments
- Pesticides
- Petroleum products and other chemicals
- Cultivation-related wastes
- Refuse and human waste, and
- Remediation, cleanup, and restoration activities.

Four project improvements (one spring diversion and three seasonal stream crossings) are included in the Draft Lake or Streambed Alteration Agreement (Notification No. 1600-2018-0134-R1) prepared for the project (CDFW, 2018a). An additional unimproved Class III stream crossing (SC-5) was identified in the Site Management Plan prepared for the project along the access road leading to the stream (Appendix C; TRC, 2020).

As shown in Figure 2 – Site Plan, water for the residence is primarily supplied by a domestic well, which is approximately 100 feet deep and has a flow rate of approximately 7.5 gallons per minute (gpm). Additional domestic water is supplied by a year-round spring on the property. Irrigation water for the cannabis operation is supplied by an agricultural well, which is approximately 200 feet deep and has a flow rate of approximately 40 gpm (see Figure 2 – Site Plan). The agricultural well will serve all cultivation activities and can produce over 20 million gallons annually. Irrigation methods include hand watering, drip irrigation, and sprinklers. The total water usage for the proposed cannabis project is estimated to be approximately 600,000 gallons per year. As indicated on Figure 2 – Site Plan, water storage for the cannabis operation includes 4,825 gallons in total. The water storage for domestic uses includes approximately 8,800 gallons in total. Water supply for fire suppression is provided by an approximately 300,000-gallon pond that captures rainwater.

An existing onsite wastewater treatment system (OWTS) permitted through the Trinity County Department of Environmental Health (DEH) serves the existing residence. The existing OWTS currently serves the subject property, treating typical residential wastewater from the residence and daily employees from the existing cannabis operation. The OWTS has capacity to serve approximately 6 persons.

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package, composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act (SGMA). Sustainable Groundwater Management Act (SGMA) requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. The California Department of Water Resources (DWR) prioritizes groundwater basins throughout the state in accordance with the provisions of California Water Code Section 10933(b). The project is located south of the Hettenshaw Valley Groundwater Basin (No. 1-036) (DWR, 2022). The Hettenshaw Valley Groundwater Basin is a northwest trending basin located along a tributary of the Van Duzen River with a surface area of approximately 1 square mile (DWR, 2004). DWR has classified the Hettenshaw Valley Groundwater Basin as “Very Low” priority and not at risk of critical overdraft (DWR, 2022).

Trinity County has identified Critical Water Resource Overlay Zones (CWR Zone) throughout the County. The CWR Zone is defined in County regulations as “an area where development may have a detrimental impact on water resources such as

those resulting from extractions of ground and/or surface waters, which would be beyond the capability of the resource, or by contamination of ground or surface waters." The proposed project is not located within a CWR Zone designation (Trinity County, 2022).

Flood zones are geographic areas that the Federal Emergency Management Agency (FEMA) has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM). Each flood zone reflects the anticipated type of flooding in the area. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel 06105C1525E (eff. 1/20/2010), the project site is located outside of a regulated flood hazard zone (FEMA, 2010). The entire project site is shown as being in Zone D – Possible but Undetermined Flood Hazard. The Zone D designation indicates that the area is generally sparsely populated and generally no flood analysis has been undertaken. Flooding can occur in Zone D but is generally limited to specific areas.

Impact Analysis

The following includes an analysis of environmental parameters related to *Hydrology and Water Quality* on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department and other agency staff, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

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

Onsite Wastewater Treatment System. Employees from the proposed cannabis operation will primarily utilize the existing OWTS. The OWTS has capacity to serve approximately 6 persons. During peak operation of the proposed project, a total of 8 employees may be required. Peak operation of the proposed project will occur on a seasonal basis. To ensure the OWTS does not exceed its designed capacity for 6 persons, the Applicant shall provide portable toilets when the number of employees at the site is greater than 6. Portable toilets shall be serviced regularly, and wastewater shall be disposed of at a permitted disposal facility. This requirement has been included as Mitigation Measure UTY-1 (see Section XIX – UTILITIES AND SERVICE SYSTEMS).

Cultivation Activities. Cannabis cultivation can degrade water quality in various ways, including discharges of sediment to surface water from roads or other land improvements; discharges of fertilizers, pesticides, and other chemicals to surface waters or groundwater; discharges of fertilizers and pesticides to surface water or groundwater; spills or leaks of fuels, lubricants, hydraulic oil, or other chemicals associated with pumps, construction, or other equipment; and discharges of trash, household refuse, or domestic wastewater. In addition, construction of ponds, and grading for other water storage devices and structures can lead to erosion and thus further degradation of surface water quality during construction.

SWRCB Order WQ 2019-0001-DWQ contains requirements for cannabis cultivation on sites greater than 2,000 square feet. These requirements include plans that address site erosion and sediment control, disturbed areas stabilization, nitrogen management, implementation of best practical treatment or control (BPTC) measures, site closure procedures, and monitoring and reporting requirements. In addition, the Order contains requirements for land development maintenance, erosion control, drainage features, stream crossing installation and maintenance, soil disposal and spoils management, and roadway design and maintenance. In addition, the County's Cannabis Program includes the following standards that address water quality for cultivation operations:

- The cultivation of cannabis shall not create erosion or result in contaminated runoff into any stream, creek, river, or body of water. If the designated area has more than a 35 percent slope, the applicant shall apply for a Tier 2 cultivation under the North Coast RWQCB Order #2015-0023, or regulations established by SWRCB (Section 315- 843[6][d]).

- Applicant shall obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity for construction projects that disturb 1 or more acres of land surface, specifically for new site preparation and development (Section 315-423[6][o]).

As described in the *Environmental Setting*, impacts to water quality associated with cannabis cultivation activities at the site are regulated by the SWRCB Order No. WQ 2019-0001-DWQ (previously WQ 2017-0023-DWQ). Additionally, the Cannabis Ordinances developed by the County identifies specific requirements for water use and water quality, including compliance with Senate Bill 94 (SB 94) and any applicable NCRWQCB or SWRCB regulations. These existing regulatory requirements address implementation of all applicable best practicable treatment or control (BPTC) measures. A Water Resources Protection Plan (PWA, 2016) and Site Management Plan (Appendix C; TRC, 2020) were prepared for the project, which outline best management practices (BMPs) to prevent, minimize, and control the discharge of waste and other controllable water quality factors associated with site restoration/cleanup/remediation and site operations and maintenance. As the proposed build-out of the project occurs, this Plan will need to be amended to reflect the modified conditions at the site.

Pursuant to 3 CCR Section 8102, the applicant will provide evidence of enrollment and compliance with the SWRCB and/or NCRWQCB to the California Department of Cannabis Control (DCC). Furthermore, the project would require compliance with any other conditions requested by California Department of Fish and Wildlife (CDFW) or the SWRCB pursuant to 3 CCR Section 8304. Chemical materials for pest management and other uses will be stored and used by the proposed project. As described in Section IX - HAZARDS AND HAZARDOUS MATERIALS, the proposed project would be required to comply with 3 CCR Section 8307, which among other requirements, includes pesticide application and storage protocols effective for protecting surface water and groundwater.

The proposed project also includes the improvement of a spring diversion and several stream crossings. Construction of these improvements may require earthmoving in and around water features, such as streams, wetlands, and/or other associated features (e.g., riparian habitat). These water features are considered Waters of the U.S. and/or Waters of the State. For the improvements impacting Waters of the U.S. and/or Waters of the State, the Applicant is required to obtain permits from jurisdictional regulatory agencies, such as a Section 404 Permit from U.S. Army Corps of Engineers (USACE), Section 401 Certification from North Coast Regional Water Quality Control Board (NCRWQCB), and/or a Lake and Streambed Alteration Agreement (LSAA) from the California Department of Fish and Wildlife (CDFW). Terms and conditions provided in the aforementioned permit approvals would include measures, standards, and protocols to ensure earth moving activities near streams, wetlands, and/or other associated features do not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

Based on the above evaluation, the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Impacts would be less than significant in this regard.

b) *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

The County's Cannabis Program includes requirements regarding water supply. With regards to cultivation activities, applicants must comply with all state laws, including SB 94, regarding surface water, including but not limited to, water used for the cultivation of cannabis needs to be sourced onsite from a permitted well or diversion. If using a permitted well, a copy of the Trinity County well permit shall be provided. The cultivation of cannabis shall not utilize water that has been or is illegally diverted from any stream, creek, river, or water source. If water is hauled it shall be for emergencies, as defined as a sudden, unexpected occurrence, and a bill of sale shall be kept on file from a water district or legal water source (Cultivation) (Section 315-843[6][c]).

As described in the *Environmental Setting,* water for the residence is primarily supplied by a domestic well, which is approximately 100 feet deep and has a flow rate of approximately 7.5 gallons per minute (gpm). Additional domestic water is supplied by a year-round spring on the property. The applicant's draft CDFW LSAA includes the improvement of the existing spring diversion system.

Irrigation water for the cannabis operation is supplied by an agricultural well, which is approximately 200 feet deep and has a flow rate of approximately 40 gpm. The agricultural well will serve all cultivation activities and can produce over 20 million gallons annually. Irrigation methods include hand watering, drip irrigation, and sprinklers. The total water usage for the proposed project is approximately 600,000 gallons per year. There are no additional water sources requested as part of the proposed project.

As indicated on Figure 2 – Site Plan, water storage for the cannabis operation includes 4,825 gallons in total. The water storage for domestic uses includes approximately 8,800 gallons in total. Water supply for fire suppression is provided by an approximately 300,000-gallon pond that captures rainwater.

As mentioned above, the project site is not located within a CWR Zone designated by Trinity County or a groundwater basin identified by the DWR. The project is located south of the Hettenshaw Valley Groundwater Basin (No. 1-036) (DWR, 2022). DWR has classified the Hettenshaw Valley Groundwater Basin as "Very Low" priority and not at risk of critical overdraft (DWR, 2022).

The EIR prepared for the County Cannabis Ordinance evaluated whether the Cannabis Program could result in groundwater supply impacts (Trinity County, 2020; pgs. 3.10-32 to 3.10-34 and pgs. 4-11 to 4-13). To reduce potential groundwater impacts from implementation of the Cannabis Program, mitigation was included requiring the reporting of annual monitoring of groundwater conditions to the County as part of the annual inspections required under the ordinance. This monitoring is intended to identify if onsite well operations are resulting in groundwater drawdown impacts and what adaptive measures would be implemented to recover groundwater levels and protect adjacent wells. Should this monitoring data identify potential drawdown impacts on adjacent well(s), surface waters, and waters of the state and sensitive habitats, and indicate a connection to operation of the onsite wells, the cannabis operators, in conjunction with the County, shall develop adaptive management measures to allow for recovery of groundwater levels that would protect adjacent wells and habitat conditions that could be adversely affected by declining groundwater levels. Adaptive management measures may include forbearance (e.g., prohibition of groundwater extraction from the months of May to October), water conservation measures, reductions in onsite cannabis cultivation, alteration of the groundwater pumping schedule, or other measures determined appropriate. Adaptive management measures will remain in place until groundwater levels have recovered and stabilized based on annual monitoring data provided to the County as part of subsequent annual inspections. Any monitoring of cannabis cultivation irrigation wells that demonstrate hydrologic connection to surface waters shall be subject to surface water diversion requirements and restrictions in SWRCB Order WQ 2019-0001- DWQ.

Because implementation of this mitigation measure would be required as part of annual commercial cannabis operations permit renewals (see Cannabis Ordinance Section 17.43G.030.X), it would provide ongoing protection of local groundwater resources and offset cumulative groundwater impacts. Thus, implementation of this requirement of the Cannabis Program would prevent potential cumulative impacts from cannabis operations in the project area. As the existing regulations described above ensure that water provided for the proposed project would not interfere or impede sustainable groundwater recharge and management, impacts would be less than significant.

c) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

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

The project activities will be required to comply with the standard provisions of the County Cannabis Ordinances as well as the State Water Resources Control Board Cannabis Cultivation Waste Discharge Regulatory Program which requires dischargers to implement Appendix B: *Best Management Practices for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects*. Implementation of these standard conditions will result in the protection of water quality and not impact drainage patterns, surface runoff, or cause substantial erosion or siltation on or off-site. Therefore, impacts from the proposed project would be less than significant.

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

As noted above, the project would be required to comply with the State Water Resources Control Board Cannabis Cultivation Waste Discharge Regulatory Program. The SWRCB program requires the management of stormwater runoff to prevent substantial increases in runoff that would result in flooding. In compliance with these requirements, the proposed project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. Therefore, impacts from the proposed project would be less than significant.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The project proposes the expansion of existing cannabis cultivation activities at the site. Due to the rural location of the proposed project, there are limited stormwater drainage facilities that would be affected by the proposed project. Stormwater drainage facilities are typical for urban settings where impervious surfaces are expansive. Project activities will be required to comply with the requirements of the County Cannabis Ordinances as well as the SWRCB Order No. WQ 2019-0001-DWQ (previously WQ 2017-0023-DWQ), which includes measures to minimize runoff to watercourses and drainage systems. Therefore, impacts from the proposed project would be less than significant.

iv) Impede or redirect flood flows?

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel 06105C1525E (eff. 1/20/2010), the project site is located outside of a regulated flood hazard zone (FEMA, 2010). The entire project site is shown as being in Zone D – Possible but Undetermined Flood Hazard. The Zone D designation indicates that the area is generally sparsely populated and generally no flood analysis has been undertaken. Flooding can occur in Zone D but is generally limited to specific areas.

Measures listed in Attachment A of the State Water Resources Control Board (SWRCB) Cannabis General Order include, but are not limited to, drainage features, access road maintenance and improvements, and stream crossing maintenance and improvements. Compliance with the requirements of the Cannabis General Order will minimize the potential for the proposed improvements to impede or redirect flood flows. As such, the project site is not in a special flood hazard area and is not anticipated to impede or redirect flood flows. Therefore, impacts from the proposed project would be less than significant.

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

As noted above, according to the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM) Panel 06105C1525E the project site is located within areas of undetermined/unmapped flood hazard risk (FEMA, 2010). Due to the location of the proposed project in a relatively flat and open valley floor containing the headwaters of the Van Duzen River, there is limited risk of flood hazards affecting the proposed project.

The project site ranges in elevation between 3,166 to 3,622 feet above mean sea level. The threat of a tsunami wave is not applicable to inland areas. There is no body of water near the project site that has the potential for the generation of a seiche. No impact would occur in this regard.

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

Refer to impact discussions under subsections a) and b) above. Less than significant impacts would occur in this regard.

Mitigation Measures

No mitigation measures are required. Impacts would be less than significant.

Findings

In the course of the above evaluation impacts associated *Hydrology and Water Quality* were found to be less than significant.

Documentation and References

DWR (California Department of Water Resources). 2022. *SGMA Basin Prioritization Dashboard*. [Online]: https://gis.water.ca.gov/app/bp-dashboard/final/. Accessed February 5, 2022.

DWR. 2004. *North Coast Hydrologic Region – Hettenshaw Valley Groundwater Basin*. California's Groundwater – Bulletin 18.

FEMA (Federal Emergency Management Agency). 2010. *Flood Insurance Rate Map (FIRM) Panel No.06105C1525E*.

NCRWQCB (North Coast Regional Water Quality Control Board). 2015. NCRWQCB *Order No. 2015-0023.* 2015.

PWA (Pacific Watershed Associates). 2016. *Water Resources Protection Plan (WRPP) for APN 020-120-025.* December, 2016.

SWRCB (State Water Resources Control Board). 2017. *SWRCB No. WQ 2017-0023-DWQ.* [Online]: https://www.waterboards.ca.gov/water_issues/programs/cannabis/docs/finaladoptedcango101717.pdf

Trinity County. 2022. *Trinity County Water Resources Application*. [Online]: https://trinitycounty.maps.arcgis.com/apps/Viewer/index.html?appid=514684c4928a412fa86bef1d37fd3750. Accessed February 8, 2022.

Trinity County. 2020. *Volume 2 Revised Draft Environmental Impact Report – Trinity County Cannabis Program.* November 2020.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

XI. LAND USE AND PLANNING: *Would the project:*	Potentially Significant Impact	Potentially Significant Impact Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			X	

Environmental Setting

The proposed project is located in a rural and unincorporated region of Trinity County, known as Hettenshaw Valley, approximately 23.6 miles southwest of the unincorporated community of Hayfork, California. The project is located on Trinity County Assessor Parcel Number (APN) 020-120-25, which is approximately 80 acres in size. The project site, as well as the surrounding parcels, are within the Resource (RE) General Plan designation and Unclassified (U) zoning district.

Both the County General Plan and County Code did not specifically anticipate development of commercial cannabis when they were developed. In response to California State Law that allows commercial cannabis activities under permitted and controlled conditions, Trinity County developed County-specific ordinances to regulate commercial cannabis cultivation, testing, nurseries, manufacturing, distribution, microbusiness, events, and sales within the County. Ordinances 315-823, 315-829, 315-830, and 315-841 regulate cultivation and are all specifically titled "*An Ordinance of the Board of Supervisors of the County of Trinity Amending Zoning Ordinance No. 315 Creating Section 28: Commercial Cannabis Cultivation Regulations*". All of these ordinances are referred to, collectively, in this section as the "Cannabis Ordinance."

The Cannabis Ordinance, in combination with the provisions of the General Plan and requirements of the County Code, are used to determine appropriate locations and operating standards for cannabis operations in Trinity County. An applicant can apply for a Use Permit for cannabis cultivation operations under the Cannabis Ordinance, as well as a variance to specific provisions and requirements of the Cannabis Ordinance, with approval at the discretion of the County Planning Commission and Board of Supervisors.

The project will require a variance as the project occurs within the 500-foot setback from the property line; however no sensitive receptors are expected to be affected by the project as the nearest sensitive receptor is a residence on an adjacent parcel which occurs over 700 feet from the cultivation area.

Impact Analysis

The following includes an analysis of environmental parameters related to *Land Use and Planning* on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

a) *Would the project physically divide an established community?*

The project does not have the potential to physically divide an established community; the project does not propose to divide land or rezone the parcel. Therefore, the proposed project would result in no impact on this resource category.

b) *Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

The County's General Plan serves as the overall guiding policy document for land use and development. The subject property and surrounding parcels are designated in the General Plan as Resource (RE) and have Unclassified (U) zoning.

Agricultural related activities are consistent with the RE designation and are considered an allowable use in the U zone. As the proposed project consists of agricultural related activities, the project is considered consistent with the General Plan designation and Zoning District.

Development of the proposed cannabis cultivation sites will generally occur in the center of the property, near areas of existing cannabis cultivation. However, the proposed cultivation area does not comply with the Trinity County Code Section 17.43.050.A.8, which requires a 500-foot setback from the property lines for a medium (up to one acre of canopy) cannabis cultivation site. As a condition of approval of the use permit, the variance must be approved before the applicant can proceed with cultivation in the proposed cultivation area requiring the variance. The purpose of the 500-foot property line setback requirement provision in Trinity County Code Section 17.43.050.A.8. is to mitigate potential impacts (e.g., odors, noise, lighting, fugitive dust, etc.) to adjacent neighbors from cannabis cultivation activities.

Proposed cultivation areas are approximately 345 feet from the property line for APN 020-120-024 to the north and 421 feet from the property line for APN 020-120-010 to the south. The existing residence on APN 020-120-010 is located 700 feet from the nearest cultivation area. Given this distance, the reduced setback from the property line is not anticipated to result in significant impacts from cultivation activities. Once a variance is issued by the County, the variance is evaluated on an annual basis. Should impacts such as odors, noise, lighting, fugitive dust, etc., from the project become an issue, the County could terminate the variance approval and require relocation of the cultivation activity or require additional mitigation measures to be incorporated into the project to reduce the impacts to a less than significant level.

Based on the proposed location and uses, implementation of the proposed project would not conflict with a plan, policy, or regulation for the purpose of mitigation an environmental effect. Impacts are considered less than significant in this regard.

Mitigation Measures

No mitigation measures are required. Impacts would be less than significant.

Findings

In the course of the above evaluation impacts associated with *Land Use and Planning* were found to be less than significant.

Documentation and References

Trinity County. 2020. *Volume 2 Revised Draft Environmental Impact Report – Trinity County Cannabis Program.* November 2020.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

Trinity County. 1988. *General Plan – Land Use Element.* 1988.

XII. MINERAL RESOURCES: *Would the project:*	Potentially Significant Impact	Potentially Significant Impact Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?			X	
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local General Plan, specific plan or other land use plan?			X	

Environmental Setting

A mineral resource is land on which known deposits of commercially viable mineral or aggregate deposits exist. The designation is applied to sites determined by the State Division of Mines and Geology as being a resource of regional significance and is intended to help maintain any quarrying operations and protect them from encroachment of incompatible uses.

Mineral production has historically been a significant part of the economy of Trinity County but has waned in the last 75 years. Historically, the County has seen a wide array of mineral production, including asbestos, chromite, copper, sand and gravel gold, limestone, and manganese to name a few. The proposed project site has historically been used for residential, agricultural, and timber harvest purposes. The project area has not been designated by the State or Trinity County as an area of significant mineral resources or an area of locally important minerals (Trinity County, 1973; CGS, 2020).

Impact Analysis

The following includes an analysis of environmental parameters related to *Mineral Resources* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

a-b) A mineral resource is land on which known deposits of commercially viable mineral or aggregate deposits exist. The designation is applied to sites determined by the California Geological Survey as being a resource of regional significance and is intended to help maintain any quarrying operations and protect them from encroachment of incompatible uses. The site has not been designated as an important mineral resource recovery site by a local general plan, specific plan, or other land use plan or by the State of California (Trinity County, 1973; CGS, 2020). The project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State and would not result in the loss of availability of a locally important mineral resource recovery site. No impact would occur in this regard.

Mitigation Measures

No mitigation measures are required.

Findings

In the course of the above evaluation, impacts associated with *Mineral Resources* were found to not be significant because of the inability of a project of this scope to create such impacts or the absence of project characteristics producing effects of this type.

Documentation and References

CGS (California Geological Survey). 2020. *CGS Information Warehouse - Mineral Land Classifications.* 2020.

Trinity County. 2020. *Volume 2 Revised Draft Environmental Impact Report – Trinity County Cannabis Program.* November 2020.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

Trinity County. 1973. *General Plan – Open Space and Conservation Element.* April 1973.

XIII. NOISE: *Would the project result in:*	Potentially Significant Impact	Potentially Significant Impact Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Generation of excessive ground borne vibration or ground borne noise levels			X	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X

Environmental Setting

Noise impacts are those that exceed general plan or other local ordinances developed to provide reasonable control of noise to residences, parks, open spaces and other specific designated sites and land uses. Noise sources typically include roadways, freeways, schools, industrial and commercial operations, and other facilities that can generate noise. The Trinity County General Plan Noise Element and the Cannabis Ordinances provide guidelines and direction for noise sources and attenuation requirements for various uses. Projects proposed for development within the County will have their development evaluated to determine potential conformance with the Noise Element and as necessary, specific conditions of approval or mitigations will be placed on projects.

The General Plan Noise Element contains maximum allowable noise exposure levels for stationary noise sources (see Table 2 below). Stationary noise sources are defined by the Noise Element (pg. 3) as "*Any fixed or mobile sources not preempted from local control by existing federal or state regulations. Examples of such sources include industrial and commercial facilities, and vehicle movements on private property*" (Trinity County, 2003).

Table 2
Maximum Allowable Noise Exposure-Stationary Noise Sources

	Daytime (7 a.m. to 7 p.m.)	Evening (7 p.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly Equivalent Sound Level (Leq), dB	55	50	45
Maximum Sound Level (Lmax), dB	75	70	65

The project site is surrounded by vacant, undeveloped land or agricultural uses and there are no structures or sensitive receptors immediately adjacent to the site. Additionally, there are no schools, parks, childcare centers, hospitals, convalescent homes, and retirement homes in the project vicinity. Proposed cultivation areas are approximately 347 feet from APN 020-120-024 to the north and 435 feet from APN 020-120-010 to the south. According to the applicant, the nearest sensitive receptor (residence) is located on parcel 020-120-023 approximately 2,250 feet from the northern property line and approximately 2,600 feet from the nearest proposed cultivation area. In the vicinity of the project, noise generation sources are limited and consist of vehicle traffic along West Hettenshaw Road and any maintenance or management activities on the surrounding properties.

The project site is not located within an airport land use plan and is not within the vicinity of a private airstrip or within two miles of a public airport or public use airport. The closest airport to the project site is the Dinsmore Airport, which is a public airport approximately 19 miles northwest of the site.

Impact Analysis

The following includes an analysis of environmental parameters related to *Noise* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department and other agency staff, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

a) *Would the project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

The project proposes the expansion of existing cannabis cultivation activities at the site. Proposed cultivation will occur outdoors, utilizing full sun cultivation methods. Noise generated by the proposed project has the potential to travel to neighboring properties, including APN 020-120-024 (347 feet) and APN 020-120-010 (435 feet).

Construction. The proposed project requires limited site preparation and construction activities. The use of heavy equipment for site preparation and construction activities has the potential to generate noise. However, noise from site preparation and construction activities would be temporary, occurring for a relatively short duration, and limited to daytime hours. Furthermore, due to the limited scope and scale of construction activities, the proposed project is not of the nature to generate excessive noise levels. Therefore, noise generated from site preparation and construction activities would have a less-than-significant impact.

Operation. Typical cannabis cultivation operations are not considered a significant noise generation source because the daily activities are generally hand operations with minimal equipment use. Electricity is provided to the project site by existing connections to PG&E lines, thereby allowing project related activities to typically occur without the use of generators to power cultivation operations or ancillary facilities. Proposed cultivation activities will occur outdoors utilizing full sun cultivation methods.

If portions of the cultivation areas are converted to mixed-light cultivation using artificial lighting, it is anticipated that emergency generators will be required in the case of a power outage or public power safety shutoff. Use of emergency generators will be reserved for situations where existing PG&E lines are unable to provide electricity to the project site. Emergency generators will be required to comply with 3 CCR Section 8306, which establishes requirements for the use and registration of generators rated above or below fifty (50) horsepower. Furthermore, the proposed project will require consistency with performance standards established by Section 17.43.060(B) of the County Code, which requires proposed cannabis operations to comply with the noise level standards set forth in the County General Plan (55 dBA from 7 AM to 7 PM and 50 dBA from 7 PM to 7 AM) measured at the property line, except that generators associated with a commercial grow are not to be used between 10 PM and 7 AM.

Noise levels associated with transportation sources are considered temporary and are not likely to generate significant noise at the nearest sensitive receptors due to distance, topography, and vegetation. The EIR prepared for the County Cannabis Ordinance determined that transportation operational noise from implementation of the Cannabis Program would not exceed the exterior noise standards for maximum allowable exposure from transportation noise (60 decibels) on SR 36 (Trinity County, 2020; pg. 3.12-12, Table 3.12-5). For road sections in the County where the noise standards would be exceeded, the EIR concluded that there are not feasible mitigation measures that could be implemented to reduce transportation noise impacts and impacts would be cumulatively considerable (Trinity County, 2020). As discussed in the Transportation section of this document, the proposed project would generate up to 30 vehicle/truck trips per day, which is below the Governor's Office of Planning and Research (OPR) threshold for determining when a project would have a significant transportation impact. Considering the limited traffic that would be generated by the project, the intermittent nature of cannabis activities, and the modeled traffic noise levels in the Cannabis Program EIR for SR 36, it is not anticipated that the proposed project would result in a cumulatively considerable contribution to cumulative impacts from transportation operational noise.

Based on the distance to the nearest sensitive receptors, implementation of performance standards of the County cannabis regulations, and review by County staff for compliance during operations, noise levels from the proposed project are not anticipated to exceed the noise standards in the General Plan Noise Element at the nearest noise-sensitive land uses. Therefore, impacts from the proposed project will be less than significant on this resource category.

b) *Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?*

Groundborne vibrations are usually associated with heavy vehicle traffic (including railroad traffic), and with heavy equipment operations. The proposed project requires limited site preparation and construction activities. The proposed project does not include construction activities that would result in groundborne vibration, such as pile driving or demolition activities. The use of heavy equipment for site preparation and construction activities has the potential to generate minor groundborne vibrations. However, due to the limited scope and scale of construction activities, the proposed project is not of the nature to generate excessive ground borne vibration or ground borne noise levels that would impacts structures or people. Impacts would be less than significant in this regard.

c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project site to excessive noise levels?*

The project site is not located within an airport land use plan and is not within two miles of a public airport or public use airport. The closest airport to the project site is the Dinsmore Airport, which is a public airport approximately 19 miles northwest of the site. No impact would occur in this regard.

Mitigation Measures

No mitigation measures are required. Impacts would be less than significant.

Findings

In the course of the above evaluation impacts associated with *Noise* were found to be less than significant.

Documentation and References

USEPA (Environmental Protection Agency). 1981. *Noise Effects Handbook.* Revised 1981. [Online]: www.nonoise.org/library/handbook/handbook.htm

Trinity County. 2020. *Volume 2 Revised Draft Environmental Impact Report – Trinity County Cannabis Program.* November 2020.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

Trinity County. 2003. *General Plan – Noise Element.* October 2003.

XIV. POPULATION AND HOUSING: *Would the project:*	Potentially Significant Impact	Potentially Significant Impact Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

Environmental Setting

The project site is located in a rural and unincorporated region of Trinity County. The unincorporated community of Zenia is located approximately 5.6 miles southwest from the project. Trinity County has a population of approximately 13,786 persons (U.S. Census Bureau, 2010). Housing throughout the project area is primarily individual rural residences on larger parcels of land. The average persons per household in Trinity County is 2.09 (U.S. Census Bureau, 2019).

Impact Analysis

The following includes an analysis of environmental parameters related to *Population and Housing* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

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

Implementation of the proposed project would result in the development and use of existing lands and facilities with additional cannabis activities. The project is not proposing additional housing or other land uses with the potential to cause significant growth-inducing impacts. The proposed expansion would employ a maximum of eight (8) employees (some seasonal and some temporary) each year. The applicant proposes to use the local labor force within the County to the extent feasible. Based on the information provided, and evaluation of the area, there are no growth-inducing impacts associated with the proposed project. No impact would occur in this regard.

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

The project parcel is currently used for cannabis cultivation and associated rural residential dwelling. The proposed project would occur adjacent to existing development near the center of the property. The proposed project would not result in the displacement of people or housing. Therefore, the proposed project would have no impact on this resource category.

Mitigation Measures

No mitigation measures are required.

Findings

In the course of the above evaluation, impacts associated with *Population and Housing* were found to not be significant because of the inability of a project of this scope to create such impacts or the absence of project characteristics producing effects of this type.

Documentation and References

US Census (United States Census Bureau). 2019. *Quick Facts – Trinity County*. https://www.census.gov/quickfacts/trinitycountycalifornia.

U.S. Census Bureau. 2010. *American Fact Finder.* [Online]: https://data.census.gov/cedsci/table?g=0500000US06105&tid=DECENNIALSF12010.P1&hidePreview=false. Accessed: December 28, 2020.

XV. PUBLIC SERVICES: *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*	**Potentially Significant Impact**	**Potentially Significant Impact Unless Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) Fire Protection?			**X**	
b) Police Protection?			**X**	
c) Schools?				**X**
d) Parks?				**X**
e) Other public facilities?				**X**

Environmental Setting

The project site is located in a rural and unincorporated region of Trinity County. The unincorporated community of Zenia is located approximately 5.6 miles southwest from the project. Fire protection is provided to the project site by CALFIRE and the nearest volunteer fire department, Ruth Lake Community Services District, which provides mutual aid services. Forested lands in the vicinity of the project site are owned and managed by the USFS, who provide additional wildland fire protection service in the project vicinity. Law enforcement to the area is provided by the Trinity County Sheriff's Department and the California Highway Patrol (CHP). The project site is located within the Southern Trinity Joint Unified School District, which includes Hoaglin-Zenia Elementary School, Van Duzen Elementary School, and Southern Trinity High School.

Impact Analysis

The following includes an analysis of environmental parameters related to *Public Services* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

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

Fire protection services to the proposed project are currently provided by County, State and federal agencies and private emergency responders. Development of the project is not expected to significantly increase the demand for these protection services. Impacts are less than significant in this regard.

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

Law enforcement services to the proposed project are currently provided by Trinity County Sheriff's Department and the CHP. Development of the project is not expected to significantly increase the demand for these protection services. The proposed project is subject to the Trinity County Cannabis Ordinance which includes the following standards for security, as stated in the Trinity County Revised Draft EIR (Trinity County, 2020):

- All buildings where cannabis is cultivated or stored shall be secured to prevent unauthorized entry (Cultivation)(Section 315-843[6][f]).

- Security plan shall be developed which is compliant with state requirements and submitted with an application and must be sufficient to restrict access to only those intended and to deter trespass and theft of cannabis or cannabis products (Manufacturing) (Section 315-842[4][D]).

- A safety and security plan shall be submitted and accepted by the County. This plan shall be updated annually. All security protocols shall be implemented prior to commencing operations (Testing) (Section 315-824[5][f]).

- Security plan shall be developed which is compliant with state requirements and submitted with an application and must be sufficient to restrict access to only those intended to deter trespass and theft of Cannabis or Cannabis products shall be provided and maintained. The security plan shall be approved by the Board of Supervisors, or its designee (Distribution) (Section 315-828[3][D]).

Based on the above evaluation, the proposed project would result in a less than significant impacts in this regard.

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

While the development of this project could attract employees with families that may have school age children, and those students may contribute to the total student enrollment in these schools, the implementation of the proposed project is not expected to result in a significant increase in the number of school-age children as the result of the proposed eight (8) total employees who work and may also reside within the school districts. Impacts are less than significant in this regard.

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

There are no developed parks in the vicinity of the project site, and the proposed project will not increase the intensity of the land use, impacts to parks and recreational facilities in the project area would remain at existing conditions; no new residential uses are proposed. The proposed project would not include recreational facilities or require the construction or expansion of recreational facilities. No impact would occur in this regard.

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

The proposed project does not involve a substantial change in the land use, does not substantially increase the numbers of people employed in the region, and does not create or require additional housing or related facilities, an increased demand on public facilities is unlikely to occur. Impacts are less than significant in this regard.

Mitigation Measures

No mitigation measures are required. Impacts would be less than significant.

Findings

In the course of the above evaluation impacts associated with *Public Services* were found to be less than significant.

Documentation and References

CALFIRE (California Board of Forestry and Fire Protection). 2022. *Fire Hazard Severity Zone Viewer.* [Online]: https://egis.fire.ca.gov/FHSZ/. Accessed February 4,2022.

CALFIRE. *State Responsibility Area Viewer.* 2022. [Online]: https://calfire-forestry.maps.arcgis.com/apps/webappviewer/index.html?id=468717e399fa4238ad86861638765ce1. Accessed February 4, 2022.

Trinity County. 2020. *Volume 2 Revised Draft Environmental Impact Report – Trinity County Cannabis Program.* November 2020.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

Trinity County. 2002. *General Plan – Safety Element.* Revised March 2002.

XVI. RECREATION:	Potentially Significant Impact	Potentially Significant Impact Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

Environmental Setting

The project site is located in a rural and unincorporated region of Trinity County. The project is located on private property within the boundary of the Six Rivers National Forest. The unincorporated community of Zenia is located approximately 5.6 miles southwest from the project. There are no neighborhood parks or recreation facilities near the project.

Impact Analysis

The following includes an analysis of environmental parameters related to *Recreation* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

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

The proposed project does not propose a land use that would substantially increase population levels of adults or school-age children in the region. Furthermore, there are no neighborhood parks or recreation facilities in the project vicinity. The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. No impact would occur in this regard.

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

The project proposes the expansion of an existing cannabis cultivation operation. The proposed project does not include recreational facilities or require the construction or expansion of recreational facilities which will have an adverse physical effect on the environment. No impact would occur in this regard.

Mitigation Measures

No mitigation measures are required.

Findings

In the course of the above evaluation, impacts associated with *Recreation* were found to not be significant because of the inability of a project of this scope to create such impacts or the absence of project characteristics producing effects of this type.

Documentation and References

Trinity County. 2020. *Volume 2 Revised Draft Environmental Impact Report – Trinity County Cannabis Program.* November 2020.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

Trinity County. 1973. *General Plan – Open Space and Conservation Element.* April 1973.

United States Department of Agriculture (USDA) Forest Service, Six Rivers National Forest, Recreation. [Online]: https://www.fs.usda.gov/recmain/srnf/recreation. Accessed: February 5, 2021.

XVII. **TRANSPORTATION**: *Would the project:*	Potentially Significant Impact	Potentially Significant Impact Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			X	
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d) Result in inadequate emergency access?			X	

Environmental Setting: The project site is located in a rural and unincorporated region of Trinity County. The project site's main access is provided via West Hettenshaw Road, which intersects with State Route 36 via Ruth-Zenia Road and Van Duzen Road. State Route 36 is the main transportation route through the southern Trinity County area. Due to the location of the project site, there are no pedestrian and bicycle facilities or transit services adjacent to the site.

The Trinity County General Plan Circulation Element was last updated in 2002 to address changes to state requirements for regional transportation planning and to address other changes to the Circulation element. The Circulation Element does not address vehicle miles traveled (VMT).

Public transit services are provided by the County Department of Transportation through Trinity Transit, which provides daily bus service between destinations such as Arcata, Willow Creek, Hayfork, and Weaverville. The closest bus stop to the project site is along SR-3 in downtown Hayfork. Other private transit carriers also operate in Trinity County to provide services to the elderly, disabled, school children and others (Trinity Transit, 2020).

Impact Analysis

The following includes an analysis of environmental parameters related to *Transportation* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

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

The project parcel is currently used for cannabis cultivation and an associated rural residential dwelling. Due to the location of the project site, there are no pedestrian and bicycle facilities or transit services adjacent to the site. The project proposes the expansion of the existing cannabis cultivation operation to allow up to a maximum of 1-acre of cultivation canopy. The proposed project would occur adjacent to existing development near the center of the property. As this project does not propose the development of new roads or easements there is no conflict with the General Plan Circulation Element. The estimated vehicle trips from the proposed project (up to 30 daily trips) are not anticipated to cause a significant increase in traffic or require changes to any roadways, public transit, or pedestrian/bicycle facilities.

Construction. The proposed project requires limited site preparation and construction activities. Construction would result in vehicle trips by construction workers, haul-truck trips for delivery, and disposal of construction materials and spoils to and from construction areas. Due to the limited amount of development proposed by the project, construction activities would not result in substantial adverse effects or conflicts with the local roadway system.

Operation. Approximately eight (8) seasonal and temporary employees are anticipated during peak operational activity for the cannabis operation. Three (3) of the employees would live onsite seasonally and five (5) would commute to work each day. During peak operation, the proposed project is estimated to generate up to 30 vehicle/truck trips per day. This will include 26 employee vehicles trips per day (conservative estimate of 4 trips per day per commuting employee and 2 trips per day per employee living onsite), 2 trips per day for the import of agricultural materials and supplies needed for the cultivation operation (1 in/1 out), and 2 trips per day for the export of cannabis products (1 in/1 out). The maximum number of daily trips generated by the proposed project (30) is not of the nature to significantly increase traffic volumes or alter traffic patterns in conflict with a program, plan, ordinance or policy addressing the circulation system.

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

The Governor's Office of Planning and Research (OPR) has developed a screening threshold to determine when detailed analysis is needed due to the potential for a project to generate a potentially significant level of VMT. The threshold states that projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant transportation impact (OPR, 2018). As noted above, the proposed project is estimated to generate approximately 30 vehicle/truck trips per day, which is well below the screening threshold recommended by OPR. For this reason, a detailed analysis of VMT impacts is not included in this Initial Study and it is determined that the project would result in less than significant transportation impacts during operation.

Therefore, the proposed project would not result in conflicts with plans or policies addressing the circulation system and would not conflict with CEQA Guidelines Section 15064.3, subdivision (b) during either construction or operation. As such, a less than significant impact would occur for this resource category.

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

The project site is accessed by existing roadways in the project vicinity, including West Hettenshaw Road by way of Ruth-Zenia Road, Van Duzen Road, and State Route 36. The proposed project does not propose any new roads and does not propose or require any realignment of existing roads that might cause hazards due to a geometric design feature. The project site is currently used for cannabis cultivation, and no incompatible uses have been identified that would result in significant hazards with implementation of the proposed project. Therefore, less than significant impacts would occur in this regard.

d) *Would the project result in inadequate emergency access?*

Adequate existing access is currently provided to the project site via State, County, and onsite private roads. No emergency access issues have been identified during operation of the existing cannabis activities at the project site. The project will be required to comply with State and local Fire Safe Standards and applicable regulations for emergency vehicle access to the project sites including implementation of requirements by the Trinity County Department of Transportation (TCDOT) and as directed by CALFIRE for compliance with State Fire Safe Standards. In compliance with these existing regulatory requirements, emergency access to the site would be adequate and impacts from the proposed project would be less than significant.

Mitigation Measures

No mitigation measures are required. Impacts would be less than significant.

Findings

In the course of the above evaluation impacts associated with *Transportation* were found to be less than significant.

Documentation and References

OPR (Governor's Office of Planning and Research). 2018. *Technical Advisory – On Evaluating Transportation Impacts in CEQA.*

Trinity County. 2020. *Volume 2 Revised Draft Environmental Impact Report – Trinity County Cannabis Program.* November 2020.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

Trinity County. 2002. *General Plan – Circulation Element.* Revised 2002.

Trinity Transit. 2020. [Online]: http://trinitytransit.org/. Accessed: April 27, 2020.

XVIII. TRIBAL CULTURAL RESOURCES: *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:*	**Potentially Significant Impact**	**Potentially Significant Impact Unless Mitigation Incorporated**	**Less-Than-Significant Impact**	**No Impact**
a) 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		**X**		
b) 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. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		**X**		

Environmental Setting

Assembly Bill (AB) 52 was enacted on July 1, 2015 and establishes that "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (Public Resources Code Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource when feasible (PRC Section 21084.3).

Public Resources Code Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and meets either of the following criteria:

- 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 these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California cities, counties, and tribes regarding tribal cultural resources. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

The purpose of the consultation is to determine whether a proposed project may result in a significant impact to tribal cultural resources that may be undocumented or known only to the tribe and its members. As set forth in PRC Section 21080.3.1(b), the law requires:

"Prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, the lead agency shall begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation."

The project location falls within the territory of the Southern Athapaskans speaking Lassik (Elsasser 1978). The Southern Athapaskans were comprised of five ethnic groups: Lassik, Mattole, Nongatl, Sinkyone and Wailaki sometimes collectively referred to as the Eel River Athapaskans. The Lassik occupied the drainage of the Main Eel River between the mouths of Dobbyn and Kekawaka creeks and the headwaters of the North Fork Eel and Mad Rivers. The crest of the South Fork mountains on the east served as a boundary between them and the Wintu of Upper Trinity River. The Lassik were bordered

by the Nongatl to the north, the Wintu to the east, the Sinkyone to the west and the Eel River Wailaki to the south. The Lassik occupied three tribelets and about 20 named villages. The tribelet is described as a single group with a small territory, usually a single drainage area, and a principal town or settlement; often a chief is recognized by the whole group, and the tribelet may have a specific name, perhaps based on the name of its principal town. Each tribelet acted as a homogeneous unit in matters of land ownership, reaction to trespass, war, and major ceremonies. The Southern Athapaskans occupied the extreme northern part of the North Coast Range geomorphic province (Appendix B; NIC, 2019b).

A Cultural Resources Assessment for the proposed project was prepared by Natural Investigations Company (NIC) that included literature and Sacred Lands File searches as well as an intensive-level pedestrian survey over the project site. The report notes that no cultural resources have been previously recorded within the project area and concludes that no newly identified prehistoric or historic-era resources were identified during the pedestrian survey (Appendix B; NIC, 2019b).

The County sent certified project notification letters to the culturally affiliated Tribal groups on December 3, 2019 and January 27, 2020, pursuant to PRC Section 21080.3.1, notifying that the project was under review and to provide the Tribes 30 days from the receipt of the letter to request consultation on the project in writing. No responses were received requesting the initiation of consultation under the provisions of AB 52.

Impact Analysis

The following includes an analysis of environmental parameters related to *Tribal Cultural Resources* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

a) *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is 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)?*

The County sent certified project notification letters to the culturally affiliated Tribal groups on December 3, 2019 and January 27, 2020, pursuant to PRC Section 21080.3.1, notifying that the project was under review and to provide the Tribes 30 days from the receipt of the letter to request consultation on the project in writing. No responses were received requesting initiation of consultation under the provisions of AB 52. Additionally, results from the intensive-level pedestrian survey and associated record search did not identify any prehistoric or historic archaeological sites, ethnographic sites, or historic-era built environment resources on the project site (Appendix B; NIC, 2019b).

However, there remains the possibility that tribal cultural resources could exist in the area and may be uncovered during project development. To prevent potential impacts to unknown tribal cultural resources at the project site, an inadvertent discovery protocol is included as Mitigation Measure CR-1 (see Section V – CULTURAL RESOURCES). With the proposed mitigation measure, the project will not cause a substantial adverse change in the significance of a tribal cultural resource. Therefore, the proposed project would result in a less than significant impact with mitigation incorporated.

b) *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is 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?*

Based on the above information, Trinity County (as lead agency) has determined that there are no known tribal cultural resources present on the project site that are considered significant to a California Native American Tribe. However, there remains the possibility that tribal cultural resources could exist in the area and may be uncovered during project

development. To prevent potential impacts to unknown tribal cultural resources at the project site, an inadvertent discovery protocol is included as Mitigation Measure CR-1 (see Section V – CULTURAL RESOURCES). With the proposed mitigation measure, the project will not cause a substantial adverse change in the significance of a tribal cultural resource. Therefore, the proposed project would result in a less-than-significant impact with mitigation incorporated.

Mitigation Measures

Mitigation Measure CR-1. If cultural resources, such as chipped or ground stone, or bone are discovered during ground-disturbance activities, work shall be stopped within 50 feet of the discovery, as required by the California Environmental Quality Act (CEQA; January 1999 Revised Guidelines, Title 14 California Code of Regulations [CCR] 15064.5 (f)). Work near the archaeological finds shall not resume until a professional archaeologist, who meets the Secretary of the Interior's Standards and Guidelines, has evaluated the material, and offered recommendations for further action.

Findings

In the course of the above evaluation impacts associated with *Tribal Cultural Resources* were found to be less than significant. Mitigation measures for the protection of currently unknown but discovered resources are provided for in Section V – CULTURAL RESOURCES.

Documentation and References

NIC (Natural Investigations Company). 2019b. *Cultural Resources Assessment for the Cannabis Cultivation Operation at 1760 W. Hettenshaw Road, Zenia, Trinity County, California.* March 2019.

Trinity County. 2020. *Volume 2 Revised Draft Environmental Impact Report – Trinity County Cannabis Program.* November 2020.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

XIX. UTILITIES AND SERVICE SYSTEMS: *Would the project:*	Potentially Significant Impact	Potentially Significant Impact Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				X
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?		X		
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e) Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?			X	

Environmental Setting

The project site is located in a rural and unincorporated region of Trinity County. Due to the rural nature of the project site, limited public utilities and service systems are provided and available in the area. However, electricity is provided to the project site by Pacific Gas & Electric (PG&E). The Trinity County Solid Waste Department provides solid waste services at County landfills, with waste disposal by private waste haulers or individuals. Cannabis waste is not permitted at County landfills. Water for the residence is primarily supplied by a domestic well. Additional domestic water is supplied by a year-round spring on the property. Irrigation water for the cannabis operation is supplied by an agricultural well. Wastewater treatment is provided by an existing OWTS on the project site that serves the existing residence and cannabis operation. The OWTS has capacity to serve approximately 6 persons.

Impact Analysis

The following includes an analysis of environmental parameters related to *Utilities and Service Systems* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

a) *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

The proposed project will not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. No impact would occur in this regard.

b) *Would the project have sufficient water supplies available to serve the project and/or reasonably foreseeable future development during normal, dry, and multiple dry years?*

The County's Cannabis Program includes requirements regarding water supply. With regards to cultivation activities, applicants must comply with all state laws, including SB 94, regarding surface water, including but not limited to, water used for the cultivation of cannabis needs to be sourced onsite from a permitted well or diversion. If using a permitted well, a copy of the Trinity County well permit shall be provided. The cultivation of cannabis shall not utilize water that has been or is illegally diverted from any stream, creek, river, or water source. If water is hauled it shall be for emergencies, as defined as a sudden, unexpected occurrence, and a bill of sale shall be kept on file from a water district or legal water source (Cultivation) (Section 315-843[6][c]).

Implementation of the proposed project would not require new infrastructure to support water service. Water is currently provided to the project site by two existing groundwater wells and a spring diversion. No additional water sources are required for the proposed project. The primary source of water serving the proposed cannabis cultivation operation would be the existing agricultural well with production capacity of 40 gallons per minute. The agricultural well will serve all cultivation activities and can produce over 20 million gallons annually. Irrigation methods include hand watering, drip irrigation, and sprinklers. The total water usage for the proposed project is approximately 600,000 gallons per year. As indicated on Figure 2 – Site Plan, water storage for the cannabis operation includes 4,825 gallons in total. The water storage for domestic uses includes approximately 8,800 gallons in total. Water supply for fire suppression is provided by an approximately 300,000-gallon pond that captures rainwater.

As described in Section X – HYDROLOGY AND WATER QUALITY, the project is located south of the Hettenshaw Valley Groundwater Basin (No. 1-036) (DWR, 2022). The Hettenshaw Valley Groundwater Basin is a northwest trending basin located along a tributary of the Van Duzen River with a surface area of approximately 1 square mile (DWR, 2004). DWR has classified the Hettenshaw Valley Groundwater Basin as "Very Low" priority and not at risk of critical overdraft (DWR, 2022).

The EIR prepared for the County Cannabis Ordinance evaluated whether the Cannabis Program could result in groundwater supply impacts (Trinity County, 2020; pgs. 3.10-32 to 3.10-34 and pgs. 4-11 to 4-13). To reduce potential groundwater impacts from implementation of the Cannabis Program, mitigation was included requiring the reporting of annual monitoring of groundwater conditions to the County as part of the annual inspections required under the ordinance. This monitoring is intended to identify if onsite well operations are resulting in groundwater drawdown impacts and what adaptive measures would be implemented to recover groundwater levels and protect adjacent wells. Should this monitoring data identify potential drawdown impacts on adjacent well(s), surface waters, and waters of the state and sensitive habitats, and indicate a connection to operation of the onsite wells, the cannabis operators, in conjunction with the County, shall develop adaptive management measures to allow for recovery of groundwater levels that would protect adjacent wells and habitat conditions that could be adversely affected by declining groundwater levels. Adaptive management measures may include forbearance (e.g., prohibition of groundwater extraction from the months of May to October), water conservation measures, reductions in onsite cannabis cultivation, alteration of the groundwater pumping schedule, or other measures determined appropriate. Adaptive management measures will remain in place until groundwater levels have recovered and stabilized based on annual monitoring data provided to the County as part of subsequent annual inspections. Any monitoring of cannabis cultivation irrigation wells that demonstrate hydrologic connection to surface waters shall be subject to surface water diversion requirements and restrictions in SWRCB Order WQ 2019-0001- DWQ. Thus, implementation of this requirement of the Cannabis Program would prevent potential cumulative impacts from cannabis operations in the project area.

Based on the above, sufficient water supplies exist to serve the proposed project. Impacts are considered less than significant in this regard.

c) *Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

The project site is located in a rural region of Trinity County. Wastewater treatment is provided by an existing onsite wastewater treatment system (OWTS) serving the project site. The OWTS has capacity to serve approximately 6 persons, which is adequate for typical operation of the propose project when 3 seasonal employees will be at the project site. However, during peak operation of the proposed project, 5 additional temporary employees may be required (8 employees in total). Peak operation of the proposed project will occur on a seasonal basis, on occasions when additional temporary employees may be needed. Therefore, to ensure the OWTS does not exceed its designed capacity for 6 persons, the applicant shall provide portable toilets when the number of employees at the site is greater than 6. Portable

toilets shall be serviced regularly, and wastewater shall be disposed of at a permitted disposal facility. With the incorporation of Mitigation Measure UTY-1, portable toilets in addition to the wastewater treatment system will have adequate capacity to serve the project's projected Therefore, impacts will be less than significant with mitigation incorporated.

d) *Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

For cannabis waste, a Cannabis Waste Management Plan will be prepared for the proposed projects pursuant to 3 CCR Section 8108 and submitted to the California Department of Cannabis Control (DCC). Cannabis waste will be stored and managed at the project parcels at a designated composting area pursuant to 3 CCR Section 8308. The generation of solid waste that is not able to be composted will continue to be disposed of at existing solid waste facilities, as other residential and commercial waste is currently being handled. Disposing of solid waste in existing facilities, either through self-hauling or by contracting with an existing hauler, will ensure the project does not violate solid waste standards at the State or local level. Impacts would be less than significant in this regard.

e) *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

The construction and operational activities from the proposed projects would be required to comply with all federal, State, and local statutes related to solid waste, including Assembly Bill (AB) 939. This would include compliance with recycling, hazardous waste, and composting programs in the County to comply with AB 939. For cannabis waste, a Cannabis Waste Management Plan will be prepared for the proposed projects pursuant to 3 CCR Section 8108 and submitted to the California Department of Cannabis Control (DCC). Cannabis waste will be stored and managed at the project site at a designated composting area pursuant to 3 CCR Section 8308. The proposed project would fully comply with these existing regulations and programs in ensuring continued compliance with the California Integrated Waste Management Act. The proposed project employs the reduce, reuse, recycle mantra throughout its operations and continuously improves on waste diversion practices. Impacts are less than significant in this regard.

Mitigation Measures

The following mitigation measure has been developed to reduce potential impacts related to utilities and service systems to less than significant levels:

Mitigation Measure UTY-1: The applicant shall provide portable toilets when the number of employees at the site exceeds 6 persons, such as on occasions when additional temporary employees may be needed on a seasonal basis. Portable toilets shall be serviced regularly, and wastewater shall be disposed of at a permitted disposal facility.

Findings

Based upon the review of the information above the implementation of the proposed project will have a less than significant impact with respect to *Utilities and Service Systems*.

Documentation and References

Trinity County. 2022. *Solid Waste Department*. [Online]: https://www.trintycounty.org/Solid-Waste. Accessed February 4, 2022.

Trinity County. 2020. *Volume 2 Revised Draft Environmental Impact Report – Trinity County Cannabis Program.* November 2020.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

XX. **WILDFIRE:** *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*	Potentially Significant Impact	Potentially Significant Impact Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			X	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			X	

Environmental Setting

The unincorporated community of Zenia is located approximately 5.6 miles southwest from the project. The project site is located in an area designated as a State Responsibility Area (SRA) (CALFIRE, 2021). Fire suppression for the area is provided by a combination of first responders such as CALFIRE (designated as a State Responsibility Area), with additional firefighting support from the nearby US Forest Service (USFS) stations, and local volunteer fire departments. The nearest volunteer fire department is Ruth Lake Community Services District which provides mutual aid services. Forested lands in the vicinity of the project site are owned and managed by the USFS, who provide additional wildland fire protection service in the project vicinity.

The proposed project is located in a region that has not yet been mapped by the CALFIRE Fire and Resource Assessment Program (FRAP) for Fire Hazard Severity Zones (FHSZ) (CALFIRE, 2021). Although the project site is not mapped on CALFIRE maps identifying FHSZ's, the project site and surrounding area have been affected by recent wildfires. Therefore, for the purpose of this analysis, the project site is assumed to be designated a High or Very High FHSZ. Furthermore, the majority of land in Trinity County has a designation of Very High FHSZ (for both SRA and non-SRA lands). Fire hydrants in the County are limited to highly developed areas, and none are located in the area of the project. However, water supply for fire suppression at the project site is provided by an approximately 300,000-gallon pond that captures rainwater.

The County General Plan has taken wildfire risk and prevention into consideration as a part of the Trinity County General Plan Safety Element. In addition to the local General Plan, the State of California has developed Fire Safe Standards (Public Resource Code Sections 4290 and 4291), which dictate development in rural areas throughout the state, and require vegetation clearing, onsite water storage requirements, adequate emergency access, and other building and development standards to reduce impacts from wildfires.

The Trinity County Office of Emergency Services (OES) administers the County's *Emergency Operations Plan* to respond to major emergencies and disasters. The *Emergency Operations Plan* identifies a broad range of potential hazards and a response plan for each. The Trinity County Sheriff's Department, California Highway Patrol, and other cooperating law enforcement agencies have primary responsibility for evacuations. These agencies work with the County OES, and with responding fire department personnel who assess fire behavior and spread, which ultimately influence evacuation decisions. As of this time CALFIRE, Trinity County Fire Council, Trinity County OES, Trinity County Sheriff's Department, and others have not adopted a comprehensive emergency evacuation plan applicable to this area.

All evacuations in the County follow pre-planned procedures to determine the best plan for the type of emergency. The designated County emergency evacuation and law enforcement coordinator is the sheriff. The evacuation coordinator is assisted by other law enforcement and support agencies in emergency events. Law enforcement agencies, highway/street

departments, and public and private transportation providers would conduct evacuation operations. Activities would include law enforcement traffic control, barricades, signal control, and intersection monitoring downstream of the evacuation area, all with the objective of avoiding or minimizing potential backups and evacuation delays.

Another factor in the evacuation process would be a managed and phased evacuation declaration. Evacuating in phases, based on vulnerability, location, or other factors, enables subsequent traffic surges on major roadway to be minimized over a longer time frame and can be planned to result in traffic levels that flow more efficiently than when mass evacuations include large evacuation areas simultaneously. Law enforcement personnel and Trinity County Office of Emergency Services staff would be responsible for ensuring that evacuations are phased appropriately, taking into consideration the vulnerability of communities when making decisions.

Impact Analysis

The following includes an analysis of environmental parameters related to *Wildfire* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Based on a field review by the Planning Department, information provided by the applicant, existing information available to the Planning Department, and observations made on the project site and in the vicinity, the following findings can be made:

a) *Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

The project proposes the expansion of an existing cannabis cultivation operation. Adequate existing access is currently provided to the project site via State, County, and onsite private roads. No emergency access issues have been identified during operation of the existing cannabis activities at the project site. The proposed project will not significantly impact traffic intensity on the access route to the site or impair access to the roadways or surrounding properties. As of this time CALFIRE, Trinity County Fire Council, Trinity County OES, Trinity County Sheriff's Department, and others have not adopted a comprehensive emergency evacuation plan applicable to this area. As such, the proposed project would not substantially impair an adopted emergency response plan or emergency evacuation plan. Less than significant impacts would occur in this regard.

b) *Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

The steep topography and extent of forests and woodlands, coupled with typically hot, dry summers, create an extreme fire danger throughout most of the County. The subject property is located within a State Responsibility Zone (SRA). CAL FIRE is the responsible agency with jurisdiction over inspections and managing the fire resources in the area. As such, the subject property is required to maintain a 100-foot defensible space around all structures (CALFIRE, 2005). In addition, the proposed project is required to comply with State Fire Safe Standards for protection of life and property from wildfires through clearing of vegetation, location of appropriately sized water storage facilities, and other actions required for fire protection/suppression actions as may be determined by CALFIRE.

Commercial cannabis operations are regulated for fire avoidance and protection measures consistent with building and fire codes (CCR Title 24, Part 2, Chapter 7A and PRC Section 4291) and the Trinity County Code of Ordinances (Chapter 8.30), that provide wildfire protection standards for emergency access, signing and building numbering; private water supply reserves for emergency fire use and vegetation modification. Additionally, State licensing requirements also include fire avoidance and protection measures for cultivation in accordance with CCR Section 8102(aa) and CCR 5501(i).

While the project is located in an area assumed to be Very High Fire Hazard Severity Zone, which could expose employees to pollutant concentrations or the uncontrolled spread of a wildfire, these hazards would not be substantially different than that for other types of land uses in the project area. Therefore, the proposed project as designed and in compliance with existing laws and regulations, will not exacerbate wildfire risks, due to slope, prevailing winds, and other factors and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Impacts would be less than significant in this regard.

c) *Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

The project proposes the expansion of an existing cannabis cultivation operation. Proposed cultivation areas will be accessible from existing access roads. The project does not include the addition of new roads, fuel breaks, emergency water sources, power lines or other utilities. The project proposes to use the existing PG&E power supply on the property. Maintenance of existing infrastructure at the site (e.g., groundwater well, storage tanks, septic system, access roads, etc.) is not an activity that has the potential to exacerbate fire risk or result in significant impacts to the environment. New development will comply with fire avoidance and protection measures consistent with building and fire codes (CCR Title 24, Part 2, Chapter 7A and PRC Section 4291) and the Trinity County Code of Ordinances (Chapter 8.30), that provide wildfire protection standards for emergency access, signing and building numbering. State licensing requirements also include fire avoidance and protection measures for cultivation (CCR Section 8102[aa] and CCR 5501[i]). There are no temporary or ongoing activities that will exacerbate the fire risk in the area. Impacts would be less than significant in this regard.

d) *Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

As described in Section X – HYDROLOGY AND WATER QUALITY, the project site is located within areas of undetermined/unmapped flood hazard risk (FEMA, 2010). However, the project site is located within a relatively flat area in a valley floor near the headwaters of the Van Duzen River. There are no sheer or unstable cliffs in the immediate project vicinity. Several low gradient water courses meander through the valley floor in the project vicinity. However, due to site topography, the risk of causing downslope/downstream flooding or landslides is limited. For these reasons, the flooding or landslide hazards, as a result of runoff, post-fire slope instability, or drainage changes are considered to be less than significant.

Mitigation Measures

No mitigation measures are required. Impacts would be less than significant.

Findings

Based upon the review of the information above the implementation of the proposed project will have a less than significant impact with respect to *Wildfire*.

Documentation and References

CALFIRE (California Board of Forestry and Fire Protection). 2022. *Fire Hazard Severity Zone Viewer.* [Online]: https://egis.fire.ca.gov/FHSZ/. Accessed February 4, 2022.

CALFIRE. *State Responsibility Area Viewer.* 2022. [Online]: https://calfire-forestry.maps.arcgis.com/apps/webappviewer/index.html?id=468717e399fa4238ad86861638765ce1. Accessed February 4, 2022.

CPRC (California Public Resources Code). *Division 4, Forests, Forestry and Range and Forage Lands. Part 2 Protection of Forest, Range and Forage Lands. Chapter 2, Hazardous Fire Areas, Sections 4251-4290.5*.

CPRC. *Division 4, Forests, Forestry and Range and Forage Lands. Part 2 Protection of Forest, Range and Forage Lands. Chapter 3, Mountainous, Forest-, Brush- and Grass-Covered Lands, Sections 4291-4299*.

Trinity County. 2022. *Solid Waste Department*. [Online]: https://www.trintycounty.org/Solid-Waste. Accessed February 4, 2022.

Trinity County. 2018. *Cannabis Ordinance Nos. 315-823; 315-829; 315-830; 315-841; 315-843; and 315-849*. As amended through December 2020.

Trinity County. 2002. *General Plan – Safety Element.* Revised March 2002.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE:	Potentially Significant Impact	Potentially Significant Impact Unless Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below the self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection the effects of past projects, the effects of other current projects, and the effects of probable future projects)?		X		
c) Does the project have potential environmental effects which may cause substantial adverse effects on human beings, either directly or indirectly?			X	

Impact Analysis

a) *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number, or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

Evaluation of the proposed project as provided in Section IV – BIOLOGICAL RESOURCES, has shown that the activities of the proposed project do not have the potential to degrade the quality of the environment and will not substantially reduce the habitat or cause wildlife populations to drop below self-sustaining levels. Mitigation measures for biological resources have been developed to reduce potential impacts on sensitive habitats and species to less than significant levels. Refer to Mitigation Measures BIO-1, BIO-2, and BIO-3 in Section IV – BIOLOGICAL RESOURCES.

Also, based on the discussion and findings in Section V – CULTURAL RESOURCES, there is evidence to support a finding that the proposed project is not eligible for listing in the National Register of Historic Places (NRHP) or the California Register of Historic Resources (CRHR) under any significance criteria. The project is located in an area that does not appear to be sensitive for prehistoric or historic occupation and is considered to have a low to moderate sensitivity for surface sites and very low sensitivity for subsurface sites. Although no archaeological deposits or features were found during the *Cultural Resources Assessment for the Cannabis Cultivation Operation at 1760 W. Hettenshaw Road, Zenia, Trinity County, California* (Appendix B; NIC, 2019b), implementation of mitigation measures will ensure that any additional archaeological deposits or features that may be discovered are fully protected during implementation of the project. Refer to Mitigation Measures CR-1 and CR-2 in Section V – CULTURAL RESOURCES.

b) *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

As discussed throughout this document, implementation of the proposed project has the potential to result in impacts to the environment that are individually limited, but are not cumulatively considerable, including impacts to biological resources, cultural resources, geology and soils, and utilities and service systems. In most instances where the project has the potential to result in individually limited significant impacts to the environment (including the resources listed above), mitigation measures have been imposed to reduce the potential effects to less-than-significant levels. In other instances, the project design and compliance with existing laws and regulations would reduce impacts of the project to less-than-significant levels.

Trinity County has approved several permits for commercial cannabis operations within the project area. The project site is surrounded by vacant, undeveloped land or agricultural uses and there are no structures or sensitive receptors

immediately adjacent to the site. According to the applicant, the nearest sensitive receptor (residence) is located on parcel 020-120-023 approximately 2,250 feet from the northern property line and approximately 2,600 feet from the nearest proposed cultivation area. Due to the rural location and size of the project site, the potential for the project to make a considerable contribution to potential cumulative impacts (e.g., odors, noise, lighting, fugitive dust, etc.) from cannabis activities in the project area is limited. However, there is a potential for the project to contribute to cumulative water quality impacts since the headwaters of Van Duzen River flow through the eastern half of the subject property. These potential cumulative water quality impacts would not be cumulatively considerable due to compliance with existing regulatory requirements including, but not limited to, the SWRCB Cannabis General Order, DCC regulations (see California Code of Regulations § 8102(p); § 8102(dd); § 8216; § 8304(a and b); § 8307), and the Trinity County Cannabis Ordinance.

Additional discussion of cumulative impacts that could potentially occur from the proposed cannabis cultivation activities in the project area is provided below for several topics including groundwater withdrawal, air quality and odors, noise, and transportation.

Groundwater Withdrawal

As discussed in Section X – HYDROLOGY AND WATER QUALITY of this document, the project proposes to use a 200-foot-deep groundwater well for cultivation activity that has a yield of approximately forty (40) gallons per minute. The agricultural well will provide irrigation water for the existing and proposed cultivation activities and, according to the estimate yield, can produce over 20 million gallons annually. The total water usage for the proposed cannabis project is estimated to be approximately 600,000 gallons per year. Based on the estimate yield of the well, there is more than sufficient water supply for the proposed cultivation activity.

As mentioned above, the project site is not located within a CWR Zone designated by Trinity County or a groundwater basin identified by the DWR. The nearest groundwater basin to project site is the Hettenshaw Valley Groundwater Basin (1-036), which is located to the north of the site. DWR has classified the Hettenshaw Valley Groundwater Basin as a "very low" priority groundwater basin and not at risk of critical overdraft (DWR, 2022).

The EIR prepared for the County Cannabis Ordinance evaluated whether the Cannabis Program could result in groundwater supply impacts (Trinity County, 2020; pgs. 3.10-32 to 3.10-34 and pgs. 4-11 to 4-13). To reduce potential groundwater impacts from implementation of the Cannabis Program, mitigation was included requiring the reporting of annual monitoring of groundwater conditions to the County as part of the annual inspections required under the ordinance. This monitoring is intended to identify if onsite well operations are resulting in groundwater drawdown impacts and what adaptive measures would be implemented to recover groundwater levels and protect adjacent wells and surface waters. Because implementation of this mitigation measure would be required as part of annual commercial cannabis operations permit renewals (see County Code Section 17.43G.030.X), it would provide ongoing protection of local groundwater resources and offset cumulative groundwater impacts. Thus, implementation of this requirement of the Cannabis Program would prevent potential cumulative impacts from cannabis operations in the project area. Therefore, in compliance with Section 17.43G.030.X of the County Code, groundwater withdrawal by the proposed project would not result in a cumulatively considerable impact.

Air Quality and Odors

As discussed in the Section III – AIR QUALITY of this document, Trinity County is in attainment or unclassified for all federal and state ambient air quality standards (AAQS), including the standards for particulate matter. However, other areas in the North Coast Air Basin (NCAB) are designated nonattainment for PM10 (e.g., Humboldt County). As discussed in the EIR prepared for the County's Cannabis Program (Trinity County, 2020; pg. 3.3-20), most of the particulate matter associated with cannabis operations would be generated by vehicle travel on unpaved roadways. As discussed in Section III – AIR QUALITY of this document, the access route from Highway 36 to the project site (Van Duzen Road, Ruth-Zenia Road, and W Hettenshaw Road) is paved for most of the route to the project site. For example, the distance from Highway 36 to the project site is approximately 18 miles, and less than 10 percent of this route contains unpaved roads. Vehicle/truck trips during operation of the project are estimated to be up to 30 trips daily. Since 90 percent of the route from Highway 36 to the project site is paved, vehicle use associated with the project would primarily be on paved roads that would minimize the potential generation of fugitive dust emissions. The conclusion in the Cannabis Program EIR related to particulate matter from vehicle travel on dirt roads (i.e., cumulatively significant and unavoidable) is based on the assumption that many

cannabis operations would be accessed by long stretches of unpaved roads. However, that is not the case for the project site. As such, the potential for the generation of particulate matter due to vehicle use from the project is not anticipated to result in significant impacts or contribute to cumulatively significant and unavoidable impacts.

During long-term operation of the proposed cannabis operation, there is the potential for the generation of objectionable odors in the form of cannabis cultivation, drying, and processing activities. The potential for odors to be perceived and considered objectionable depends on the size of a cannabis operation, the receptors, the strain of cannabis being cultivated/processed, the presence of nearby vegetation, and topographic and atmospheric conditions. Although exposure to offensive odors generally does not result in physical harm, the odors can be perceived as objectionable leading to considerable distress among the public and can result in citizen complaints to local governments and regulatory agencies.

As discussed in the EIR prepared for the County's Cannabis Program (Trinity County, 2020; pg. 3.3-24), Type 3 cultivation operations are required to be setback a minimum of 500 feet from an adjacent property line. The purpose of the 500-foot property line setback requirement provision in Trinity County Code 17.43.050.A.8. is to mitigate potential impacts (e.g., odors, noise, lighting, fugitive dust, etc.) to adjacent neighbors from cannabis cultivation activities. The applicant is requesting a Variance to reduce the property line setback for cultivation activity from 500 feet to between 347-435 feet. With the reduced setback from the property lines, the proposed project would still meet the functional equivalent of the minimum 500-foot setback since the nearest residence is over 2,600 feet away from the closest cultivation area. Furthermore, the nearest sensitive receptors to the project site are themselves either cultivating cannabis and/or have immediate neighbors that are cultivating cannabis. As such, considering the subjective nature of odor impacts, their tolerance for cannabis odors may be significantly greater than that of the general public.

Trinity County Code Section 17.43.G.040.E requires cannabis cultivation operators to develop and implement an Odor Control Plan (excluding properties zoned agricultural, agricultural-forest, or agricultural preserve). Any parcels cultivating cannabis surrounding the subject property would also be required to individually identify and describe odor-emitting activities and controls for reducing/controlling odors onsite. Since this Odor Control Plan requirement is inclusive of the Trinity County Cannabis Program, and no adjacent parcels are exempt zones (i.e., agricultural zoning), it is assumed that any adjacent cannabis projects would also be required to incorporate odor control measures into their individual projects, which would further reduce potential cumulative impacts in the project area. Creation and implementation of an Odor Control Plan is a requirement of the County Code and has been included as a condition of approval for the project. Odor control measures can include, but are not limited to, hoop/tarping outdoor cultivation, carbon filtration located within project structures, and planting companion plants (mint/rosemary) that blend with the cannabis odors.

If the existing and proposed cannabis operations in the project area were to burn excess plant material from cultivation and processing activities, there is a greater potential for the odors to be detected by nearby receptors and for the odors to be considered objectionable. However, this activity is prohibited by State cannabis regulations (CCR Section 8108).

Based on the rural location of the project site, surrounding topography and vegetation, limited number of sensitive receptors in the project area, and compliance with the odor control requirements of the County Code, it is not anticipated that the proposed project would result in the exposure of a substantial number of people to objectionable odors from cannabis activities. Therefore, the proposed project would not result in a cumulatively considerable contribution to cumulative impacts related to odors.

Noise

As discussed in Section XIII – NOISE section of this document, the EIR prepared for the County Cannabis Program analyzed potential construction impacts from development of new cannabis operations or the expansion of existing operations (Trinity County, 2020; pgs. 3.12-8 to 3.12-10 and 4-14 to 4-15). To mitigate potential noise impacts from construction activity, mitigation was required limiting outdoor construction activity to the hours of 7:00 a.m. to 7:00 p.m. (see County Code Section 17.43G.040.I). The EIR determined that with the implementation of this requirement, potential impacts to sensitive receptors from construction noise would not be cumulatively considerable (Trinity County, 2020). Therefore, with the implementation of County Code Section 17.43G.040.I, construction noise impacts from the proposed project would not result in a cumulatively considerable impact.

The EIR prepared for the County Cannabis Program analyzed potential operational noise impacts from development of new cannabis operations or the expansion of existing operations (Trinity County, 2020; pgs. 3.12-10 to 3.12-13). The operational impacts analyzed included both non-transportation and transportation noise.

The EIR determined that non-transportation operational noise from implementation of the Cannabis Program would not exceed the noise standards in the County General Plan due to the temporary and periodic nature of cannabis activities and the setback requirements in the County Code (e.g., minimum 500 feet from property lines for Type 3 licenses for which the project is proposing a functional equivalent [i.e., approximately 2,600 feet from the nearest residence to proposed cultivation areas]; Trinity County, 2020). The project proposes cannabis activities that are consistent with the assumptions and analysis conducted in the EIR and it is not anticipated that any new significant impacts or substantially more severe impacts would occur from implementation of the proposed project. Therefore, the non-transportation operational noise from the proposed project would not result in a cumulatively considerable impact.

The EIR prepared for the County Cannabis Ordinance determined that transportation operational noise from implementation of the Cannabis Program would not exceed the exterior noise standards for maximum allowable exposure from transportation noise (60 decibels) on SR 36 (Trinity County, 2020; pg. 3.12-12, Table 3.12-5). For road sections in the County where the noise standards would be exceeded, the EIR concluded that there are not feasible mitigation measures that could be implemented to reduce transportation noise impacts and impacts would be cumulatively considerable (Trinity County, 2020). As discussed in the Transportation section of this document, the proposed project would generate up to 30 vehicle/truck trips per day, which is below the Governor's Office of Planning and Research (OPR) threshold for determining when a project would have a significant transportation impact. Considering the limited traffic that would be generated by the project, the intermittent nature of cannabis activities, and the modeled traffic noise levels in the Cannabis Program EIR for SR 36, it is not anticipated that the proposed project would result in a cumulatively considerable contribution to cumulative impacts from transportation operational noise.

Transportation

As discussed in the Transportation section of this document, the Governor's Office of Planning and Research (OPR) has developed a screening threshold to determine when detailed analysis is needed due to the potential for a project to generate a potentially significant level of vehicle miles traveled (VMT) or a significant transportation impact. The threshold states that projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact. As noted above, the proposed cannabis operations are estimated to generate up to 30 vehicle trips per day, which is well below the screening threshold recommended by OPR.

The EIR prepared for the County Cannabis Ordinance analyzed potential transportation impacts from the development of new cannabis operations or the expansion of existing operations (Trinity County, 2020; pgs. 3.14-13 to 3.14-16, 3.14-19, and 4-15 to 4-16). The EIR determined that implementation of the Cannabis Program would not result in cumulatively considerable impacts from construction traffic or VMT. The proposed project is consistent with the assumptions and analysis in the EIR as no new significant impacts or substantially more severe impacts would occur from the project. Therefore, the proposed project would not result in cumulatively considerable impacts related to construction traffic or VMT.

The EIR indicated that there is the potential for cumulative transportation and circulation impacts related to inadequately designed roadways that are not properly designed to accommodate traffic volumes, stormwater drainage conditions, or emergency access. Adequate existing access is currently provided to the project site via State, County, and onsite private roads. No emergency access or significant design issues have been identified during operation of the existing cannabis activities at the project site. Ninety (90) percent of the route from Highway 36 to the project site would occur on paved, County-maintained roadways (Van Duzen Road, Ruth-Zenia Road, and W Hettenshaw Road) that have been designed to meet emergency access and other road design standards. In addition, the applicant would be required to ensure onsite access roads meet County roadway and access design and fire safety requirements set forth in County Code of Ordinances (Chapters 8.30 and 12.10). Compliance with these requirements would offset the potential contribution to cumulative impacts related to traffic safety and emergency access. Therefore, based on the project location and compliance with County Code requirements, the proposed project would not result in cumulatively considerable impacts related to traffic safety and emergency access.

Conclusion

Based on the above discussion and the analysis throughout this document, the proposed project as located, designed, mitigated, and in compliance with existing regulatory requirements, would not result in impacts that are individually limited, but cumulatively considerable. Therefore, impacts would be less than significant with mitigation incorporated.

c) *Does the project have potential environmental effects which may cause substantial adverse effects on human beings, either directly or indirectly?*

The potential for the proposed project to result in environmental effects that could adversely affect human beings, either directly or indirectly, has been discussed throughout this document. In instances where the proposed project has the potential to result in direct or indirect adverse effects to human beings, including impacts to air quality and cultural resources, mitigation measures have been applied to reduce the impact to below a level of significance. In other instances, the project design and compliance with existing laws and regulations would reduce impacts of the project to less than significant levels. Therefore, the proposed project as designed, mitigated, and in compliance with existing regulatory requirements, would not have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly. Therefore, impacts would be less than significant with mitigation incorporated.

Mitigation Measures

Mitigation Measure BIO-1: If project activities cannot occur outside the bird nesting season (generally February 1 through August 31), the following steps shall be taken to prevent the abandonment of active nests:

- A qualified biologist shall conduct surveys no more than seven days prior to activities, within the construction limits and within 100 feet (200 feet for raptors) of the construction limits.

- If an active nest is located during the survey, a no-disturbance buffer shall be established around the nest by the qualified biologist, in consultation with CDFW and USFWS.

- Protective buffers (no-disturbance area around the nest) will be established at a distance determined by the biologist based on the nesting species, its sensitivity to disturbance, and type of and duration of disturbance expected. Protective buffers shall remain in place until the young have fledged.

- Construction activities outside buffers may proceed while active nests are being monitored, at the discretion of the qualified biologist. If active nests are found to be at risk due to construction activities, construction activities shall be delayed until the qualified biologist determines that the young have fledged.

Mitigation Measure BIO-2: If surface water is present at the time of construction, the permittee shall have a biologist or other qualified professional survey the site and adjacent area for fish, amphibians, and turtles within three days prior to commencing project activities. If fish, amphibians, or turtles are detected, CDFW will be contacted, and work shall not commence until authorized by a CDFW representative.

Mitigation Measure BIO-3: The following measures are provided to reduce potential impacts to special-status plant species to a less then significant level:

- Prior to commencement of new development related to cannabis activities or execution of the Lake or Streambed Alteration Agreement No. 1600-2018-0134-R1, during the blooming period for the special-status plant species with potential to occur on the site, a qualified botanist approved by the County shall conduct protocol-level surveys for special-status plants in all proposed disturbance areas following survey methods from CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018a).

- If special-status plants are not found, the botanist shall document the findings in a letter report to CDFW and the applicant, and no further mitigation will be required. Reports shall be submitted to CDFW via email at RI LSARedding@wildlife.ca.gov and shall include the project applicant's name, address, and Assessor's Parcel Number in the subject line. If special-status plant species are found, the qualified botanist shall consult with CDFW to designate a no-disturbance buffer that will be reflected in the application to the County.

Mitigation Measure CR-1. If cultural resources, such as chipped or ground stone, or bone are discovered during ground-disturbance activities, work shall be stopped within 50 feet of the discovery, as required by the California Environmental Quality Act (CEQA; January 1999 Revised Guidelines, Title 14 California Code of Regulations [CCR] 15064.5 (f)). Work near

the archaeological finds shall not resume until a professional archaeologist, who meets the Secretary of the Interior's Standards and Guidelines, has evaluated the material, and offered recommendations for further action.

Mitigation Measure CR-2. If In the event that previously unidentified evidence of human burial or human remains are discovered during project construction, work will stop at the discovery location, within 20 meters (66 feet), and any nearby area reasonably suspected to overlie human remains (Public Resources Code, Section 7050.5), the Trinity County Coroner must be informed and consulted, per State law. If the coroner determines the remains to be Native American, he or she shall contact the Native American Heritage Commission within 24 hours. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descendent. The most likely descendent will be given an opportunity to make recommendations for means of treatment of the human remains and any associated grave goods. when the commission is unable to identify a descendant or the descendants identified fail to make a recommendation, or the landowner or his or her authorized representative rejects the recommendation of the descendants and the mediation provided for in subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance. Work in the area shall not continue until the human remains are dealt with according to the recommendations of the County Coroner, Native American Heritage Commission and/or the most likely descendent have been implemented.

Mitigation Measure GEO-1. If a paleontological discovery is made during construction, the contractor shall immediately cease all work activities in the vicinity (within approximately 100 feet) of the discovery and shall immediately contact the County. A qualified paleontologist shall be retained to observe all subsequent grading and excavation activities in the area of the find and shall salvage fossils as necessary. The paleontologist shall establish procedures for paleontological resource surveillance and shall establish, in cooperation with the project developer, procedures for temporarily halting or redirecting work to permit sampling, identification, and evaluation of fossils. If major paleontological resources are discovered that require temporarily halting or redirecting of grading, the paleontologist shall report such findings to the County. The paleontologist shall determine appropriate actions, in cooperation with the applicant and the County, that ensure proper exploration and/or salvage. Excavated finds shall first be offered to a state-designated repository such as the Museum of Paleontology, University of California, Berkeley, or the California Academy of Sciences. Otherwise, the finds shall be offered to the County for purposes of public education and interpretive displays. The paleontologist shall submit a follow-up report to the County that shall include the period of inspection, an analysis of the fossils found, and the present repository of fossils.

Mitigation Measure UTY-1: The applicant shall provide portable toilets when the number of employees at the site exceeds 6 persons, such as on occasions when additional temporary employees may be needed on a seasonal basis. Portable toilets shall be serviced regularly, and wastewater shall be disposed of at a permitted disposal facility.

Findings

Based upon the review of the information above, the implementation of the project is not anticipated to have a substantial adverse effect on the environment. Therefore, with mitigation incorporated there is no significant impact.

Documentation and References

Refer to Sections I through XX of this Initial Study.

Section 4 – CEQA Determination

On the basis of the initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

X I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR of NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Copies of the Initial Study may be obtained on the following websites:

Governor's Office of Planning and Research: CEQAnet Web Portal
https://ceqanet.opr.ca.gov/

County of Trinity Website: Community Development Services – Building and Planning Department
https://www.trinitycounty.org/Planning

Dependent on current work hours and staffing levels, copies may also be obtained at the Trinity County Building and Planning Department, 530 Main Street, Weaverville, CA 96093. Contact Skylar Fisher, Planning Department, Cannabis Division (530-623-1351 or sfischer@trinitycounty.org) for additional information.

Skylar Fisher, Planning Department, Cannabis Division
Trinity County

Date

Section 5 – Technical Appendix

Appendix A

Natural Investigations Company (NIC). 2019a. *Biological Site Assessment for the Cannabis Cultivation Operation at 1760 West Hettenshaw Road, Zenia, California*. February 2019.

Natural Investigations Company (NIC). 2021. *Biological Site Assessment for the Cannabis Cultivation Operation at 1760 West Hettenshaw Road, Zenia, California.* February 11, 2019, Maps Revised June 4, 2021.

BIOLOGICAL SITE ASSESSMENT
FOR THE CANNABIS CULTIVATION OPERATION AT
1760 WEST HETTENSHAW ROAD, ZENIA, CALIFORNIA

Prepared: February 11, 2019

Map Revisions: June 4, 2021

Applicant:

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1. INTRODUCTION

1.1. PROJECT LOCATION AND DESCRIPTION

Natural Investigations Company conducted a biological site assessment for a cannabis cultivation operation at 1760 West Hettenshaw Road, Zenia, in Trinity County, California. The entire 80-acre parcel (APN 020-120-25) was the Study Area. The Project Area is accessed by a private graveled road on West Hettenshaw Road (see exhibits). Existing facilities consist of a single-family residence, processing barn, three sheds, a treehouse, eight hoophouses and one greenhouse. Two hoophouses and two sheds that are no longer in use will be removed. The cultivation method consists of plants growing in fabric pots, which are placed on top the ground inside hoophouses and greenhouses. A paved/ gravel access road connects the cultivation operational areas. Proposed expansion of the project will involve vegetation clearing and grading for the establishment of the cultivation area and associated features (see exhibits). The expansion of cultivation area will include a 10,000 square foot garden; a 20,000-30,000 square foot garden; and the construction of a 1,500 square-foot shed. Plants will be grown with natural light in fabric pots. Hoophouses may be constructed in order to house the plants. Cannabis processing will occur on-site. Existing dirt/gravel access roads will connect the cultivation operational areas. The total area of disturbance will be less than 1 acre.

1.2. PURPOSE AND SCOPE OF ASSESSMENT

This Biological Resources Assessment was prepared to assist the Applicant in obtaining enrollment (a Notice of Applicability) in the State Water Resources Control Board's Order WQ 2017-0023-DWQ General Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (General Order). The Applicant's Notice of Receipt required technical reports, including a Biological Resources Assessment. The Water Board has not issued specific guidelines for the preparation of these assessments, so the guidelines for preparing assessments for California Environmental Quality Act compliance were used. The General Order does give these general guidelines:

> "*Prior to commencing any cannabis land development or site expansion activities the cannabis cultivator shall secure a qualified biologist. The cannabis cultivator and the Qualified Biologist shall consult with CDFW and CAL FIRE and designate and mark a no-disturbance buffer to protect identified sensitive plant and wildlife species and communities*." (Section 1, Number 8 of the General Order)
>
> "*Qualified Biologist – an individual who possesses, at a minimum, a bachelor's or advanced degree, from an accredited university, with a major in biology, zoology, wildlife biology, natural resources science, or a closely related scientific discipline, at least two years of field experience in the biology and natural history of local plant, fish, and wildlife resources present at the Cannabis Cultivation Site, and knowledge of state and federal laws regarding the protection of sensitive and endangered species*." (Glossary of the General Order)

In support of this permit enrollment application and general compliance California Environmental Quality Act, Natural Investigations Co. has prepared this assessment to provide information about the biological resources within the Study Area, the regulatory environment affecting such resources, any potential Project-related impacts upon these resources, and finally, to identify mitigation measures and other recommendations to reduce the significance of these impacts. The specific scope of services performed for this Biological Site Assessment consisted of the following tasks:

- Compile all readily-available historical biological resource information about the Study Area;
- Spatially query state and federal databases for any historic occurrences of special-status species or habitats within the Study Area and vicinity;

- Perform a reconnaissance-level field survey of the Study Area, including photographic documentation;
- Inventory all flora and fauna observed during the field survey;
- Characterize and map the habitat types present within the Study Area;
- Evaluate the likelihood for the occurrence of any special-status species;
- Assess the potential for the Project to adversely impact any sensitive biological resources;
- Recommend mitigation measures designed to avoid or minimize Project-related impacts; and
- Prepare and submit a report summarizing all of the above tasks.

The scope of services does not include other services that are not described in this Section, such as formal aquatic resource delineations or protocol-level surveys for special-status species.

1.3. REGULATORY SETTING

The following section summarizes some applicable regulations of biological resources on real property in California.

1.3.1. Special-status Species Regulations

The United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service implement the Federal Endangered Species Act of 1973 (FESA) (16 USC §1531 et seq.). Threatened and endangered species on the federal list (50 CFR §17.11, 17.12) are protected from "take" (direct or indirect harm), unless a FESA Section 10 Permit is granted or a FESA Section 7 Biological Opinion with incidental take provisions is rendered. Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present in the project area and determine whether the proposed project will have a potentially significant impact upon such species. Under FESA, habitat loss is considered to be an impact to the species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC §1536[3], [4]). Therefore, project-related impacts to these species or their habitats would be considered significant and would require mitigation. Species that are candidates for listing are not protected under FESA; however, USFWS advises that a candidate species could be elevated to listed status at any time, and therefore, applicants should regard these species with special consideration.

The California Endangered Species Act of 1970 (CESA) (California Fish and Game Code §2050 *et seq*., and CCR Title 14, §670.2, 670.51) prohibits "take" (defined as hunt, pursue, catch, capture, or kill) of species listed under CESA. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Section 2081 establishes an incidental take permit program for state-listed species. Under CESA, California Department of Fish and Wildlife (CDFW) has the responsibility for maintaining a list of threatened and endangered species designated under state law (CFG Code 2070). CDFW also maintains lists of species of special concern, which serve as "watch lists." Pursuant to requirements of CESA, an agency reviewing proposed projects within its jurisdiction must determine whether any state-listed species may be present in the Study Area and determine whether the proposed project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation.

California Fish and Game Code Sections 4700, 5050, and 5515 designates certain mammal, amphibian, and reptile species "fully protected", making it unlawful to take, possess, or destroy these species except under issuance of a specific permit. The California Native Plant Protection Act of 1977 (CFG Code §1900 *et seq*.) requires CDFW to establish criteria for determining if a species or variety of native plant is endangered or rare. Section 19131 of the code requires that landowners notify CDFW at

least 10 days prior to initiating activities that will destroy a listed plant to allow the salvage of plant material.

Many bird species, especially those that are breeding, migratory, or of limited distribution, are protected under federal and state regulations. Under the Migratory Bird Treaty Act of 1918 (16 USC §703-711), migratory bird species and their nests and eggs that are on the federal list (50 CFR §10.13) are protected from injury or death, and project-related disturbances must be reduced or eliminated during the nesting cycle. California Fish and Game Code (§3503, 3503.5, and 3800) prohibits the possession, incidental take, or needless destruction of any bird nests or eggs. Fish and Game Code §3511 designates certain bird species "fully protected", making it unlawful to take, possess, or destroy these species except under issuance of a specific permit. The Bald and Golden Eagle Protection Act (16 USC §668) specifically protects bald and golden eagles from harm or trade in parts of these species.

California Environmental Quality Act (CEQA) (Public Resources Code §15380) defines "rare" in a broader sense than the definitions of threatened, endangered, or fully protected. Under the CEQA definition, CDFW can request additional consideration of species not otherwise protected. CEQA requires that the impacts of a project upon environmental resources must be analyzed and assessed using criteria determined by the lead agency. Sensitive species that would qualify for listing but are not currently listed may be afforded protection under CEQA. The CEQA Guidelines (§15065) require that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines (§15380) provide for assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Plant species on the California Native Plant Society (CNPS) Lists 1A, 1B, or 2 are typically considered rare under CEQA. California "Species of Special Concern" is a category conferred by CDFW on those species that are indicators of regional habitat changes or are considered potential future protected species. While they do not have statutory protection, Species of Special Concern are typically considered rare under CEQA and thereby warrant specific protection measures.

1.3.2. Water Resource Protection

Real property that contains water resources are subject to various federal and state regulations and activities occurring in these water resources may require permits, licenses, variances, or similar authorization from federal, state and local agencies, as described next.

The Federal Water Pollution Control Act Amendments of 1972 (as amended), commonly known as the Clean Water Act (CWA), established the basic structure for regulating discharges of pollutants into "waters of the United States". Waters of the US includes essentially all surface waters, all interstate waters and their tributaries, all impoundments of these waters, and all wetlands adjacent to these waters. CWA Section 404 requires approval prior to dredging or discharging fill material into any waters of the US, especially wetlands. The permitting program is designed to minimize impacts to waters of the US, and when impacts cannot be avoided, requires compensatory mitigation. The US Army Corps of Engineers (USACE) is responsible for administering Section 404 regulations. Substantial impacts to jurisdictional wetlands may require an Individual Permit. Small-scale projects may require only a Nationwide Permit, which typically has an expedited process compared to the Individual Permit process. Mitigation of wetland impacts is required as a condition of the CWA Section 404 Permit and may include on-site preservation, restoration, or enhancement and/or off-site restoration or enhancement. The characteristics of the restored or enhanced wetlands must be equal to or better than those of the affected wetlands to achieve no net loss of wetlands.

Under CWA Section 401, every applicant for a federal permit or license for any activity which may result in a discharge to a water body must obtain State Water Quality Certification that the proposed activity will comply with State water quality standards. The California State Water Resources Control Board is responsible for administering CWA Section 401 regulations.

Section 10 of the Rivers and Harbors Act of 1899 requires approval from USACE prior to the commencement of any work in or over navigable Waters of the US, or which affects the course, location, condition or capacity of such waters. Navigable waters of the United States are defined as waters that have been used in the past, are now used, or are susceptible to use, as a means to transport interstate or foreign commerce up to the head of navigation. Rivers and Harbors Act Section 10 permits are required for construction activities in these waters.

California Fish and Game Code (§1601 - 1607) protects fishery resources by regulating "*any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake*." CDFW requires notification prior to commencement, and issuance of a Lake or Streambed Alteration Agreement, if a proposed project will result in the alteration or degradation of ''waters of the State". The limit of CDFW jurisdiction is subject to the judgment of the Department; currently, this jurisdiction is interpreted to be the "stream zone", defined as "*that portion of the stream channel that restricts lateral movement of water*" and delineated at "*the top of the bank or the outer edge of any riparian vegetation, whichever is more landward*". CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the CDFW and the applicant is the Streambed Alteration Agreement. Projects that require a Streambed Alteration Agreement may also require a CWA 404 Section Permit and/or CWA Section 401 Water Quality Certification.

For construction projects that disturb one or more acres of soil, the landowner or developer must obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ).

Regional Board Order R5-2015-0113 protects receiving water bodies from water-quality impacts associated with cannabis cultivation using a combination of Best Management Practices, buffer zones, sediment and erosion controls, site management plans, inspections and reporting, and regulatory oversight.

1.3.3. Tree Protection

For Trinity County, no relevant county or municipal tree ordinances were identified that would protect non-commercial tree species such as native oaks (*Quercus* spp.).

In areas outside timberland, pursuant to Public Resource Code section 4526, no tree removal for the purposes of facilitating cannabis production, including solar exposure increases, is allowed within 150 feet of fish bearing water bodies or 100 feet of aquatic habitat for non-fish aquatic species (i.e. aquatic insects). In areas inside timberland, any tree removal is subject to the conditions and requirements set forth in the Z'berg-Nejedly Forest Practice Act and the California Forest Practice Rules. If development of a project will result in the removal of commercial tree species, one of the following permits is needed: Less than 3 Acre Conversion Exemption; Christmas Tree; Dead, Dying or Diseased, Fuelwood, or Split Products Exemption; a Public Agency, Public and Private Utility Right of Way Exemption; a Notice of Exemption from Timberland Conversion Permit for Subdivision; or an Application for Timberland Conversion Permit.

2. ENVIRONMENTAL SETTING

The Study Area is located within the Outer North Coast Ranges geographic subregion, which is contained within the Northwestern California geographic subdivision of the larger California Floristic Province (Baldwin et al. 2012). This region has a Mediterranean-type climate, characterized by distinct seasons of warm, dry summers and wet, moderately-cold winters with occasional snow accumulation. The Study Area and vicinity is in Sunset Climate Zone 1A "Coldest Mountain and Intermountain Areas", with a short growing season and mild summer temperatures and cold winters with accumulations of snow (Brenzel 2012). The topography of the Study Area is mountainous in the western half, tapering to a flat valley in the eastern half. The elevation ranges from approximately 3,160 feet to 3,560 feet above mean sea level. Drainage runs east from the mountains towards Hettenshaw Valley, and then north from the valley. Drainage from Hettenshaw Valley flows into the West Fork Van Duzen River. Prior to the establishment of this cultivation operation, land uses included cannabis cultivation, equestrian facilities and open space. The surrounding land uses are private estates with gardens or corrals, timberland, open space, and grazing land.

The Natural Resources Conservation Service (NRCS) has identified several soil types within the Study Area. The geology that underlays the site includes soils derived from metasedimentary and shale. No soils derived from serpentine or volcanic rocks are mapped within or adjacent to this parcel (NRCS 2019).

3. METHODOLOGY

3.1. PRELIMINARY DATA GATHERING AND RESEARCH

Prior to conducting the field survey, the following information sources were reviewed:

- Any readily-available previous biological resource studies pertaining to the Study Area or vicinity
- United States Geologic Service (USGS) 7.5 degree-minute topographic quadrangles of the Study Area and vicinity
- Aerial photography of the Study Area
- California Natural Diversity Database (CNDDB), electronically updated monthly by subscription
- USFWS species list (IPaC Trust Resources Report).

3.2. FIELD SURVEY

Consulting biologist Tim Nosal, MS. conducted a reconnaissance-level field survey on January 28, 2019. Weather conditions were cool and cloudy. A variable-intensity pedestrian survey was performed, and modified to account for differences in terrain, vegetation density, and visibility. All visible fauna and flora observed were recorded in a field notebook, and identified to the lowest possible taxon. Survey efforts emphasized the search for any special-status species that had documented occurrences in the CNDDB within the vicinity of the Study Area and those species on the USFWS species list (Appendix 1).

When a specimen could not be identified in the field, a photograph or voucher specimen (depending upon permit requirements) was taken and identified in the laboratory using a dissecting scope where necessary. Tim Nosal holds CDFW Plant Voucher Specimen Permit 2081(a)-16-102-V. Taxonomic determinations were facilitated by referencing museum specimens or by various texts, including the following: Powell and Hogue (1979); Pavlik (1991); (1993); Brenzel (2012); Stuart and Sawyer (2001); Lanner (2002); Sibley (2003); Baldwin et al. (2012); Calflora (2019); CDFW (2019b,c); NatureServe 2019; and University of California at Berkeley (2019a,b).

The locations of any special-status species sighted were marked on aerial photographs and/or georeferenced with a geographic positioning system (GPS) receiver. Habitat types occurring in the Study Area were mapped on aerial photographs, and information on habitat conditions and the suitability of the habitats to support special-status species was also recorded.

3.3. MAPPING AND OTHER ANALYSES

Locations of species' occurrences and habitat boundaries within the Study Area were recorded on color aerial photographs, and then digitized to produce the final habitat maps. Geographic analyses were performed using geographical information system software (ArcGIS 10, ESRI, Inc.). Vegetation communities (assemblages of plant species growing in an area of similar biological and environmental factors), were classified by Vegetation Series (distinctive associations of plants, described by dominant species and particular environmental setting) using the CNPS Vegetation Classification system (Sawyer and Keeler-Wolf, 1995). Wildlife habitats were classified according to the CDFW's California Wildlife Habitat Relationships System (CDFW, 2019c). Species' habitat requirements and life histories were identified using the following sources: Baldwin et al. (2012); CNPS (2019), Calflora (2019); CDFW (2019a,b,c); and University of California at Berkeley (2019a,b).

4. RESULTS

4.1. INVENTORY OF FLORA AND FAUNA FROM FIELD SURVEY

All plants detected during the field survey of the Study Area are listed in Appendix 2. Wildlife species were detected with binoculars or by unaided visual observation. Indicators such as burrows were used to determine the presence of unidentified small rodents. The following wildlife species were identified during the site visit: spiders (Araneomorphae); praying mantis (Mantodea); water strider (Gerridae); aquatic beetle (Coleoptera); Sierran treefrog (*Pseudacris sierra*); coyote (*Canis latrans*); Columbian black-tailed deer (*Odocoileus hemionus columbianus*); Botta's pocket gopher (*Thomomys bottae*); American black bear (*Ursus americanus*); gray fox (*Urocyon cinereoargenteus*); black-tailed jackrabbit (*Lepus californicus*); red-tailed hawk (*Buteo jamaicensis*); California scrub jay (*Aphelocoma californica*); acorn woodpecker (*Melanerpes formicivorus*); common raven (*Corvus corax*); Steller's jay (*Cyanocitta stelleri*); American crow (*Corvus brachyrhynchos*); American robin (*Turdus migratorius*); pileated woodpecker (*Dryocopus pileatus*); California quail (*Callipepla californica*); sparrow (Emberizidae); and common songbirds.

4.2. VEGETATION COMMUNITIES AND WILDLIFE HABITAT TYPES

The Study Area contains 4 terrestrial habitat types (see Exhibits and photos in Appendix 3): Douglas-fir forest; chaparral; annual grassland; and ruderal/urbanized.

Douglas-fir Forest: Tree-dominated forest habitats are found throughout the western half of the Study Area. Tree-dominated forest habitats are found in across the Study Area. Vegetation in the mixed forest consists of a dense canopy of Douglas-fir (*Pseudotsuga menziesii*), canyon live oak (*Quercus chrysolepis*), madrone (*Arbutus menziesii*), and Oregon oak (*Quercus garryana*) with a variety of shrubs and herbs in the understory. Areas along watercourses were typically dominated by the same species and no distinct riparian community was identified. The mixed forest can be classified as the Holland Type "82420 Upland Douglas-fir Forest" or as "82.200.50 Douglas Fir-Madrone Alliance" (Sawyer et al. 2009).

Chaparral: Habitats comprised of shrubs are found along the parcel margins in the eastern portion of the Study Area. The shrubs within the chaparral are primarily wedgeleaf ceanothus (*Ceanothus cuneatus*) with an understory of annual grasses and herbs. This vegetation type can be classified as the Holland Type "Buck Brush Chaparral" or as "37.211.00 Ceanothus cuneatus shrubland Alliance (Sawyer et al. 2009)".

Annual grassland: The eastern half of the Study Area is dominated by annual grassland habitat. This vegetation type is comprised largely of non-native grasses and native herbs. Plants common in annual grassland include Medusa-head (*Elymus caput-medusae*) and other grasses, Klamath weed (*Hypericum perfoliatum*), common madia (*Madia elegans*) and a variety of annual herbs. This vegetation can be classified as the Holland Type "Non-native Grassland" or as "Wild oats grasslands: Semi-natural stands" (Sawyer et al. 2009)".

Ruderal/Developed: These areas consist of disturbed or converted natural habitat that is now either in ruderal state, graded, or urbanized with gravel roads, or structure and utility placement. The area mapped as urbanized includes the house, garden and the adjacent equestrian paddocks. Vegetation within this habitat type consists primarily of nonnative annual grasses, weedy or invasive species or ornamental plants lacking a consistent community structure. This habitat is classified the "Urban" wildlife habitat type by CDFW's Wildlife Habitat Relationship System (WHR).

The CNDDB reported no special-status habitats within the Study Area. The CNDDB reported the following special-status habitats within a 10-mile radius of the Study Area: Upland Douglas-Fir Forest. The USFWS National Wetland Inventory (see Exhibits) reported two intermittent watercourses within the Study Area.

The Study Area contains various water features, including a pond, a spring, numerous channels, and some seasonal wetlands. Various channels drain the mountainous western half of the Study Area. Some channels dissipate upon entering the grasslands of the valley floor. Near the southwestern corner of the parcel there is a perennial spring. Although this spring has been developed and has been used as a water source in the past, it is no longer being utilized. The eastern half of the Study Area consists largely of the grasslands of the valley floor. Various channels drain the valley and converge downstream into an intermittent stream. A small pond, approximately 5,000 square feet in area, is found near the center of the eastern half of the Study Area. This is a man-made feature and is used for stock watering and wildlife. This pond fills with winter rain and overland sheet flow. In various places on the valley floor, seasonal wetlands have formed.

4.3. SPECIAL-STATUS SPECIES

For the purposes of this assessment, “special status” is defined to be species that are of management concern to state or federal natural resource agencies, and include those species that are:

- Listed as endangered, threatened, proposed, or candidate for listing under the Federal Endangered Species Act;
- Listed as endangered, threatened, rare, or proposed for listing, under the California Endangered Species Act of 1970;
- Designated as endangered or rare, pursuant to California Fish and Game Code (§1901);
- Designated as fully protected, pursuant to California Fish and Game Code (§3511, §4700, or §5050);
- Designated as a species of special concern by CDFW;
- Plants considered to be rare, threatened or endangered in California by the California Native Plant Society (CNPS); this consists of species on Lists 1A, 1B, and 2 of the CNPS Ranking System; or
- Plants listed as rare under the California Native Plant Protection Act.

4.3.1. Historical Special-status Species’ Occurrences

A list of special-status plant and animal species that historically occurred within the Study Area and vicinity was compiled based upon the following:

- Any previous and readily-available biological resource studies pertaining to the Study Area;
- Informal consultation with USFWS by generating an electronic Species List (Information for Planning and Conservation website at https://ecos.fws.gov/ipac/); and
- A spatial query of the CNDDB.

The CNDDB was queried and any reported occurrences of special-status species were plotted in relation to the Study Area boundary using GIS software (see exhibits). The CNDDB reported no special-status species occurrences within the Study Area.

Within a 10-mile buffer of the Study Area boundary, the CNDDB reported several special-status species occurrences, summarized in the following table. A federal species list (IPaC report) was also generated from the USFWS website (Appendix 1). Northern spotted owl (*Strix occidentalis caurina*) has critical habitat within, or adjacent to, the Study Area.

Table 1. Special-status Species Reported by CNDDB in the Vicinity of the Study Area

Common Name *Scientific Name*	Status	General Habitat	Microhabitat
Southern torrent salamander *Rhyacotriton variegatus*	CSSC	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old growth forest.	Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rock within trickling water.
Pacific tailed frog *Ascaphus truei*	CSSC	Occurs in montane hardwood-conifer, redwood, Douglas-fir & ponderosa pine habitats.	Restricted to perennial montane streams. Tadpoles require water below 15 degrees c.
Foothill yellow-legged frog *Rana boylii*	CCT/CSSC	Partly-shaded, shallow streams & riffles with a rocky substrate in a variety of habitats.	Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.
Osprey *Pandion haliaetus*	WL	Ocean shore, bays, fresh-water lakes, and larger streams.	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.
Bald eagle *Haliaeetus leucocephalus*	FD/CE/FP	Ocean shore, lake margins, & rivers for both nesting & wintering. Most nests within 1 mi of water.	Nests in large, old-growth, or dominant live tree w/open branches, especially ponderosa pine. Roosts communally in winter.
Northern goshawk *Accipiter gentilis*	CSSC	Within, and in vicinity of, coniferous forest. Uses old nests, and maintains alternate sites.	Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.
Chinook salmon - upper Klamath and Trinity Rivers ESU. *Oncorhynchus tshawytscha pop. 30*	CSSC	Spring-run chinook in the trinity river & the Klamath River upstream of the mouth of the Trinity River.	Major limiting factor for juvenile chinook salmon is temperature, which strongly effects growth & survival.
Summer-run steelhead trout *Oncorhynchus mykiss irideus pop. 36*	CSSC	No. Calif coastal streams south to Middle Fork Eel River. Within range of Klamath Mtns province DPS & No. Calif DPS.	Cool, swift, shallow water & clean loose gravel for spawning, & suitably large pools in which to spend the summer.
Silver-haired bat *Lasionycteris noctivagans*	CSSC	Primarily a coastal & montane forest dweller feeding over streams, ponds & open brushy areas.	Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes & rarely under rocks. Needs drinking water.
Hoary bat *Lasiurus cinereus*	CSSC	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding.	Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.
Sonoma tree vole *Arborimus pomo*	CSSC	North coast fog belt from Oregon border to Somona Co. In Douglas-fir, redwood & montane hardwood-conifer forests.	Feeds almost exclusively on Douglas-fir needles. Will occasionaly take needles of grand fir, hemlock or spruce.
North American porcupine *Erethizon dorsatum*	CSSC		
Fisher - West Coast DPS *Pekania pennanti*	CT/CSSC	Intermediate to large-tree stages of coniferous forests & deciduous-riparian areas with high percent canopy closure.	Uses cavities, snags, logs & rocky areas for cover & denning. Needs large areas of mature, dense forest.
Western pond turtle *Emys marmorata*	CSSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, be	Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.
Western bumble bee *Bombus occidentalis*	CSSC	Once common & widespread, species has declined precipitously from Central Ca to southern B.C., perhaps from disease.	
Obscure bumble bee *Bombus caliginosus*	CSSC		
Tehama chaparral *Trilobopsis tehamana*	CSSC	Endemic to Butte, Tehama, and Siskiyou counties. Usually found in rocky talus, but has also been found under leaf litter	
Pacific fuzzwort *Ptilidium californicum*	4.3	Lower montane coniferous forest, upper montane coniferous forest.	Epiphytic on fallen and decaying logs and stumps. Rarely on boulders over humus. 0-1800 m.
Tracy's sanicle *Sanicula tracyi*	4.2	Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest.	Dry gravelly slopes or flats, usually in or at the margin of oak woodland with scattered trees. 100-1585 m.
Small-flowered	1B.2	Chaparral, valley and foothill grassland,	Rocky talus or scree; sparsely vegetated areas. Occasionally

Common Name *Scientific Name*	Status	General Habitat	Microhabitat
calycadenia *Calycadenia micrantha*		meadows and seeps.	on roadsides; sometimes on serpentine. 5-1500 m.
Beaked tracyina *Tracyina rostrata*	1B.2	Cismontane woodland, valley and foothill grassland.	Open grassy meadows within oak woodland and grassland habitats. 90-790 m.
Scabrid alpine tarplant *Anisocarpus scabridus*	1B.3	Upper montane coniferous forest.	Open stony ridges, metamorphic scree slopes of mountain peaks, and cliffs in or near red fir forest. 1650-2300 m.
Mad River fleabane daisy *Erigeron maniopotamicus*	1B.2	Meadows and seeps (open and dry), lower montane coniferous forest.	Open slopes, disturbed areas (road cuts), tan-colored, rocky soils. 1350-1500 m.
Water howellia *Howellia aquatilis*	FT/2B.2	Freshwater marshes and swamps.	In clear ponds with other aquatics and surrounded by ponderosa pine forest and sometimes riparian associates. 1085-1290
The Lassics sandwort *Sabulina decumbens*	1B.2	Lower montane coniferous forest, upper montane coniferous forest.	Endemic to serpentine, only known from upper, north-facing slopes under Jeffrey pines. 1500-1675 m.
Pale yellow stonecrop *Sedum laxum ssp. flavidum*	4.3	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, upper montane coniferous for	Serpentine or basalt outcrops. 455-2000 m.
Jepson's dodder *Cuscuta jepsonii*	1B.2	North coast coniferous forest.	Streamsides. 1200-2300 m.
Konocti manzanita *Arctostaphylos manzanita ssp. elegans*	1B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	Volcanic soils. 395-1615 m.
Yolla Bolly Mtns. Bird's-foot trefoil *Hosackia yollabolliensis*	1B.2	Upper montane coniferous forest.	1700-2100 m.
South Fork Mountain lupine *Lupinus elmeri*	1B.2	Lower montane coniferous forest.	1218-2000 m.
The Lassics lupine *Lupinus constancei*	CCE/1B.1	Lower montane coniferous forest.	Serpentine barrens. 1500-2000 m.
Umpqua green-gentian *Frasera umpquaensis*	2B.2	Lower montane coniferous forest, meadows and seeps, chaparral, north coast coniferous forest.	Mountain meadows; openings in forest. 1555-1900m.
Oregon fireweed *Epilobium oreganum*	1B.2	Bogs and fens, lower montane coniferous forest, upper montane coniferous forest.	In and near springs and bogs; at least sometimes on serpentine. 500-2240 m.
Northern meadow sedge *Carex praticola*	2B.2	Meadows and seeps.	Moist to wet meadows. 0-3200 m.
Coast fawn lily *Erythronium revolutum*	2B.2	Bogs and fens, broadleafed upland forest, north coast coniferous forest.	0-1065m.
White-flowered rein orchid *Piperia candida*	1B.2	North coast coniferous forest, lower montane coniferous forest, broadleafed upland forest.	Coast ranges from Santa Cruz County north; on serpentine. Forest duff, mossy banks, rock outcrops & muskeg. 0-1200m.

4.3.2. Special-status Species Observed During Field Survey

During the field survey, no special-status species were detected within the Study Area.

4.3.3. Potential for Special-status Species to Occur in the Study Area

The non-native grasslands and ruderal/developed habitats within the Study Area have a low potential for harboring special-status plant species due to the dominance of aggressive non-native grasses and forbs. The Douglas-fir forest has a high diversity of native plants and microhabitats, therefore this habitat type has a moderate potential for harboring special-status plant species such as Pacific fuzzwort (*Ptilidium californicum),* Tracy's sanicle (*Sanicula tracyi),* Mad River fleabane daisy (*Erigeron maniopotamicus),* Jepson's dodder (*Cuscuta jepsonii),* South Fork Mountain lupine(*Lupinus elmeri),* Oregon fireweed (*Epilobium oreganum),* northern meadow sedge *(Carex praticola)* and coast fawn lily (*Erythronium revolutum)*. The chaparral has a low potential for harboring special-status plant species due to the lack of plant diversity. The spring, pond, watercourses, seasonal wetlands and willow-scrub riparian within the Study Area can sustain aquatic special-status species and diverse wildlife species. Northern spotted owl (*Strix occidentalis caurina*) habitat is described by USFWS as follows:

> *"Northern spotted owls generally inhabit older forested habitats that contain structures and characteristics required for nesting, roosting, and foraging. Preferred habitat is characterized by forest stands with moderate to high canopy closure (60 to 90 percent), which provides thermal cover and protection from predators; multi-species canopies of several tree species of varying size and age, but with large overstory trees; large standing and fallen dead trees; high incidence of large trees with various deformities; and, sufficient open space among the lower branches to allow flight under the canopy. Foraging habitat is generally similar to nesting and roosting habitat, but it may not always support successfully nesting pairs. Dispersal habitat, at a minimum, consists of stands with adequate tree size and canopy closure to provide protection from avian predators and at least minimal foraging opportunities."*

The Project Area is located in annual grassland in the valley floor and does not contain forest. The forest in the western portion of the Study Area is not old growth forest, but a younger forest regenerating from logging. Northern spotted owl is unlikely to occur near the Project Area.

5. IMPACT ANALYSES AND MITIGATION MEASURES

This section establishes the impact criteria, then analyzes potential Project-related impacts upon the known biological resources within the Study Area, and then suggests mitigation measures to reduce these impacts to a less-than-significant level.

5.1. IMPACT SIGNIFICANCE CRITERIA

The significance of impacts to biological resources depends upon the proximity and quality of vegetation communities and wildlife habitats, the presence or absence of special-status species, and the effectiveness of measures implemented to protect these resources from Project-related impacts. As defined by CEQA, the Project would be considered to have a significant adverse impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a special-status species in local or regional plans, policies, or regulations, or by USFWS or CDFW
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by USFWS or CDFW
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (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 county or municipal policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved governmental habitat conservation plan.

5.2. IMPACT ANALYSIS

The following discussion evaluates the potential for Project-related activities to adversely affect biological resources. The Project boundaries were digitized and then overlaid on the habitat map using GIS to quantify potential impacts. Historical aerial photos were also analyzed for changes in land use.

5.2.1. Potential Direct / Indirect Adverse Effects Upon Special-status Species

No special-status species were detected within the Study Area. The Douglas-fir forest has a moderate potential for harboring special-status plant species. The Project Area is located in annual grassland in the valley floor and does not contain Douglas-fir forest. Implementation of the proposed project may involve clearing of ruderal/developed habitat but will not impact the Douglas-fir forest habitat. The forest in the western portion of the Study Area is not old growth forest, but a younger forest regenerating from logging. Northern spotted owl is unlikely to occur near the Project Area.

The aquatic habitats within the Study Area provide suitable habitat for various special-status plant and animal species. However, the proposed project will be at least 50 feet away from watercourses and at least 150 feet away from the spring and pond. No land disturbance or vegetation in aquatic habitats is necessary for project implementation. Therefore, no direct impacts to special-status species is anticipated. If land clearing is performed in the future near aquatic habitats, a pre-construction special-status species survey is recommended.

5.2.2. Potential Direct / Indirect Adverse Effects Upon Special-status Habitats or Natural Communities or Corridors

The Study Area is in, or directly adjacent to, critical habitat for Northern spotted owl. The forest in the western portion of the Study Area is not old growth forest, but a younger forest regenerating from logging. Northern spotted owl is unlikely to occur near the Project Area, and not impacts are anticipated.

Implementation of the project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Implementation of the project does not conflict with any county or municipal policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. If tree felling is performed in the future, a pre-construction nesting bird survey is highly recommended. The project does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved governmental habitat conservation plan. The Study Area is not within the coverage area of any conservation plan.

The aquatic habitats within the Study Area are special-status (i.e. protected) habitats. However, the proposed project will be at least 50 feet away from watercourses and at least 150 feet away from the spring and pond. No land disturbance or vegetation in aquatic habitats is necessary for project implementation. Therefore, no direct impacts to special-status habitats is anticipated. Indirect impacts to aquatic habitats are discussed next.

5.2.3. Potential Direct / Indirect Adverse Effects On Water Resources

There are several water resources within the Study Area: one pond, one spring, two seasonal wetlands, one willow-scrub riparian, two intermittent watercourses and eleven ephemeral watercourses. Potential adverse impacts to water resources could occur during construction by modification or destruction of stream banks or riparian vegetation, the filling of wetlands, or by increased erosion and sedimentation in receiving water bodies due to soil disturbance. Cannabis Cultivation Order WQ 2017-0023-DWQ requires the implementation of best management practices so that construction activities will not significantly impact water resources. Furthermore, if the total area of ground disturbance from construction activities is larger than 1 acre; the Cultivator must enroll for coverage under the General

Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ). The Study Area does not have a significant erosion potential, because slopes are not steep, areas of ground disturbance are small, and vegetated buffers are present. Furthermore, Cannabis Cultivation Order WQ 2017-0023-DWQ requires the implementation of an erosion control plan. Therefore, no mitigation is required. It is recommended that a formal delineation of jurisdictional waters be performed before construction work, or ground disturbance, is performed near any wetland or drainage.

Potential adverse impacts to water resources could occur during operation of cultivation activities resources by discharge of sediment or other pollutants (fertilizers, pesticides, human waste, etc.) into receiving waterbodies. However, the project proponent must file a Notice of Intent and enroll in Cannabis Cultivation Order WQ 2017-0023-DWQ. Compliance with this Order will ensure that cultivation operations will not significantly impact water resources by using a combination of Best Management Practices (BMPs), buffer zones, sediment and erosion controls, site management plans, inspections and reporting, and regulatory oversight. Implementation of these BMPs and compliance with the Order will ensure that water quality impacts are less than significant. Therefore, no mitigation is required.

5.2.4. Potential Direct / Indirect Adverse Effects on Nesting Birds

The Study Area contains suitable nesting habitat for various bird species because of the presence of trees, poles, and dense brush. However, no nests or nesting activity was observed in the project area during the field survey. Riparian corridors are focal areas for birds. Riparian habitat is present within the study area. However, implementation of the project will have no impact on the riparian habitat. Trees must be inspected for the presence of active bird nests before tree felling or ground clearing. If active nests are present in the project area during construction of the project, CDFW should be consulted to develop measures to avoid “take” of active nests prior to the initiation of any construction activities. Avoidance measures may include establishment of a buffer zone using construction fencing or the postponement of vegetation removal until after the nesting season, or until after a qualified biologist has determined the young have fledged and are independent of the nest site.

6. CONCLUSIONS AND RECOMMENDATIONS

No significant impacts to biological resources are likely to occur from project implementation. Construction and operational impacts can be avoided by careful compliance with State regulations and implementation of best management practices and an erosion control plan.

The following recommendations are made:

- If land clearing is performed in near aquatic habitats, a pre-construction special-status species survey is recommended.
- If tree felling is performed in the future, a pre-construction nesting bird survey is highly recommended
- If development of a project will result in the removal of commercial tree species, one of the following permits is needed: Less than 3 Acre Conversion Exemption; Christmas Tree; Dead, Dying or Diseased; Fuelwood or Split Products Exemption; a Public Agency, Public and Private Utility Right of Way Exemption; a Notice of Exemption from Timberland Conversion Permit for Subdivision; or an Application for Timberland Conversion Permit.
- a formal delineation of jurisdictional waters be performed before construction work, or ground disturbance, is performed near any wetland or channel.

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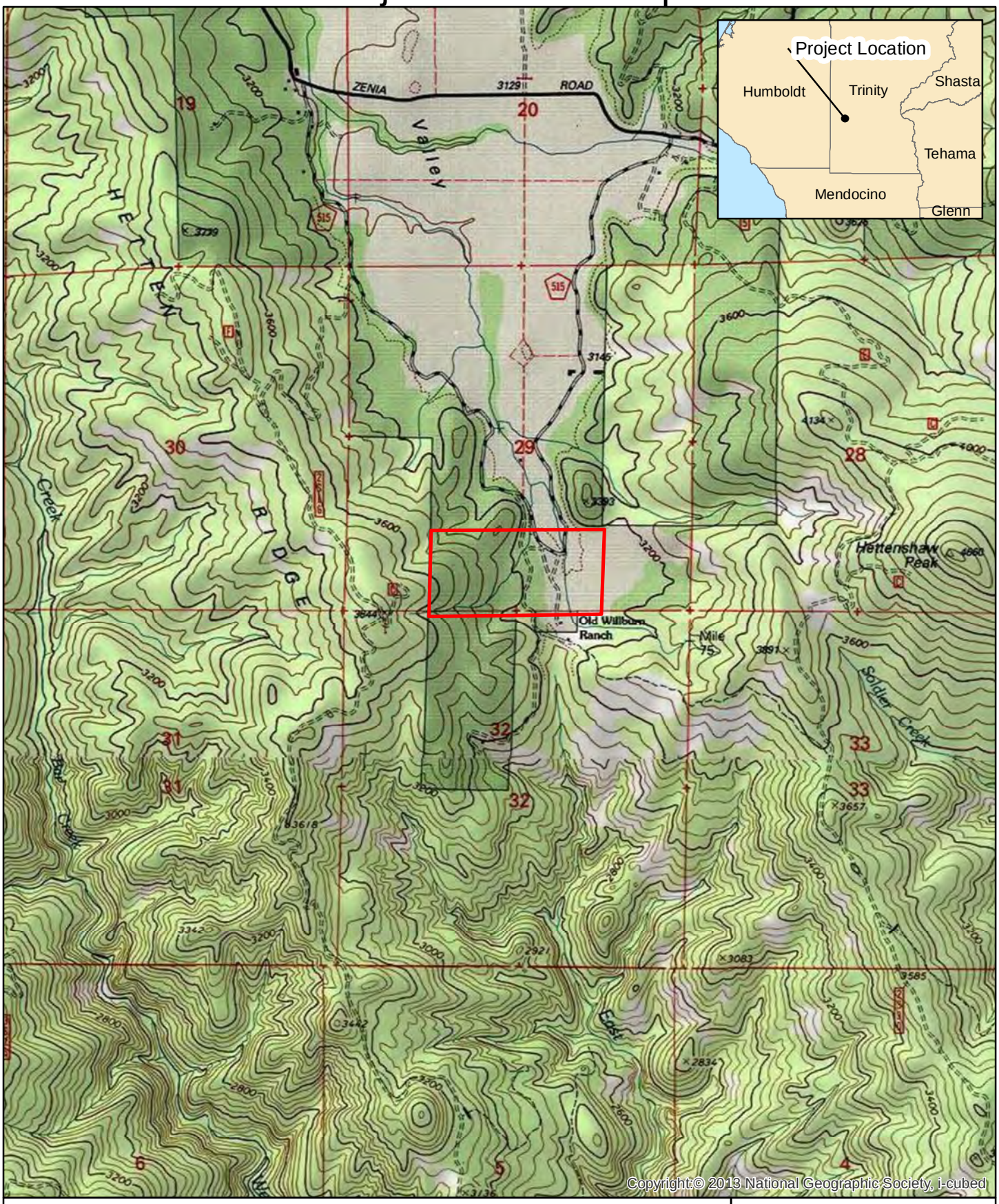
EXHIBITS

Project Location Map



Project Location

0 0.5 1 Kilometers

0 0.5 1 Miles

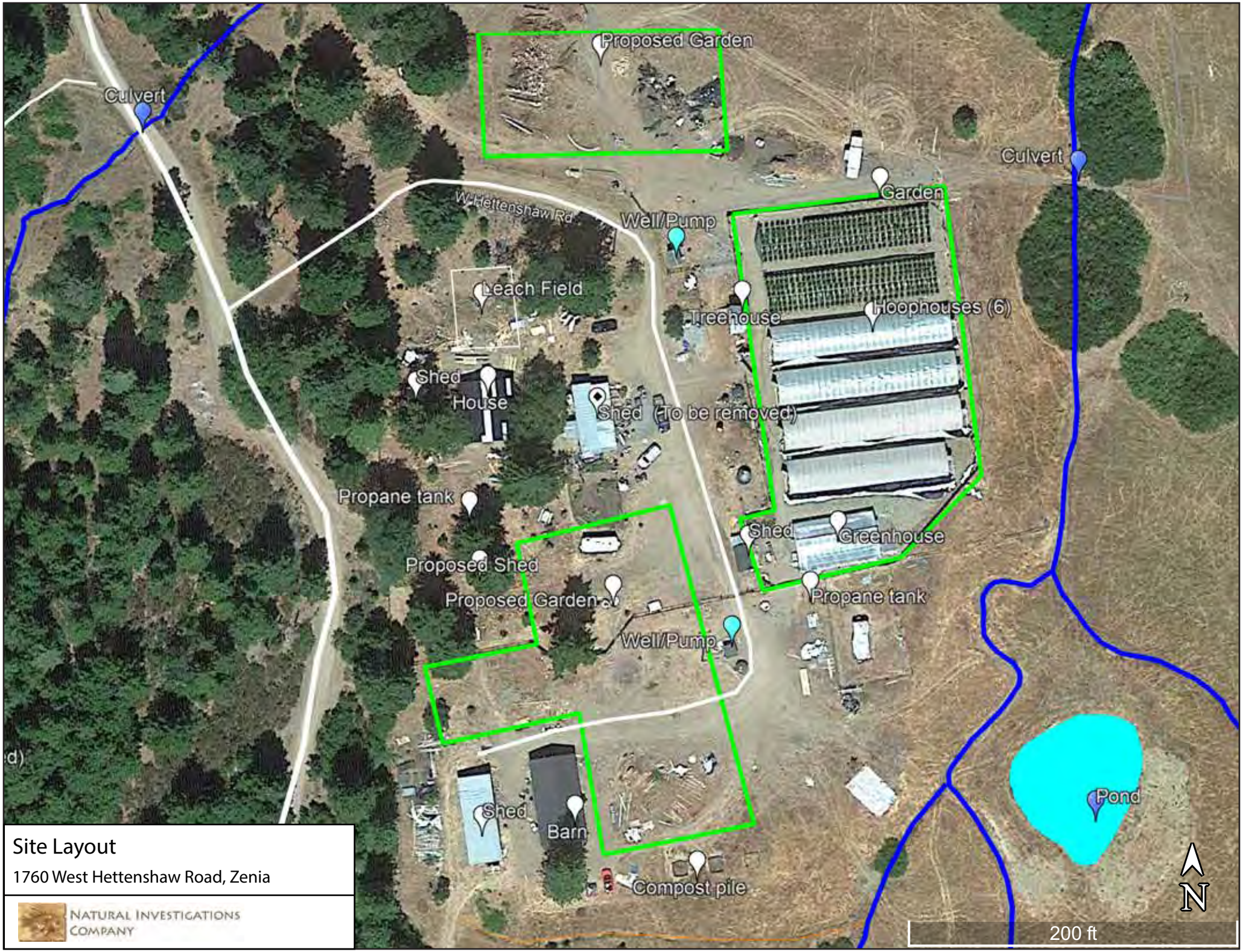
1:24,000

1760 W. Hettenshaw Rd.
Figure 1 - Project Location

NATURAL INVESTIGATIONS COMPANY

Map Date 11/13/2017

Ruth Lake 1997 Quadrangle:Township 2S, Range 7E, Section 29,32



Site Layout

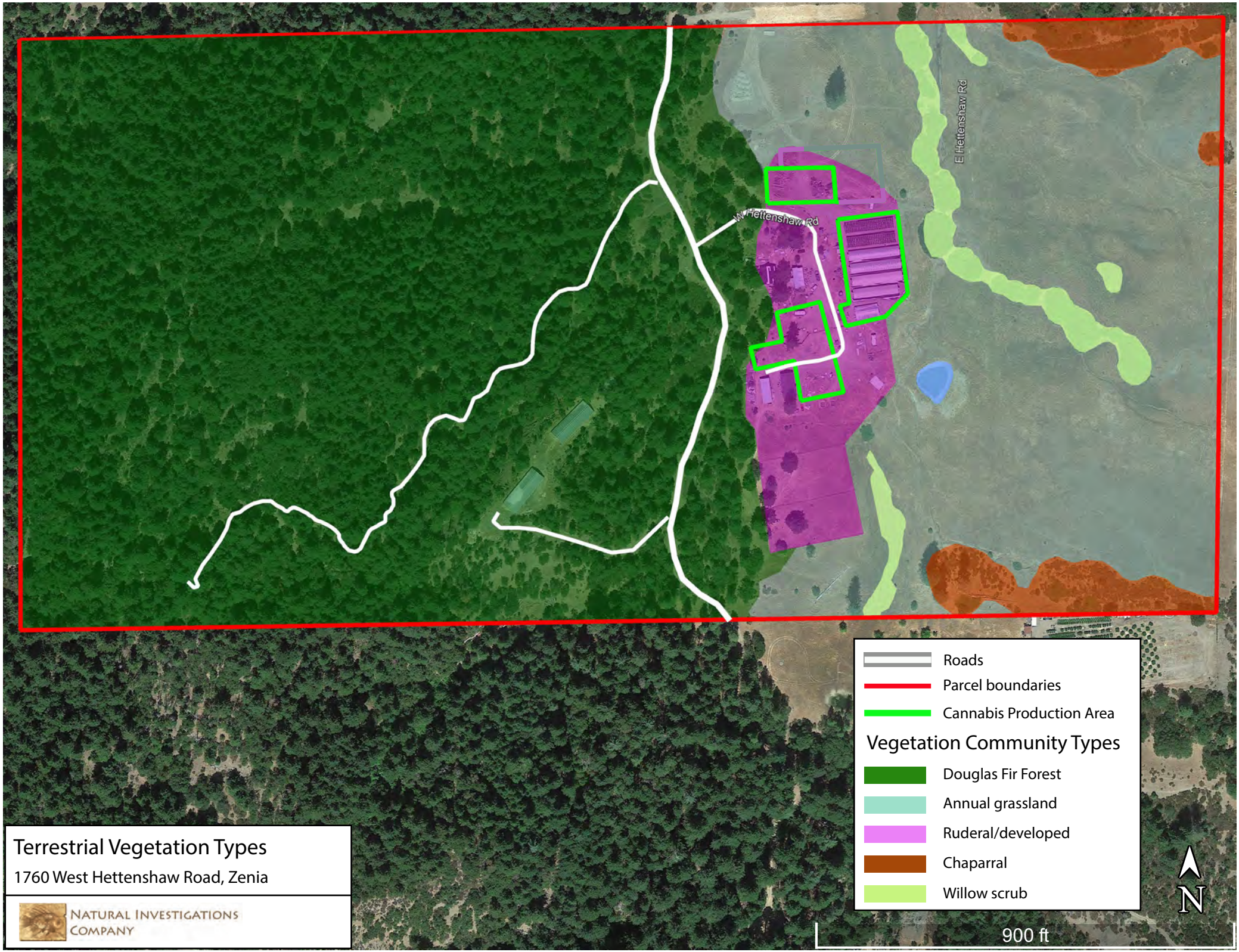
1760 West Hettenshaw Road, Zenia

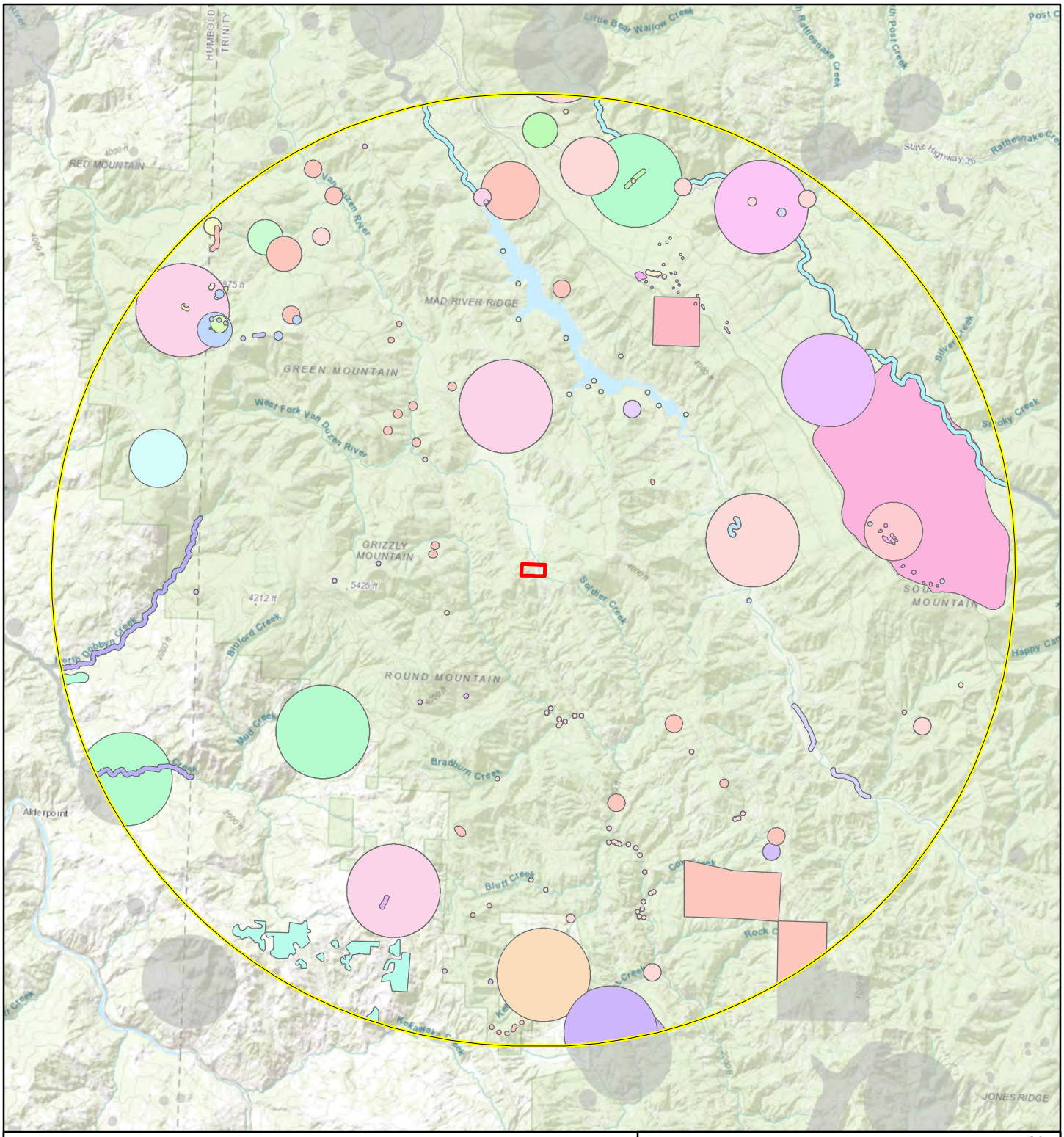
Natural Investigations Company

Site Layout, western side

1760 West Hettenshaw Road, Zenia

Natural Investigations Company


E Hettenshaw Rd
W Hettenshaw Rd
Roads
Parcel boundaries
Cannabis Production Area
Vegetation Community Types
Douglas Fir Forest
Annual grassland
Ruderal/developed
Chaparral
Willow scrub
N
900 ft
Terrestrial Vegetation Types
1760 West Hettenshaw Road, Zenia
Natural Investigations Company



Parcel Location 10 Mile Buffer

1:190,000 1 inch = 3 miles

0 3 6 Miles

N

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist inshowing features discussed in an attached document. Natural Investigations Company can not guarantee the accuracy and content of electronic files.The master file is stored by Natural Investigations Company and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.Data Sources: California Department of Fish and Wildlife. 2019. RareFind 5.x, California Natural Diversity Data Base. Biogeographic Data Branch, Sacramento, California.
(updated monthly by subscription service)

Special-Status Species Occurrences Map

1760 W. Hettenshaw Rd.

Ruth Lake 1997 Quadrangle:Township 2S, Range 7E, Section 29,32

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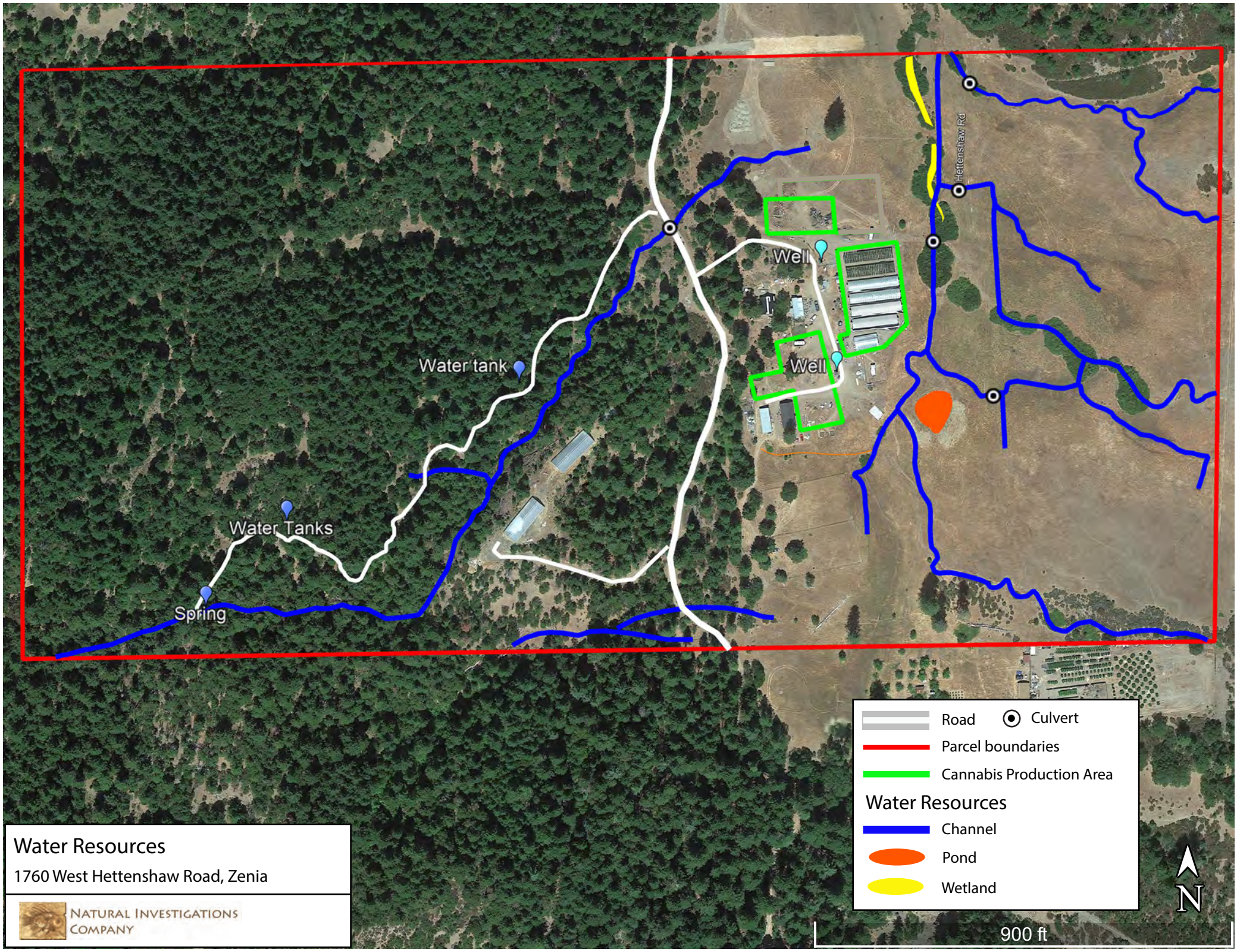
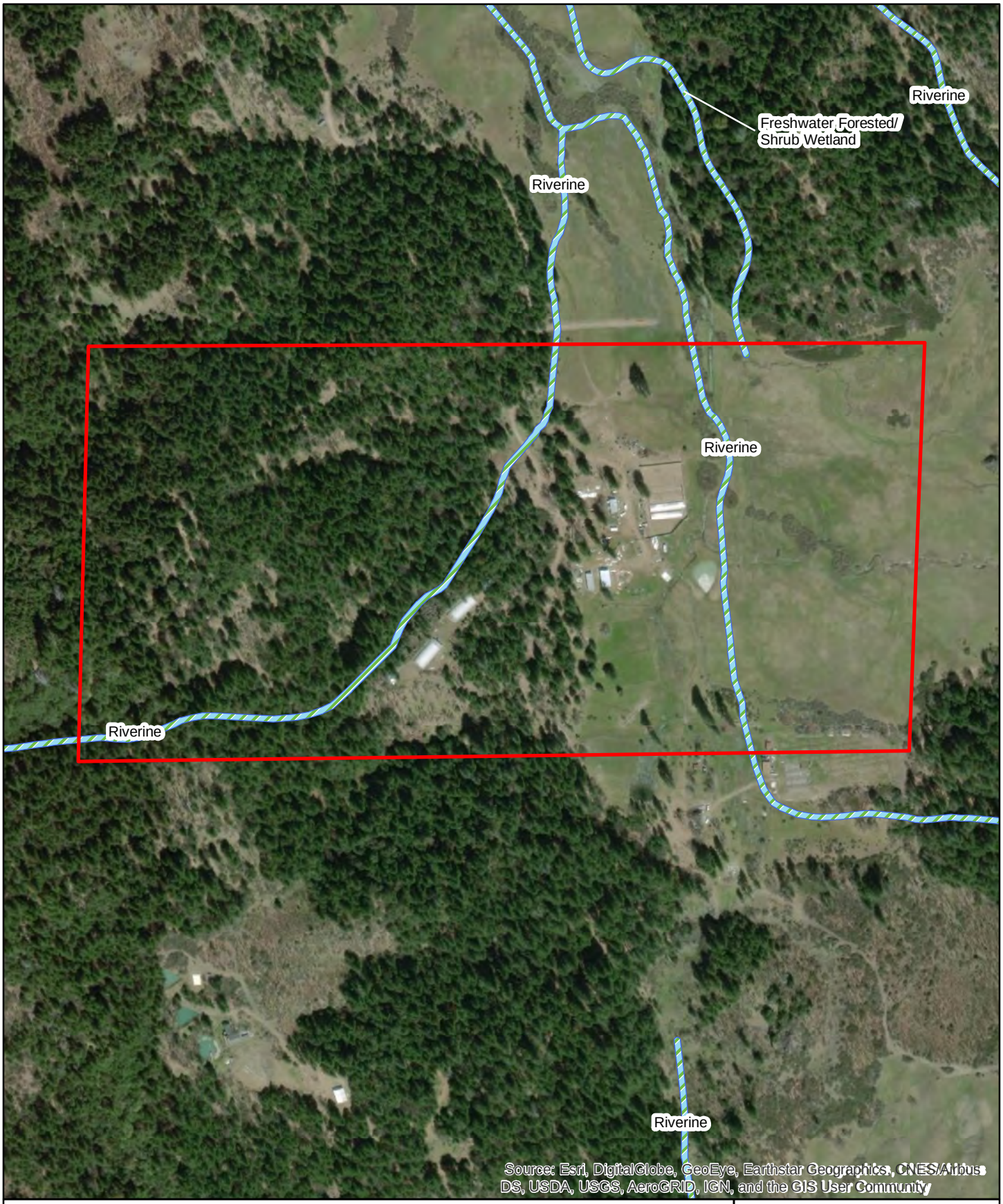


Water Resources

1760 West Hettenshaw Road, Zenia

Natural Investigations Company



Parcel Location

Wetlands and Channels

0 125 250 Meters

0 500 1,000 Feet

1:5,000

1760 W. Hettenshaw Rd.
National Wetlands Inventory
Features Map

Natural Investigations Company

Map Date 1/25/2019

Ruth Lake 1997 Quadrangle:Township 2S, Range 7E, Section 29,32

APPENDIX 1: USFWS SPECIES LIST

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arcata Fish And Wildlife Office
1655 Heindon Road
Arcata, CA 95521-4573
Phone: (707) 822-7201 Fax: (707) 822-8411

In Reply Refer To:
Consultation Code: 08EACT00-2019-SLI-0111
Event Code: 08EACT00-2019-E-00247
Project Name: Hettenshaw Bio Assessment

January 30, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arcata Fish And Wildlife Office
1655 Heindon Road
Arcata, CA 95521-4573
(707) 822-7201

Project Summary

Consultation Code: 08EACT00-2019-SLI-0111

Event Code: 08EACT00-2019-E-00247

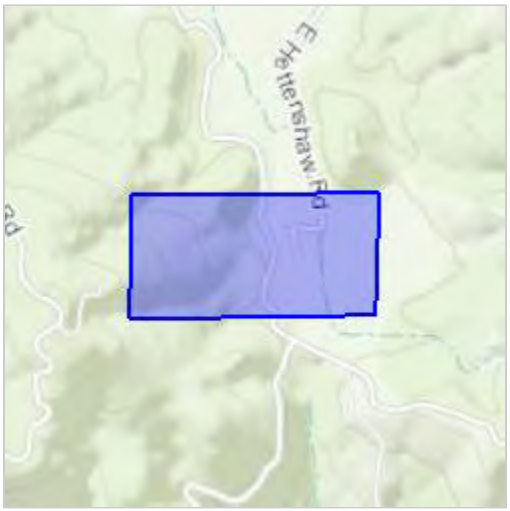
Project Name: Hettenshaw Bio Assessment

Project Type: ** OTHER **

Project Description: Bio Assessment

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/40.25757007630427N123.40960058484232W



Counties: Trinity, CA

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* https://ecos.fws.gov/ecp/species/1123#crithab	Final

APPENDIX 2: CHECKLIST OF PLANTS DETECTED IN THE STUDY AREA

Plants Observed at 1760 West Hettenshaw Road on January 28, 2019

Common Name	***Scientific Name***
Bigleaf maple	*Acer macrophyllum*
Yarrow	*Achillea millefolium*
Bentgrass	*Agrostis sp.*
Red alder	*Alnus rubra*
Madrone	*Arbutus menziesii*
Sonoma manzanita	*Arctostaphylos canescens ssp. sonomensis*
Columbia manzanita	*Arctostaphylos columbiana*
Bordiaea	*Brodiaea sp.*
Incense-cedar	*Calocedrus decurrens*
Sedge	*Carex sp.*
Buckbrush	*Ceanothus cuneatus*
Deer brush	*Ceanothus integerrimus ssp. macrothyrsus*
Yellow star thistle	*Centaurea solstitalis*
Brown dogwood	*Cornus glabrata*
California hazelnut	*Corylus cornuta ssp. californica*
Hedgehog dogtail	*Cynosurus echinatus*
Orchard grass	*Dactylis glomerata*
Queen Anne's lace	*Daucus pusilis*
Geranium molle	*Dove-foot geranium*
Medusahead	*Elymus caput-medusae*
Squirreltail	*Elymus elymoides*
Blue wildrye	*Elymus glaucus ssp. glaucus*
Tall willowherb	*Epilobium brachycarpum*
Denseflower willowherb	*Epilobium densiflorum*
Wild buckwheat	*Eriogonum nudum*
Eryngio	*Eryngium sp.*
California poppy	*Eschscholzia californica*
California fescue	*Festuca californica*
Wild strawberry	*Fragaria sp.*
California coffeeberry	*Frangula californica*
Klamath weed	*Hypericum perfoliatum*
Iris	*Iris sp.*
Rush	*Juncus sp*
Meadowfoam	*Limnanthes sp.*
Pink honeysuckle	*Lonicera hispidula*
Common madia	*Madia elegans*
Pennyroyal	*Mentha pulegium*
Coyote mint	*Monardella villosa ssp. villosa*
Nemophila	*Nemophila parviflora ssp. parviflora*
Oregon boxwood	*Paxistima myrsinites*
Sugar pine	*Pinus lambertiana*
Ponderosa pine	*Pinus ponderosa*
English plantain	*Plantago lanceolata*
Narrowleaf swordfern	*Polystichum imbricans sp. imbricans*
Western sword fern	*Polystichum munitum*
Wild cherry	*Prunus sp*
Douglas-fir	*Pseudotsuga menziesii*
Western brackenfern	*Pteridium aquilinum*
Canyon live oak	*Quercus chrysolepis*
Oregon oak	*Quercus garryana*
California black oak	*Quercus kelloggii*
Buttercup	*Ranunculus sp.*

Gooseberry	*Ribes sp.*
Western yellow cress	*Rorippa curvisiliqua*
Pea rose	*Rosa pisocarpa ssp. pisocarpa*
Himalayan blackberry	*Rubus armeniacus*
Elmleaf blackberry	*Rubus ulmifolius*
Curly dock	*Rumex crispus*
Arroyo willow	*Salix lasiolepis*
Elderberry	*Sambucus sp*
Sanicle	*Sanicula sp.*
California figwort	*Scrophularia californica*
Creeping snowberry	*Symphoricarpos mollis*
Tall sock destroyer	*Torilis nodosa*
Poison-oak	*Toxicodendron diversilobum*
Salsify	*Tragopogon porrifolius*
Western vervain	*Verbena lasiostachys*

APPENDIX 3: SITE PHOTOS

BIOLOGICAL SITE ASSESSMENT
FOR THE CANNABIS CULTIVATION OPERATION AT
1760 WEST HETTENSHAW ROAD, ZENIA, CALIFORNIA

February 11, 2019

Applicant:

Jeff Ghidella

Prepared by:

G.O. Graening, PhD and Tim Nosal, MS
Natural Investigations Company, Inc.
3104 O Street, #221, Sacramento, CA 95816

NATURAL INVESTIGATIONS CO.
WWW.NATURALINVESTIGATIONS.COM

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1. INTRODUCTION

1.1. PROJECT LOCATION AND DESCRIPTION

Natural Investigations Company conducted a biological site assessment for a cannabis cultivation operation at 1760 West Hettenshaw Road, Zenia, in Trinity County, California. The entire 80-acre parcel (APN 020-120-25) was the Study Area. The Project Area is accessed by a private graveled road on West Hettenshaw Road (see exhibits). Existing facilities consist of a single-family residence, processing barn, three sheds, a treehouse, eight hoophouses and one greenhouse. Two hoophouses and two sheds that are no longer in use will be removed. The cultivation method consists of plants growing in fabric pots, which are placed on top the ground inside hoophouses and greenhouses. A paved/ gravel access road connects the cultivation operational areas. Proposed expansion of the project will involve vegetation clearing and grading for the establishment of the cultivation area and associated features (see exhibits). The expansion of cultivation area will include a 10,000 square foot garden; a 20,000-30,000 square foot garden; and the construction of a 1,500 square-foot shed. Plants will be grown with natural light in fabric pots. Hoophouses may be constructed in order to house the plants. Cannabis processing will occur on-site. Existing dirt/gravel access roads will connect the cultivation operational areas. The total area of disturbance will be less than 1 acre.

1.2. PURPOSE AND SCOPE OF ASSESSMENT

This Biological Resources Assessment was prepared to assist the Applicant in obtaining enrollment (a Notice of Applicability) in the State Water Resources Control Board's Order WQ 2017-0023-DWQ General Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (General Order). The Applicant's Notice of Receipt required technical reports, including a Biological Resources Assessment. The Water Board has not issued specific guidelines for the preparation of these assessments, so the guidelines for preparing assessments for California Environmental Quality Act compliance were used. The General Order does give these general guidelines:

> "*Prior to commencing any cannabis land development or site expansion activities the cannabis cultivator shall secure a qualified biologist. The cannabis cultivator and the Qualified Biologist shall consult with CDFW and CAL FIRE and designate and mark a no-disturbance buffer to protect identified sensitive plant and wildlife species and communities.*" (Section 1, Number 8 of the General Order)
>
> "*Qualified Biologist – an individual who possesses, at a minimum, a bachelor's or advanced degree, from an accredited university, with a major in biology, zoology, wildlife biology, natural resources science, or a closely related scientific discipline, at least two years of field experience in the biology and natural history of local plant, fish, and wildlife resources present at the Cannabis Cultivation Site, and knowledge of state and federal laws regarding the protection of sensitive and endangered species.*" (Glossary of the General Order)

In support of this permit enrollment application and general compliance California Environmental Quality Act, Natural Investigations Co. has prepared this assessment to provide information about the biological resources within the Study Area, the regulatory environment affecting such resources, any potential Project-related impacts upon these resources, and finally, to identify mitigation measures and other recommendations to reduce the significance of these impacts. The specific scope of services performed for this Biological Site Assessment consisted of the following tasks:

- Compile all readily-available historical biological resource information about the Study Area;
- Spatially query state and federal databases for any historic occurrences of special-status species or habitats within the Study Area and vicinity;

- Perform a reconnaissance-level field survey of the Study Area, including photographic documentation;
- Inventory all flora and fauna observed during the field survey;
- Characterize and map the habitat types present within the Study Area;
- Evaluate the likelihood for the occurrence of any special-status species;
- Assess the potential for the Project to adversely impact any sensitive biological resources;
- Recommend mitigation measures designed to avoid or minimize Project-related impacts; and
- Prepare and submit a report summarizing all of the above tasks.

The scope of services does not include other services that are not described in this Section, such as formal aquatic resource delineations or protocol-level surveys for special-status species.

1.3. REGULATORY SETTING

The following section summarizes some applicable regulations of biological resources on real property in California.

1.3.1. Special-status Species Regulations

The United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service implement the Federal Endangered Species Act of 1973 (FESA) (16 USC §1531 et seq.). Threatened and endangered species on the federal list (50 CFR §17.11, 17.12) are protected from "take" (direct or indirect harm), unless a FESA Section 10 Permit is granted or a FESA Section 7 Biological Opinion with incidental take provisions is rendered. Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present in the project area and determine whether the proposed project will have a potentially significant impact upon such species. Under FESA, habitat loss is considered to be an impact to the species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC §1536[3], [4]). Therefore, project-related impacts to these species or their habitats would be considered significant and would require mitigation. Species that are candidates for listing are not protected under FESA; however, USFWS advises that a candidate species could be elevated to listed status at any time, and therefore, applicants should regard these species with special consideration.

The California Endangered Species Act of 1970 (CESA) (California Fish and Game Code §2050 *et seq.*, and CCR Title 14, §670.2, 670.51) prohibits "take" (defined as hunt, pursue, catch, capture, or kill) of species listed under CESA. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Section 2081 establishes an incidental take permit program for state-listed species. Under CESA, California Department of Fish and Wildlife (CDFW) has the responsibility for maintaining a list of threatened and endangered species designated under state law (CFG Code 2070). CDFW also maintains lists of species of special concern, which serve as "watch lists." Pursuant to requirements of CESA, an agency reviewing proposed projects within its jurisdiction must determine whether any state-listed species may be present in the Study Area and determine whether the proposed project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation.

California Fish and Game Code Sections 4700, 5050, and 5515 designates certain mammal, amphibian, and reptile species "fully protected", making it unlawful to take, possess, or destroy these species except under issuance of a specific permit. The California Native Plant Protection Act of 1977 (CFG Code §1900 *et seq.*) requires CDFW to establish criteria for determining if a species or variety of native plant is endangered or rare. Section 19131 of the code requires that landowners notify CDFW at

least 10 days prior to initiating activities that will destroy a listed plant to allow the salvage of plant material.

Many bird species, especially those that are breeding, migratory, or of limited distribution, are protected under federal and state regulations. Under the Migratory Bird Treaty Act of 1918 (16 USC §703-711), migratory bird species and their nests and eggs that are on the federal list (50 CFR §10.13) are protected from injury or death, and project-related disturbances must be reduced or eliminated during the nesting cycle. California Fish and Game Code (§3503, 3503.5, and 3800) prohibits the possession, incidental take, or needless destruction of any bird nests or eggs. Fish and Game Code §3511 designates certain bird species "fully protected", making it unlawful to take, possess, or destroy these species except under issuance of a specific permit. The Bald and Golden Eagle Protection Act (16 USC §668) specifically protects bald and golden eagles from harm or trade in parts of these species.

California Environmental Quality Act (CEQA) (Public Resources Code §15380) defines "rare" in a broader sense than the definitions of threatened, endangered, or fully protected. Under the CEQA definition, CDFW can request additional consideration of species not otherwise protected. CEQA requires that the impacts of a project upon environmental resources must be analyzed and assessed using criteria determined by the lead agency. Sensitive species that would qualify for listing but are not currently listed may be afforded protection under CEQA. The CEQA Guidelines (§15065) require that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines (§15380) provide for assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Plant species on the California Native Plant Society (CNPS) Lists 1A, 1B, or 2 are typically considered rare under CEQA. California "Species of Special Concern" is a category conferred by CDFW on those species that are indicators of regional habitat changes or are considered potential future protected species. While they do not have statutory protection, Species of Special Concern are typically considered rare under CEQA and thereby warrant specific protection measures.

1.3.2. Water Resource Protection

Real property that contains water resources are subject to various federal and state regulations and activities occurring in these water resources may require permits, licenses, variances, or similar authorization from federal, state and local agencies, as described next.

The Federal Water Pollution Control Act Amendments of 1972 (as amended), commonly known as the Clean Water Act (CWA), established the basic structure for regulating discharges of pollutants into "waters of the United States". Waters of the US includes essentially all surface waters, all interstate waters and their tributaries, all impoundments of these waters, and all wetlands adjacent to these waters. CWA Section 404 requires approval prior to dredging or discharging fill material into any waters of the US, especially wetlands. The permitting program is designed to minimize impacts to waters of the US, and when impacts cannot be avoided, requires compensatory mitigation. The US Army Corps of Engineers (USACE) is responsible for administering Section 404 regulations. Substantial impacts to jurisdictional wetlands may require an Individual Permit. Small-scale projects may require only a Nationwide Permit, which typically has an expedited process compared to the Individual Permit process. Mitigation of wetland impacts is required as a condition of the CWA Section 404 Permit and may include on-site preservation, restoration, or enhancement and/or off-site restoration or enhancement. The characteristics of the restored or enhanced wetlands must be equal to or better than those of the affected wetlands to achieve no net loss of wetlands.

Under CWA Section 401, every applicant for a federal permit or license for any activity which may result in a discharge to a water body must obtain State Water Quality Certification that the proposed activity will comply with State water quality standards. The California State Water Resources Control Board is responsible for administering CWA Section 401 regulations.

Section 10 of the Rivers and Harbors Act of 1899 requires approval from USACE prior to the commencement of any work in or over navigable Waters of the US, or which affects the course, location, condition or capacity of such waters. Navigable waters of the United States are defined as waters that have been used in the past, are now used, or are susceptible to use, as a means to transport interstate or foreign commerce up to the head of navigation. Rivers and Harbors Act Section 10 permits are required for construction activities in these waters.

California Fish and Game Code (§1601 - 1607) protects fishery resources by regulating "*any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.*" CDFW requires notification prior to commencement, and issuance of a Lake or Streambed Alteration Agreement, if a proposed project will result in the alteration or degradation of "waters of the State". The limit of CDFW jurisdiction is subject to the judgment of the Department; currently, this jurisdiction is interpreted to be the "stream zone", defined as "*that portion of the stream channel that restricts lateral movement of water*" and delineated at "*the top of the bank or the outer edge of any riparian vegetation, whichever is more landward*". CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the CDFW and the applicant is the Streambed Alteration Agreement. Projects that require a Streambed Alteration Agreement may also require a CWA 404 Section Permit and/or CWA Section 401 Water Quality Certification.

For construction projects that disturb one or more acres of soil, the landowner or developer must obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ).

Regional Board Order R5-2015-0113 protects receiving water bodies from water-quality impacts associated with cannabis cultivation using a combination of Best Management Practices, buffer zones, sediment and erosion controls, site management plans, inspections and reporting, and regulatory oversight.

1.3.3. Tree Protection

For Trinity County, no relevant county or municipal tree ordinances were identified that would protect non-commercial tree species such as native oaks (*Quercus* spp.).

In areas outside timberland, pursuant to Public Resource Code section 4526, no tree removal for the purposes of facilitating cannabis production, including solar exposure increases, is allowed within 150 feet of fish bearing water bodies or 100 feet of aquatic habitat for non-fish aquatic species (i.e. aquatic insects). In areas inside timberland, any tree removal is subject to the conditions and requirements set forth in the Z'berg-Nejedly Forest Practice Act and the California Forest Practice Rules. If development of a project will result in the removal of commercial tree species, one of the following permits is needed: Less than 3 Acre Conversion Exemption; Christmas Tree; Dead, Dying or Diseased, Fuelwood, or Split Products Exemption; a Public Agency, Public and Private Utility Right of Way Exemption; a Notice of Exemption from Timberland Conversion Permit for Subdivision; or an Application for Timberland Conversion Permit.

2. ENVIRONMENTAL SETTING

The Study Area is located within the Outer North Coast Ranges geographic subregion, which is contained within the Northwestern California geographic subdivision of the larger California Floristic Province (Baldwin et al. 2012). This region has a Mediterranean-type climate, characterized by distinct seasons of warm, dry summers and wet, moderately-cold winters with occasional snow accumulation. The Study Area and vicinity is in Sunset Climate Zone 1A "Coldest Mountain and Intermountain Areas", with a short growing season and mild summer temperatures and cold winters with accumulations of snow (Brenzel 2012). The topography of the Study Area is mountainous in the western half, tapering to a flat valley in the eastern half. The elevation ranges from approximately 3,160 feet to 3,560 feet above mean sea level. Drainage runs east from the mountains towards Hettenshaw Valley, and then north from the valley. Drainage from Hettenshaw Valley flows into the West Fork Van Duzen River. Prior to the establishment of this cultivation operation, land uses included cannabis cultivation, equestrian facilities and open space. The surrounding land uses are private estates with gardens or corrals, timberland, open space, and grazing land.

The Natural Resources Conservation Service (NRCS) has identified several soil types within the Study Area. The geology that underlays the site includes soils derived from metasedimentary and shale. No soils derived from serpentine or volcanic rocks are mapped within or adjacent to this parcel (NRCS 2019).

3. METHODOLOGY

3.1. PRELIMINARY DATA GATHERING AND RESEARCH

Prior to conducting the field survey, the following information sources were reviewed:

- Any readily-available previous biological resource studies pertaining to the Study Area or vicinity
- United States Geologic Service (USGS) 7.5 degree-minute topographic quadrangles of the Study Area and vicinity
- Aerial photography of the Study Area
- California Natural Diversity Database (CNDDB), electronically updated monthly by subscription
- USFWS species list (IPaC Trust Resources Report).

3.2. FIELD SURVEY

Consulting biologist Tim Nosal, MS. conducted a reconnaissance-level field survey on January 28, 2019. Weather conditions were cool and cloudy. A variable-intensity pedestrian survey was performed, and modified to account for differences in terrain, vegetation density, and visibility. All visible fauna and flora observed were recorded in a field notebook, and identified to the lowest possible taxon. Survey efforts emphasized the search for any special-status species that had documented occurrences in the CNDDB within the vicinity of the Study Area and those species on the USFWS species list (Appendix 1).

When a specimen could not be identified in the field, a photograph or voucher specimen (depending upon permit requirements) was taken and identified in the laboratory using a dissecting scope where necessary. Tim Nosal holds CDFW Plant Voucher Specimen Permit 2081(a)-16-102-V. Taxonomic determinations were facilitated by referencing museum specimens or by various texts, including the following: Powell and Hogue (1979); Pavlik (1991); (1993); Brenzel (2012); Stuart and Sawyer (2001); Lanner (2002); Sibley (2003); Baldwin et al. (2012); Calflora (2019); CDFW (2019b,c); NatureServe 2019; and University of California at Berkeley (2019a,b).

The locations of any special-status species sighted were marked on aerial photographs and/or georeferenced with a geographic positioning system (GPS) receiver. Habitat types occurring in the Study Area were mapped on aerial photographs, and information on habitat conditions and the suitability of the habitats to support special-status species was also recorded.

3.3. MAPPING AND OTHER ANALYSES

Locations of species' occurrences and habitat boundaries within the Study Area were recorded on color aerial photographs, and then digitized to produce the final habitat maps. Geographic analyses were performed using geographical information system software (ArcGIS 10, ESRI, Inc.). Vegetation communities (assemblages of plant species growing in an area of similar biological and environmental factors), were classified by Vegetation Series (distinctive associations of plants, described by dominant species and particular environmental setting) using the CNPS Vegetation Classification system (Sawyer and Keeler-Wolf, 1995). Wildlife habitats were classified according to the CDFW's California Wildlife Habitat Relationships System (CDFW, 2019c). Species' habitat requirements and life histories were identified using the following sources: Baldwin et al. (2012); CNPS (2019), Calflora (2019); CDFW (2019a,b,c); and University of California at Berkeley (2019a,b).

4. RESULTS

4.1. INVENTORY OF FLORA AND FAUNA FROM FIELD SURVEY

All plants detected during the field survey of the Study Area are listed in Appendix 2. Wildlife species were detected with binoculars or by unaided visual observation. Indicators such as burrows were used to determine the presence of unidentified small rodents. The following wildlife species were identified during the site visit: spiders (Araneomorphae); praying mantis (Mantodea); water strider (Gerridae); aquatic beetle (Coleoptera); Sierran treefrog (*Pseudacris sierra*); coyote (*Canis latrans*); Columbian black-tailed deer (*Odocoileus hemionus columbianus*); Botta's pocket gopher (*Thomomys bottae*); American black bear (*Ursus americanus*); gray fox (*Urocyon cinereoargenteus*); black-tailed jackrabbit (*Lepus californicus*); red-tailed hawk (*Buteo jamaicensis*); California scrub jay (*Aphelocoma californica*); acorn woodpecker (*Melanerpes formicivorus*); common raven (*Corvus corax*); Steller's jay (*Cyanocitta stelleri*); American crow (*Corvus brachyrhynchos*); American robin (*Turdus migratorius*); pileated woodpecker (*Dryocopus pileatus*); California quail (*Callipepla californica*); sparrow (Emberizidae); and common songbirds.

4.2. VEGETATION COMMUNITIES AND WILDLIFE HABITAT TYPES

The Study Area contains 4 terrestrial habitat types (see Exhibits and photos in Appendix 3): Douglas-fir forest; chaparral; annual grassland; and ruderal/urbanized.

Douglas-fir Forest: Tree-dominated forest habitats are found throughout the western half of the Study Area. Tree-dominated forest habitats are found in across the Study Area. Vegetation in the mixed forest consists of a dense canopy of Douglas-fir (*Pseudotsuga menziesii*), canyon live oak (*Quercus chrysolepis*), madrone (*Arbutus menziesii*), and Oregon oak (*Quercus garryana*) with a variety of shrubs and herbs in the understory. Areas along watercourses were typically dominated by the same species and no distinct riparian community was identified. The mixed forest can be classified as the Holland Type "82420 Upland Douglas-fir Forest" or as "82.200.50 Douglas Fir-Madrone Alliance" (Sawyer et al. 2009).

Chaparral: Habitats comprised of shrubs are found along the parcel margins in the eastern portion of the Study Area. The shrubs within the chaparral are primarily wedgeleaf ceanothus (*Ceanothus cuneatus*) with an understory of annual grasses and herbs. This vegetation type can be classified as the Holland Type "Buck Brush Chaparral" or as "37.211.00 Ceanothus cuneatus shrubland Alliance (Sawyer et al. 2009)".

Annual grassland: The eastern half of the Study Area is dominated by annual grassland habitat. This vegetation type is comprised largely of non-native grasses and native herbs. Plants common in annual grassland include Medusa-head (*Elymus caput-medusae*) and other grasses, Klamath weed (*Hypericum perfoliatum*), common madia (*Madia elegans*) and a variety of annual herbs. This vegetation can be classified as the Holland Type "Non-native Grassland" or as "Wild oats grasslands: Semi-natural stands" (Sawyer et al. 2009)".

Ruderal/Developed: These areas consist of disturbed or converted natural habitat that is now either in ruderal state, graded, or urbanized with gravel roads, or structure and utility placement. The area mapped as urbanized includes the house, garden and the adjacent equestrian paddocks. Vegetation within this habitat type consists primarily of nonnative annual grasses, weedy or invasive species or ornamental plants lacking a consistent community structure. This habitat is classified the "Urban" wildlife habitat type by CDFW's Wildlife Habitat Relationship System (WHR).

The CNDDB reported no special-status habitats within the Study Area. The CNDDB reported the following special-status habitats within a 10-mile radius of the Study Area: Upland Douglas-Fir Forest. The USFWS National Wetland Inventory (see Exhibits) reported two intermittent watercourses within the Study Area.

The Study Area contains various water features, including a pond, a spring, numerous channels, and some seasonal wetlands. Various channels drain the mountainous western half of the Study Area. Some channels dissipate upon entering the grasslands of the valley floor. Near the southwestern corner of the parcel there is a perennial spring. Although this spring has been developed and has been used as a water source in the past, it is no longer being utilized. The eastern half of the Study Area consists largely of the grasslands of the valley floor. Various channels drain the valley and converge downstream into an intermittent stream. A small pond, approximately 5,000 square feet in area, is found near the center of the eastern half of the Study Area. This is a man-made feature and is used for stock watering and wildlife. This pond fills with winter rain and overland sheet flow. In various places on the valley floor, willow-scrub wetlands have formed.

4.3. SPECIAL-STATUS SPECIES

For the purposes of this assessment, "special status" is defined to be species that are of management concern to state or federal natural resource agencies, and include those species that are:

- Listed as endangered, threatened, proposed, or candidate for listing under the Federal Endangered Species Act;
- Listed as endangered, threatened, rare, or proposed for listing, under the California Endangered Species Act of 1970;
- Designated as endangered or rare, pursuant to California Fish and Game Code (§1901);
- Designated as fully protected, pursuant to California Fish and Game Code (§3511, §4700, or §5050);
- Designated as a species of special concern by CDFW;
- Plants considered to be rare, threatened or endangered in California by the California Native Plant Society (CNPS); this consists of species on Lists 1A, 1B, and 2 of the CNPS Ranking System; or
- Plants listed as rare under the California Native Plant Protection Act.

4.3.1. Historical Special-status Species' Occurrences

A list of special-status plant and animal species that historically occurred within the Study Area and vicinity was compiled based upon the following:

- Any previous and readily-available biological resource studies pertaining to the Study Area;
- Informal consultation with USFWS by generating an electronic Species List (Information for Planning and Conservation website at https://ecos.fws.gov/ipac/); and
- A spatial query of the CNDDB.

The CNDDB was queried and any reported occurrences of special-status species were plotted in relation to the Study Area boundary using GIS software (see exhibits). The CNDDB reported no special-status species occurrences within the Study Area.

Within a 10-mile buffer of the Study Area boundary, the CNDDB reported several special-status species occurrences, summarized in the following table. A federal species list (IPaC report) was also generated from the USFWS website (Appendix 1). Northern spotted owl (*Strix occidentalis caurina*) has critical habitat within, or adjacent to, the Study Area.

Table 1. Special-status Species Reported by CNDDB in the Vicinity of the Study Area

Common Name *Scientific Name*	Status	General Habitat	Microhabitat
Southern torrent salamander *Rhyacotriton variegatus*	CSSC	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old growth forest.	Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rock within trickling water.
Pacific tailed frog *Ascaphus truei*	CSSC	Occurs in montane hardwood-conifer, redwood, Douglas-fir & ponderosa pine habitats.	Restricted to perennial montane streams. Tadpoles require water below 15 degrees c.
Foothill yellow-legged frog *Rana boylii*	CCT/CSSC	Partly-shaded, shallow streams & riffles with a rocky substrate in a variety of habitats.	Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.
Osprey *Pandion haliaetus*	WL	Ocean shore, bays, fresh-water lakes, and larger streams.	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.
Bald eagle *Haliaeetus leucocephalus*	FD/CE/FP	Ocean shore, lake margins, & rivers for both nesting & wintering. Most nests within 1 mi of water.	Nests in large, old-growth, or dominant live tree w/open branches, especially ponderosa pine. Roosts communally in winter.
Northern goshawk *Accipiter gentilis*	CSSC	Within, and in vicinity of, coniferous forest. Uses old nests, and maintains alternate sites.	Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.
Chinook salmon - upper Klamath and Trinity Rivers ESU. *Oncorhynchus tshawytscha pop. 30*	CSSC	Spring-run chinook in the trinity river & the Klamath River upstream of the mouth of the Trinity River.	Major limiting factor for juvenile chinook salmon is temperature, which strongly effects growth & survival.
Summer-run steelhead trout *Oncorhynchus mykiss irideus pop. 36*	CSSC	No. Calif coastal streams south to Middle Fork Eel River. Within range of Klamath Mtns province DPS & No. Calif DPS.	Cool, swift, shallow water & clean loose gravel for spawning, & suitably large pools in which to spend the summer.
Silver-haired bat *Lasionycteris noctivagans*	CSSC	Primarily a coastal & montane forest dweller feeding over streams, ponds & open brushy areas.	Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes & rarely under rocks. Needs drinking water.
Hoary bat *Lasiurus cinereus*	CSSC	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding.	Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.
Sonoma tree vole *Arborimus pomo*	CSSC	North coast fog belt from Oregon border to Somona Co. In Douglas-fir, redwood & montane hardwood-conifer forests.	Feeds almost exclusively on Douglas-fir needles. Will occasionaly take needles of grand fir, hemlock or spruce.
North American porcupine *Erethizon dorsatum*	CSSC		
Fisher - West Coast DPS *Pekania pennanti*	CT/CSSC	Intermediate to large-tree stages of coniferous forests & deciduous-riparian areas with high percent canopy closure.	Uses cavities, snags, logs & rocky areas for cover & denning. Needs large areas of mature, dense forest.
Western pond turtle *Emys marmorata*	CSSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, be	Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.
Western bumble bee *Bombus occidentalis*	CSSC	Once common & widespread, species has declined precipitously from Central Ca to southern B.C., perhaps from disease.	
Obscure bumble bee *Bombus caliginosus*	CSSC		
Tehama chaparral *Trilobopsis tehamana*	CSSC	Endemic to Butte, Tehama, and Siskiyou counties. Usually found in rocky talus, but has also been found under leaf litter	
Pacific fuzzwort *Ptilidium californicum*	4.3	Lower montane coniferous forest, upper montane coniferous forest.	Epiphytic on fallen and decaying logs and stumps. Rarely on boulders over humus. 0-1800 m.
Tracy's sanicle *Sanicula tracyi*	4.2	Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest.	Dry gravelly slopes or flats, usually in or at the margin of oak woodland with scattered trees. 100-1585 m.
Small-flowered	1B.2	Chaparral, valley and foothill grassland,	Rocky talus or scree; sparsely vegetated areas. Occasionally

Common Name *Scientific Name*	Status	General Habitat	Microhabitat
calycadenia *Calycadenia micrantha*		meadows and seeps.	on roadsides; sometimes on serpentine. 5-1500 m.
Beaked tracyina *Tracyina rostrata*	1B.2	Cismontane woodland, valley and foothill grassland.	Open grassy meadows within oak woodland and grassland habitats. 90-790 m.
Scabrid alpine tarplant *Anisocarpus scabridus*	1B.3	Upper montane coniferous forest.	Open stony ridges, metamorphic scree slopes of mountain peaks, and cliffs in or near red fir forest. 1650-2300 m.
Mad River fleabane daisy *Erigeron maniopotamicus*	1B.2	Meadows and seeps (open and dry), lower montane coniferous forest.	Open slopes, disturbed areas (road cuts), tan-colored, rocky soils. 1350-1500 m.
Water howellia *Howellia aquatilis*	FT/2B.2	Freshwater marshes and swamps.	In clear ponds with other aquatics and surrounded by ponderosa pine forest and sometimes riparian associates. 1085-1290
The Lassics sandwort *Sabulina decumbens*	1B.2	Lower montane coniferous forest, upper montane coniferous forest.	Endemic to serpentine, only known from upper, north-facing slopes under Jeffrey pines. 1500-1675 m.
Pale yellow stonecrop *Sedum laxum ssp. flavidum*	4.3	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, upper montane coniferous for	Serpentine or basalt outcrops. 455-2000 m.
Jepson's dodder *Cuscuta jepsonii*	1B.2	North coast coniferous forest.	Streamsides. 1200-2300 m.
Konocti manzanita *Arctostaphylos manzanita ssp. elegans*	1B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	Volcanic soils. 395-1615 m.
Yolla Bolly Mtns. Bird's-foot trefoil *Hosackia yollabolliensis*	1B.2	Upper montane coniferous forest.	1700-2100 m.
South Fork Mountain lupine *Lupinus elmeri*	1B.2	Lower montane coniferous forest.	1218-2000 m.
The Lassics lupine *Lupinus constancei*	CCE/1B.1	Lower montane coniferous forest.	Serpentine barrens. 1500-2000 m.
Umpqua green-gentian *Frasera umpquaensis*	2B.2	Lower montane coniferous forest, meadows and seeps, chaparral, north coast coniferous forest.	Mountain meadows; openings in forest. 1555-1900m.
Oregon fireweed *Epilobium oreganum*	1B.2	Bogs and fens, lower montane coniferous forest, upper montane coniferous forest.	In and near springs and bogs; at least sometimes on serpentine. 500-2240 m.
Northern meadow sedge *Carex praticola*	2B.2	Meadows and seeps.	Moist to wet meadows. 0-3200 m.
Coast fawn lily *Erythronium revolutum*	2B.2	Bogs and fens, broadleafed upland forest, north coast coniferous forest.	0-1065m.
White-flowered rein orchid *Piperia candida*	1B.2	North coast coniferous forest, lower montane coniferous forest, broadleafed upland forest.	Coast ranges from Santa Cruz County north; on serpentine. Forest duff, mossy banks, rock outcrops & muskeg. 0-1200m.

4.3.2. Special-status Species Observed During Field Survey

During the field survey, no special-status species were detected within the Study Area.

4.3.3. Potential for Special-status Species to Occur in the Study Area

The non-native grasslands and ruderal/developed habitats within the Study Area have a low potential for harboring special-status plant species due to the dominance of aggressive non-native grasses and forbs. The Douglas-fir forest has a high diversity of native plants and microhabitats, therefore this habitat type has a moderate potential for harboring special-status plant species such as Pacific fuzzwort (*Ptilidium californicum),* Tracy's sanicle (*Sanicula tracyi),* Mad River fleabane daisy (*Erigeron maniopotamicus),* Jepson's dodder (*Cuscuta jepsonii),* South Fork Mountain lupine(*Lupinus elmeri),* Oregon fireweed (*Epilobium oreganum),* northern meadow sedge *(Carex praticola)* and coast fawn lily (*Erythronium revolutum).* The chaparral has a low potential for harboring special-status plant species due to the lack of plant diversity. The spring, pond, watercourses, seasonal wetlands and willow-scrub wetlands within the Study Area can sustain aquatic special-status species and diverse wildlife species.

Northern spotted owl (*Strix occidentalis caurina*) habitat is described by USFWS as follows:

> *"Northern spotted owls generally inhabit older forested habitats that contain structures and characteristics required for nesting, roosting, and foraging. Preferred habitat is characterized by forest stands with moderate to high canopy closure (60 to 90 percent), which provides thermal cover and protection from predators; multi-species canopies of several tree species of varying size and age, but with large overstory trees; large standing and fallen dead trees; high incidence of large trees with various deformities; and, sufficient open space among the lower branches to allow flight under the canopy. Foraging habitat is generally similar to nesting and roosting habitat, but it may not always support successfully nesting pairs. Dispersal habitat, at a minimum, consists of stands with adequate tree size and canopy closure to provide protection from avian predators and at least minimal foraging opportunities."*

The Project Area is located in annual grassland in the valley floor and does not contain forest. The forest in the western portion of the Study Area is not old growth forest, but a younger forest regenerating from logging. Northern spotted owl is unlikely to occur near the Project Area.

5. IMPACT ANALYSES AND MITIGATION MEASURES

This section establishes the impact criteria, then analyzes potential Project-related impacts upon the known biological resources within the Study Area, and then suggests mitigation measures to reduce these impacts to a less-than-significant level.

5.1. IMPACT SIGNIFICANCE CRITERIA

The significance of impacts to biological resources depends upon the proximity and quality of vegetation communities and wildlife habitats, the presence or absence of special-status species, and the effectiveness of measures implemented to protect these resources from Project-related impacts. As defined by CEQA, the Project would be considered to have a significant adverse impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a special-status species in local or regional plans, policies, or regulations, or by USFWS or CDFW
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by USFWS or CDFW
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (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 county or municipal policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved governmental habitat conservation plan.

Additionally, cultivators who enroll in the State Water Board's Waste Discharge Requirements for Cannabis Cultivation Order WQ 2017-0023-DWQ must comply with the Minimum Riparian Setbacks, as summarized in the following table. The Project would be considered to have a significant adverse impact on biological resources if it would be non-compliant with these requirements. Cannabis cultivators shall comply with the minimum riparian setbacks described below for all land disturbance, cannabis cultivation activities, and facilities (e.g., material or vehicle storage, diesel powered pump locations, water storage areas, and chemical toilet placement). The riparian setbacks shall be measured from the waterbody's bankfull stage (high flow water levels that occur every 1.5 to 2 years) or from the top edge of the waterbody bank in incised channels, whichever is more conservative. Riparian setbacks for springheads shall be measured from the springhead in all directions (circular buffer). Riparian setbacks for wetlands shall be measured from the edge of the bankfull water level. The cannabis cultivator shall increase riparian setbacks as needed or implement additional Requirements to meet the performance Requirement of protecting surface water from discharges that threaten water quality. If the cannabis cultivation Site cannot be managed to protect water quality, the Executive Officer of the applicable Regional Water Board may revoke authorization for cannabis cultivation activities at the cannabis cultivation site.

Minimum Riparian Setbacks

Common Name	Watercourse Class	Distance (Low Risk)	Distance (Mod Risk)	Variance
Perennial watercourses, springs, or seeps	I	150 ft.	200 ft.	Compliance Schedule
Intermittent watercourses	II	100 ft.	150 ft.	Compliance Schedule
Ephemeral watercourses	III	50 ft.	100 ft.	Compliance Schedule
Other waterbodies (lakes, etc.) and wetlands		150 ft.	200 ft.	Compliance Schedule

Notes:

- Riparian setbacks do not apply to man-made irrigation canals, water supply reservoirs, and hydroelectric canals (Watercourse Class IV) that do not support native aquatic species, however cannabis cultivators shall ensure land disturbance, cannabis cultivation activities, and facilities are not located in or disturb the existing riparian and wetland riparian vegetation associated with these Watercourse Class IV waterbodies.
- Risk is defined in Table 1 of this Policy and is based on the natural (prior to land disturbance activities) surface topography.
- Variance to riparian setbacks is only allowed if consistent with this Policy and a work plan and compliance schedule are approved by the applicable Regional Water Board Executive Officer.

5.2. IMPACT ANALYSIS

The following discussion evaluates the potential for Project-related activities to adversely affect biological resources. The Project boundaries were digitized and then overlaid on the habitat map using GIS to quantify potential impacts. Historical aerial photos were also analyzed for changes in land use.

5.2.1. Potential Direct / Indirect Adverse Effects Upon Special-status Species

No special-status species were detected within the Study Area. The Douglas-fir forest has a moderate potential for harboring special-status plant species. The Project Area is located in annual grassland in the valley floor and does not contain Douglas-fir forest. Implementation of the proposed project may involve clearing of ruderal/developed habitat but will not impact the Douglas-fir forest habitat. The forest in the western portion of the Study Area is not old growth forest, but a younger forest regenerating from logging. Northern spotted owl is unlikely to occur near the Project Area.

The aquatic habitats within the Study Area provide suitable habitat for various special-status plant and animal species. However, the proposed project will be at least 50 feet away from watercourses and at least 150 feet away from the spring and pond. No land disturbance or vegetation in aquatic habitats is necessary for project implementation. Therefore, no direct impacts to special-status species is anticipated. If land clearing is performed in the future near aquatic habitats, a pre-construction special-status species survey is recommended.

5.2.2. Potential Direct / Indirect Adverse Effects Upon Special-status Habitats or Natural Communities or Corridors

The Study Area is in, or directly adjacent to, critical habitat for Northern spotted owl. The forest in the western portion of the Study Area is not old growth forest, but a younger forest regenerating from logging. Northern spotted owl is unlikely to occur near the Project Area, and not impacts are anticipated.

Implementation of the project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Implementation of the project does not conflict with any county or municipal policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. If tree felling is performed in the future, a pre-construction nesting bird survey is highly recommended. The project does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved governmental habitat conservation plan. The Study Area is not within the coverage area of any conservation plan.

The aquatic habitats within the Study Area are special-status (i.e. protected) habitats. However, the proposed project will be at least 50 feet away from watercourses and at least 150 feet away from the spring and pond. No land disturbance or vegetation in aquatic habitats is necessary for project implementation. Therefore, no direct impacts to special-status habitats is anticipated. Indirect impacts to aquatic habitats are discussed next.

5.2.3. Potential Direct / Indirect Adverse Effects On Water Resources

There are several water resources within the Study Area: one pond, one spring, two seasonal wetlands, one willow-scrub wetland, two intermittent watercourses and eleven ephemeral watercourses. Potential adverse impacts to water resources could occur during construction by modification or destruction of stream banks or riparian vegetation, the filling of wetlands, or by increased erosion and sedimentation in receiving water bodies due to soil disturbance. Cannabis Cultivation Order WQ 2017-0023-DWQ requires the implementation of best management practices so that construction activities will not significantly impact water resources. Furthermore, if the total area of ground disturbance from construction activities is larger than 1 acre; the Cultivator must enroll for coverage under the General

Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ). The Study Area does not have a significant erosion potential, because slopes are not steep, areas of ground disturbance are small, and vegetated buffers are present. Furthermore, Cannabis Cultivation Order WQ 2017-0023-DWQ requires the implementation of an erosion control plan. Therefore, no mitigation is required. It is recommended that a formal delineation of jurisdictional waters be performed before construction work, or ground disturbance, is performed near any wetland or drainage.

Potential adverse impacts to water resources could occur during operation of cultivation activities resources by discharge of sediment or other pollutants (fertilizers, pesticides, human waste, etc.) into receiving waterbodies. However, the project proponent must file a Notice of Intent and enroll in Cannabis Cultivation Order WQ 2017-0023-DWQ. Compliance with this Order will ensure that cultivation operations will not significantly impact water resources by using a combination of Best Management Practices (BMPs), buffer zones, sediment and erosion controls, site management plans, inspections and reporting, and regulatory oversight. Implementation of these BMPs and compliance with the Order will ensure that water quality impacts are less than significant. Therefore, no mitigation is required.

5.2.4. Potential Direct / Indirect Adverse Effects on Nesting Birds

The Study Area contains suitable nesting habitat for various bird species because of the presence of trees, poles, and dense brush. However, no nests or nesting activity was observed in the project area during the field survey. Riparian corridors are focal areas for birds. Riparian habitat is present within the study area. However, implementation of the project will have no impact on the riparian habitat. Trees must be inspected for the presence of active bird nests before tree felling or ground clearing. If active nests are present in the project area during construction of the project, CDFW should be consulted to develop measures to avoid "take" of active nests prior to the initiation of any construction activities. Avoidance measures may include establishment of a buffer zone using construction fencing or the postponement of vegetation removal until after the nesting season, or until after a qualified biologist has determined the young have fledged and are independent of the nest site.

6. CONCLUSIONS AND RECOMMENDATIONS

No significant impacts to biological resources are likely to occur from project implementation. Construction and operational impacts can be avoided by careful compliance with State regulations and implementation of best management practices and an erosion control plan.

The following recommendations are made:

- If land clearing is performed in near aquatic habitats, a pre-construction special-status species survey is recommended.
- If tree felling is performed in the future, a pre-construction nesting bird survey is highly recommended
- If development of a project will result in the removal of commercial tree species, one of the following permits is needed: Less than 3 Acre Conversion Exemption; Christmas Tree; Dead, Dying or Diseased; Fuelwood or Split Products Exemption; a Public Agency, Public and Private Utility Right of Way Exemption; a Notice of Exemption from Timberland Conversion Permit for Subdivision; or an Application for Timberland Conversion Permit.
- a formal delineation of jurisdictional waters be performed before construction work, or ground disturbance, is performed near any wetland or channel.

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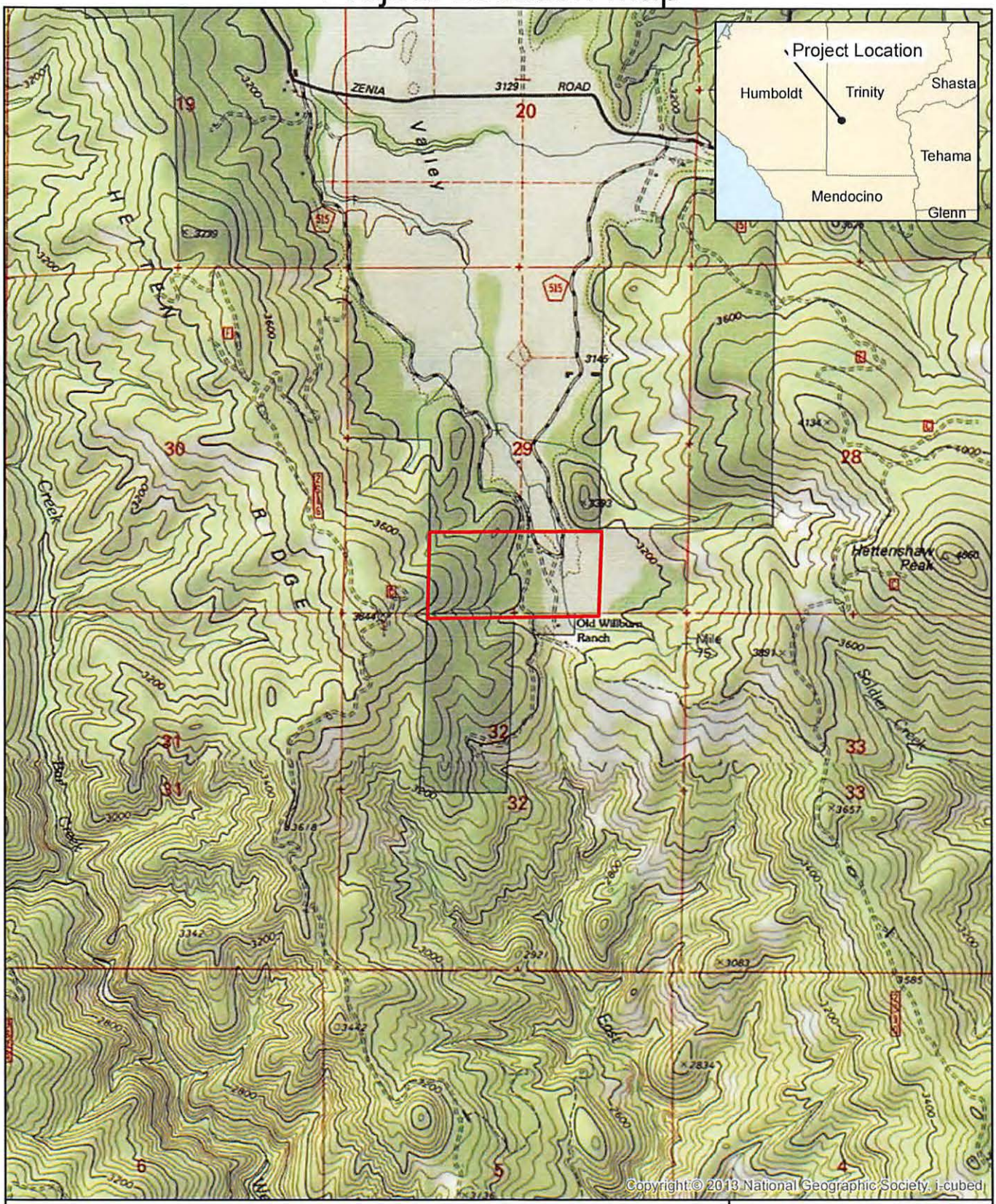
EXHIBITS

Project Location Map



Project Location

0 0.5 1 Kilometers

0 0.5 1 Miles

1:24,000

1760 W. Hettenshaw Rd.
Figure 1 - Project Location

NATURAL INVESTIGATIONS COMPANY

Map Date 11/13/2017

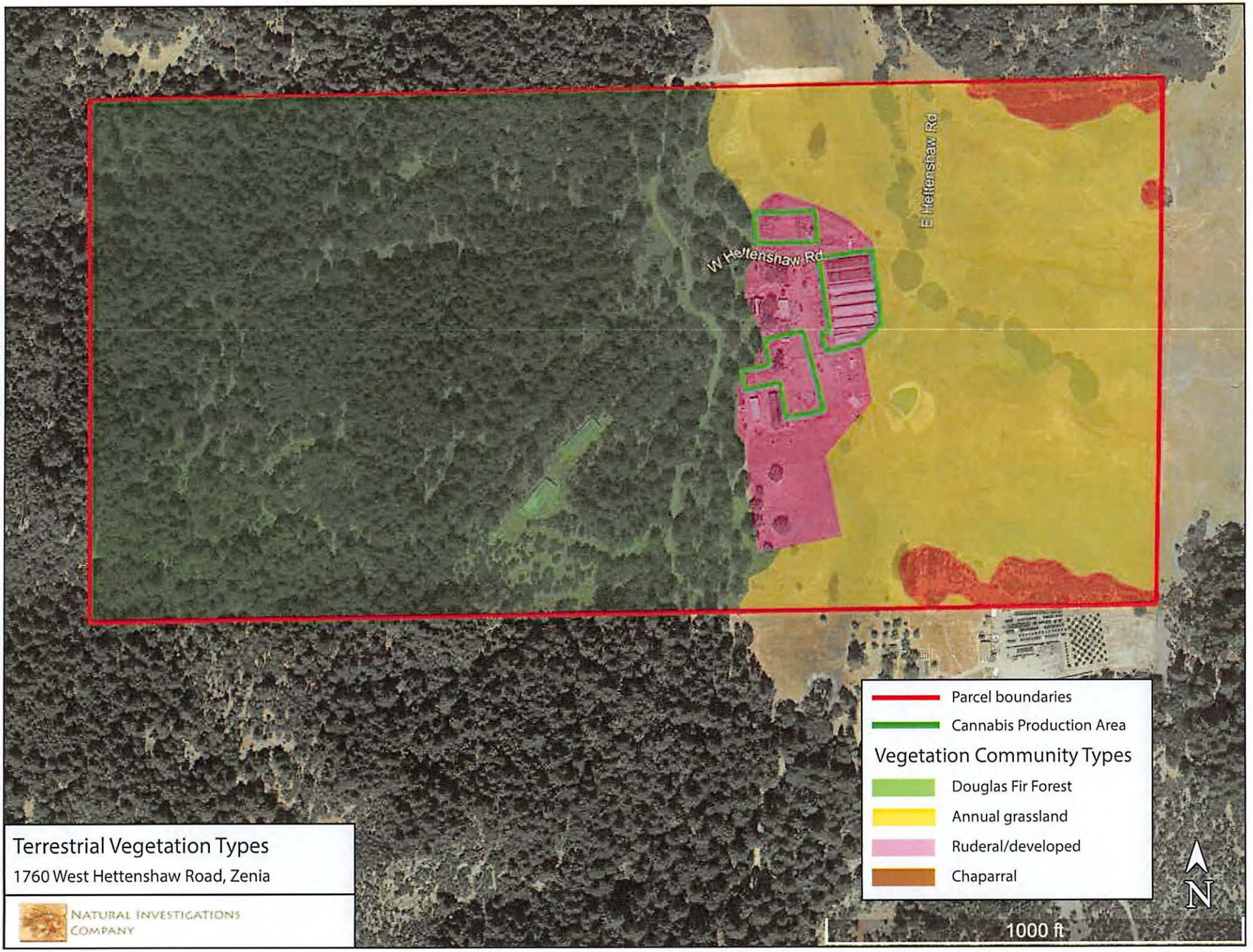
Ruth Lake 1997 Quadrangle:Township 2S, Range 7E, Section 29,32

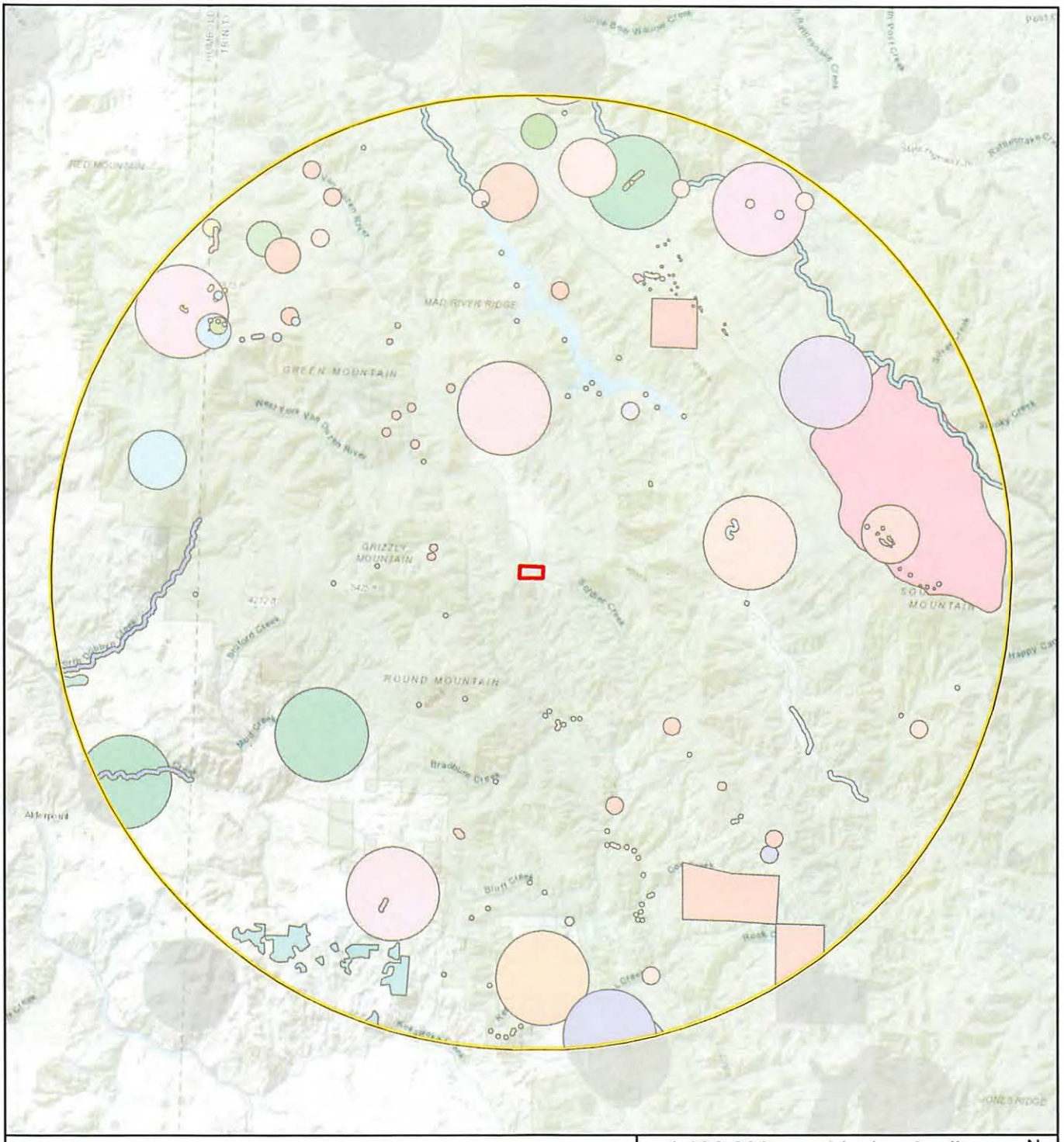
Site Layout

1760 West Hettenshaw Road, Zenia

Natural Investigations Company


Water tank
Shed (To be removed)
Hoophouse (To be removed)
Hoophouse (To be removed)
Site Layout, western side
1760 West Hettenshaw Road, Zenia
Natural Investigations Company
N
200 ft


W Hettenshaw Rd
E Hettenshaw Rd
Parcel boundaries
Cannabis Production Area
Vegetation Community Types
Douglas Fir Forest
Annual grassland
Ruderal/developed
Chaparral
N
1000 ft
Terrestrial Vegetation Types
1760 West Hettenshaw Road, Zenia
Natural Investigations Company



Parcel Location 10 Mile Buffer

1:190,000 1 inch = 3 miles

0 3 6 Miles

N

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist inshowing features discussed in an attached document. Natural Investigations Company can not guarantee the accuracy and content of electronic files.The master file is stored by Natural Investigations Company and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.Data Sources: California Department of Fish and Wildlife. 2019. RareFind 5.x, California Natural Diversity Data Base. Biogeographic Data Branch, Sacramento, California.
(updated monthly by subscription service)

Special-Status Species Occurrences Map

1760 W. Hettenshaw Rd.

Ruth Lake 1997 Quadrangle:Township 2S, Range 7E, Section 29,32

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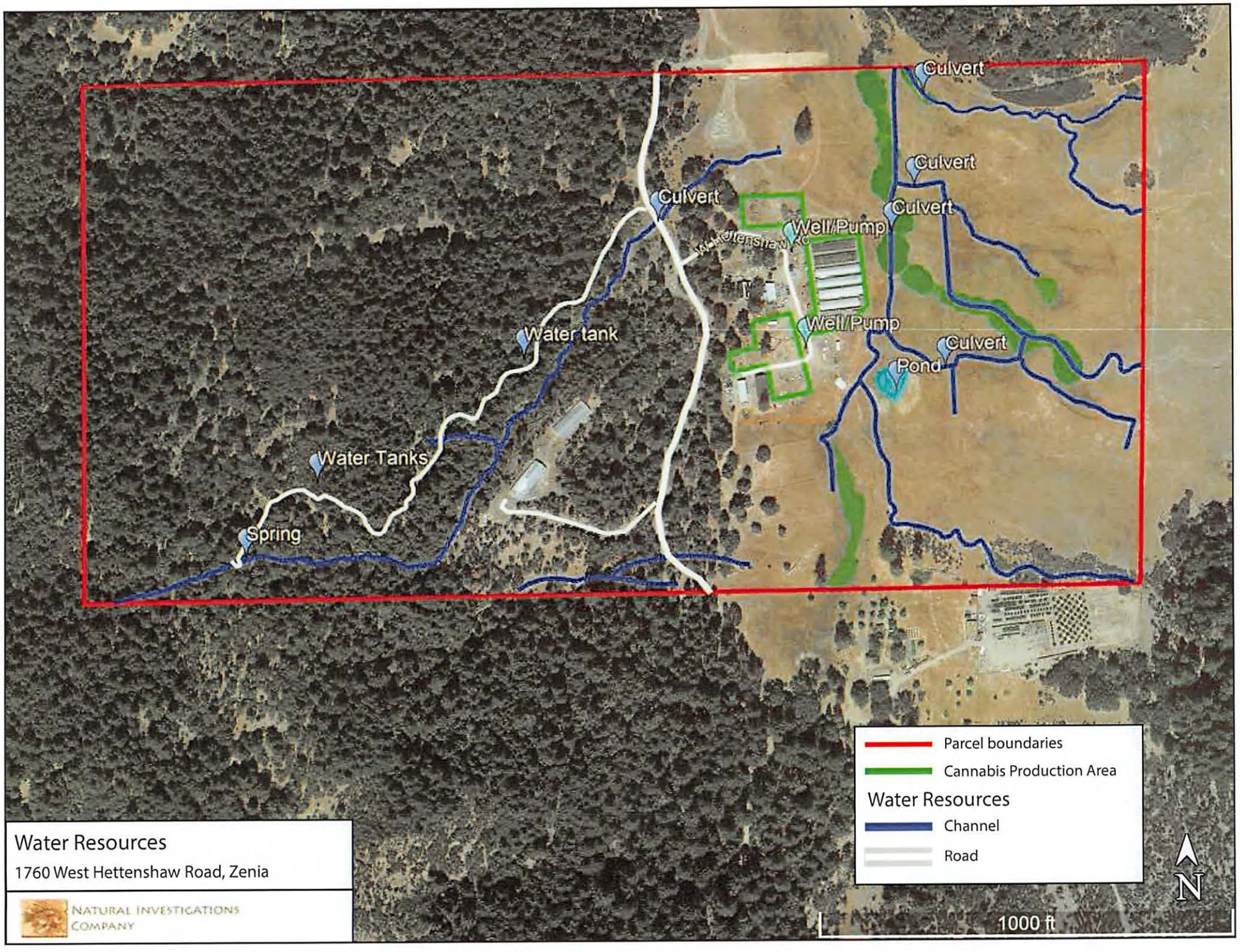


Water Resources

1760 West Hettenshaw Road, Zenia

Natural Investigations Company

APPENDIX 1: USFWS SPECIES LIST

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arcata Fish And Wildlife Office
1655 Heindon Road
Arcata, CA 95521-4573
Phone: (707) 822-7201 Fax: (707) 822-8411

In Reply Refer To:
Consultation Code: 08EACT00-2019-SLI-0111
Event Code: 08EACT00-2019-E-00247
Project Name: Hettenshaw Bio Assessment

January 30, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arcata Fish And Wildlife Office
1655 Heindon Road
Arcata, CA 95521-4573
(707) 822-7201

Project Summary

Consultation Code: 08EACT00-2019-SLI-0111

Event Code: 08EACT00-2019-E-00247

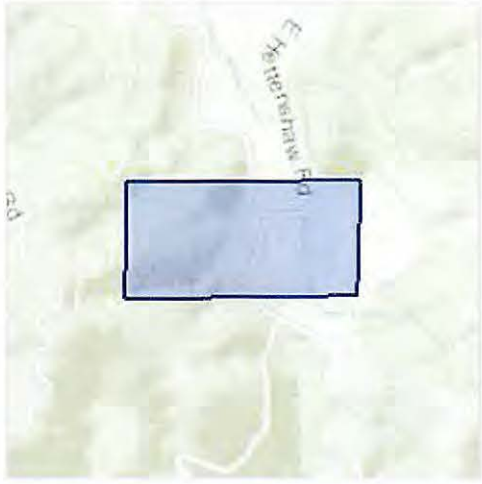
Project Name: Hettenshaw Bio Assessment

Project Type: ** OTHER **

Project Description: Bio Assessment

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/40.25757007630427N123.40960058484232W



Counties: Trinity, CA

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* https://ecos.fws.gov/ecp/species/1123#crithab	Final

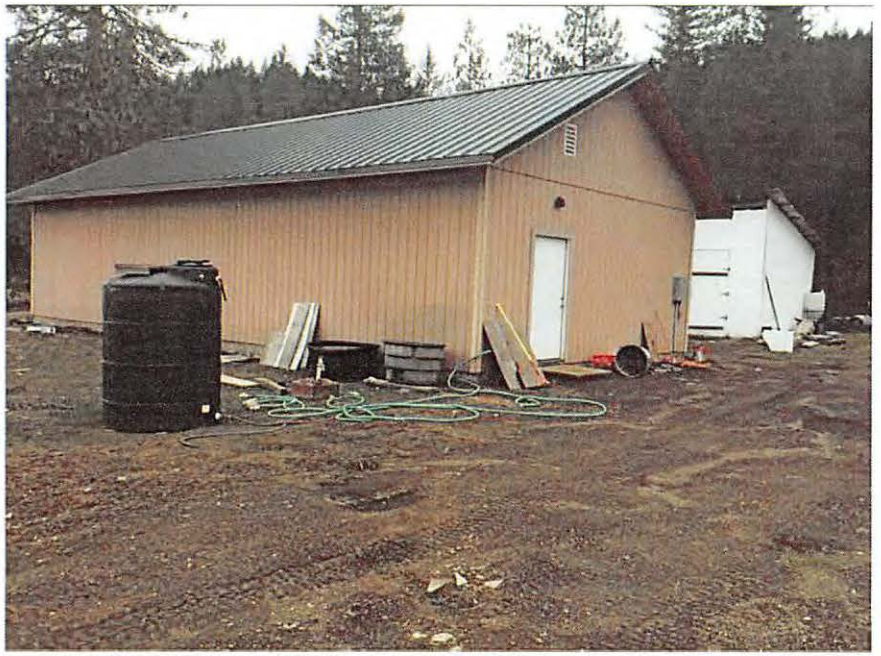
APPENDIX 2: CHECKLIST OF PLANTS DETECTED IN THE STUDY AREA

Plants Observed at 1760 West Hettenshaw Road on January 28, 2019

Common Name	*Scientific Name*
Bigleaf maple	*Acer macrophyllum*
Yarrow	*Achillea millefolium*
Bentgrass	*Agrostis sp.*
Red alder	*Alnus rubra*
Madrone	*Arbutus menziesii*
Sonoma manzanita	*Arctostaphylos canescens ssp. sonomensis*
Columbia manzanita	*Arctostaphylos columbiana*
Bordiaea	*Brodiaea sp.*
Incense-cedar	*Calocedrus decurrens*
Sedge	*Carex sp.*
Buckbrush	*Ceanothus cuneatus*
Deer brush	*Ceanothus integerrimus ssp. macrothyrsus*
Yellow star thistle	*Centaurea solstitalis*
Brown dogwood	*Cornus glabrata*
California hazelnut	*Corylus cornuta ssp. californica*
Hedgehog dogtail	*Cynosurus echinatus*
Orchard grass	*Dactylis glomerata*
Queen Anne's lace	*Daucus pusilis*
Geranium molle	*Dove-foot geranium*
Medusahead	*Elymus caput-medusae*
Squirreltail	*Elymus elymoides*
Blue wildrye	*Elymus glaucus ssp. glaucus*
Tall willowherb	*Epilobium brachycarpum*
Denseflower willowherb	*Epilobium densiflorum*
Wild buckwheat	*Eriogonum nudum*
Eryngio	*Eryngium sp.*
California poppy	*Eschscholzia californica*
California fescue	*Festuca californica*
Wild strawberry	*Fragaria sp.*
California coffeeberry	*Frangula californica*
Klamath weed	*Hypericum perfoliatum*
Iris	*Iris sp.*
Rush	*Juncus sp*
Meadowfoam	*Limnanthes sp.*
Pink honeysuckle	*Lonicera hispidula*
Common madia	*Madia elegans*
Pennyroyal	*Mentha pulegium*
Coyote mint	*Monardella villosa ssp. villosa*
Nemophila	*Nemophila parviflora ssp. parviflora*
Oregon boxwood	*Paxistima myrsinites*
Sugar pine	*Pinus lambertiana*
Ponderosa pine	*Pinus ponderosa*
English plantain	*Plantago lanceolata*
Narrowleaf swordfern	*Polystichum imbricans sp. imbricans*
Western sword fern	*Polystichum munitum*
Wild cherry	*Prunus sp*
Douglas-fir	*Pseudotsuga menziesii*
Western brackenfern	*Pteridium aquilinum*
Canyon live oak	*Quercus chrysolepis*
Oregon oak	*Quercus garryana*
California black oak	*Quercus kelloggii*
Buttercup	*Ranunculus sp.*

Gooseberry	*Ribes sp.*
Western yellow cress	*Rorippa curvisiliqua*
Pea rose	*Rosa pisocarpa ssp. pisocarpa*
Himalayan blackberry	*Rubus armeniacus*
Elmleaf blackberry	*Rubus ulmifolius*
Curly dock	*Rumex crispus*
Arroyo willow	*Salix lasiolepis*
Elderberry	*Sambucus sp*
Sanicle	*Sanicula sp.*
California figwort	*Scrophularia californica*
Creeping snowberry	*Symphoricarpos mollis*
Tall sock destroyer	*Torilis nodosa*
Poison-oak	*Toxicodendron diversilobum*
Salsify	*Tragopogon porrifolius*
Western vervain	*Verbena lasiostachys*

APPENDIX 3: SITE PHOTOS



Appendix B

Natural Investigations Company (NIC). 2019b. *Cultural Resources Assessment for the Cannabis Cultivation Operation at 1760 W. Hettenshaw Road, Zenia, Trinity County, California*. March 2019. [CONFIDENTIAL]

Information contained in the cultural resources documentation related on the specific location of prehistoric and historic sites is confidential and exempt from the Freedom of Information Act (FOIA) and the California Public Records Act (CPRA); therefore, this information is not included in Section 5 – TECHNICAL APPENDIX. Professionally qualified individuals, as determined by the California Office of Historic Preservation, may contact the Trinity County Planning Department directly in order to inquire about its availability.

Appendix C

TRC (Trinity River Consulting). 2020. *Site Management Plan, Jeff Ghidella, 1760 West Hettenshaw Road, Hettenshaw Valley, California, 95595, Trinity County APN: 020-120-25-00*. WDID: 1_53CC417759. June 2.

SITE MANAGEMENT PLAN

Tier 1 Moderate Risk Discharger:

Jeff Ghidella
1760 West Hettenshaw Road
Hettenshaw Valley, California 95595
Trinity County APN: 020-120-25-00

WDID: 1_53CC417759

Trinity River CONSULTING

P.O. Box 472
Weaverville, CA 96093
(530) 623-3370

June 2, 2020

Jeff Ghidella
PO Box 626
Willits, CA 95490

Dear Jeff,

We appreciate the opportunity to assist you as you work towards sustainable, low-impact farming. Implementation of environmentally compliant practices protects the at-risk aquatic species such as Coho salmon, which depend on unpolluted Trinity County rivers. Enclosed you will find your Site Management Plan. This Plan is meant to serve as a guide to help bring your farm into environmental compliance with the State Water Resources Control Board.

Your Site Management Plan includes an assessment of your site conditions, a detailed map of the parcel(s), and the best practical treatment or control (BPTC) measures. BPTC measures must be implemented as soon as possible. All work must be completed by November 15th of each year. If that is not possible, the Regional Water Board must be contacted to establish a compliance schedule. Please stay in regular contact with Trinity River Consulting to keep us informed of your work progress. Photos of changes in your site conditions can be sent to our cell phone: (530) 739-8401.

We look forward to providing support for all of your compliancy needs. Although we can provide support, you are ultimately responsible for implementing this Plan. Feel free to call our office if you have any additional questions.

Sincerely,

The Trinity River Consulting Team

Contents

List of Figures

List of Tables

1 Environmental Setting

This cannabis operation is conducted by Jeff Ghidella on a 77.69-acre parcel located at 1760 West Hettenshaw Road in Zenia, California 95595 (Trinity APN: 020-120-25-00; T02S, R07E, Section 29 U.S. Geological Survey Ruth Reservoir, 7.5 Minute Quad Map, Humboldt Meridian). This operation is located within the West Fork Van Duzen River-Van Duzen River sub-watershed (HUC 12 180101050701) which is within the Upper Van Duzen River watershed (HUC 10 1801010507). The Upper Van Duzen River unit is a part of the Lower Eel Sub-basin (HUC 8 18010105), which is a component of the Northern California Coastal Basin (HUC 6 180101) (United States Geological Survey, 2020). Several instances of surface water were identified on this property. These features include a pond, an unnamed Class II stream and the Van Duzen River's headwaters, which are roughly 0.5 miles to the southeast of the cultivation area.

There are two distinct soil types on this property. The first soil type is an Oxalis-Hecker-Doty families association, deep that is prevalent in the lowlands around the Van Duzen River. The Oxalis family, deep component of this association is typical of mountainous backslopes and flanks. On the surface, the Oxalis family is classified as a silty clay loam and the depth to bedrock is typically 60 to 64 inches. The most limiting layer of this soil type transmits water at a very low to a moderately low rate (Ksat ranges from 0.00-0.14 inches per hour) and it is in Hydrologic Group C.

The Hecker family component of this association is also associated with mountainous backslopes and flanks. On the surface, it is classified as a gravelly loam and the depth to bedrock is typically 60 to 64 inches. The most limiting layer of this family also transmits water at a very low to a moderately low rate (Ksat ranges from 0.00-0.14 inches per hour) and it is in Hydrologic Group B.

The Doty family, deep component of this association is also associated with mountainous backslopes and flanks. On the surface, the Doty family is classified as loam and the depth to bedrock is typically 60 to 64 inches. The most limiting layer also transmits water at a very low to a moderately low rate (Ksat ranges from 0.00-0.14 inches per hour) and this family is in Hydrologic Group B.

This association of soils is not classified as prime farmland if irrigated. This association is moderately susceptible to sheet and rill erosion caused by water (whole soil K-factor of 0.37) and is poorly suited for naturally surfaced roads. This association of soils is slightly susceptible to invasion by yellow star-thistle (*Centaurea solstitialis*) and moderately susceptible to invasion by medusahead (*Taeniatherum caput-medusae*) (Natural Resource Conservation Service, 2020).

The second soil type on the property, a Skalan-Kristirn-Holland families association, deep, is characteristic of the upland woody areas on the west portion of the property. The Skalan family, deep component of this association is typical of mountainous backslopes and flanks. On the surface, the Skalan family is classified as a very gravelly loam and the depth to bedrock is typically 56 to 60 inches. The most limiting layer transmits water at a moderately low to a moderately high rate (Ksat ranges from 0.14 to 0.57 inches per hour) and it is in Hydrologic Group C.

The Kristirn family, deep component of this association is also typical of mountainous backslopes and flanks. On the surface, the Kristirn family is classified as a very gravelly loam and the depth to bedrock is typically 72 to 76 inches. The most limiting layer of this family also transmits water at a very low to a moderately low rate (Ksat ranges from 0.00 to 0.14 inches per hour) and this family is in Hydrologic Group

C. The Holland family, deep component of this association is also typical of mountainous backslopes and flanks. On the surface, the Holland family is classified as a loam and the depth to bedrock is typically 60 to 64 inches. The most limiting layer also transmits water at a very low to a moderately low rate (Ksat ranges from 0.00 to 0.14 inches per hour) and this family is in Hydrologic Group B. This association of soils is also not classified as prime farmland if irrigated.

This soil association is slightly susceptible to sheet and rill erosion caused by water (whole soil K-factor of 0.10) and is poorly suited for naturally surfaced roads. It is slightly susceptible to invasion by yellow star-thistle (*C. solstitialis*) and moderately susceptible to invasion by medusahead (*T. caput-medusae*) (Natural Resource Conservation Service, 2020).

According to the Köppen Geiger climate classification, Trinity County is dominated by the Csa and Csb climate types (Kauffman). The Csa climate type (Mediterranean/hot summer) is temperate and characterized by dry, hot summers. Generally, the driest summer month does not receive over 1.6 inches (40 mm) of precipitation, the precipitation in the driest summer month is less than a third of the precipitation in the wettest summer month, and the temperature in the warmest month is above 72°F (22°C). The Csb climate type (Mediterranean/warm summer) is temperate and characterized by dry, warm summers. Generally, the driest summer month does not receive over 1.6 inches (40 mm) of precipitation, the precipitation in the driest summer month is less than a third of the precipitation in the wettest summer month, the temperature in the warmest month is not above 72°F (22°C), and for at least ten months of the year, the air temperature is above 39°F (4°C) (Beck, et al., 2018).

Point-specific information regarding 30-year norms for precipitation, average maximum temperatures, average mean temperatures, and average minimum temperatures can be retrieved via the PRISM Climate Group data sets maintained by the Northwest Alliance for Computational Science and Engineering (NACSE) at Oregon State University, supported by the USDA Risk Management Agency. ***Figure 1*** presents averaged climate data from 1981 through 2010. On average, the cultivation area receives 64.88 inches of precipitation annually. The annual mean high temperature is 65.7 °F and the average low temperature in this area is 38.3°F (Northwest Alliance for Computational Science and Engineering, 2020).

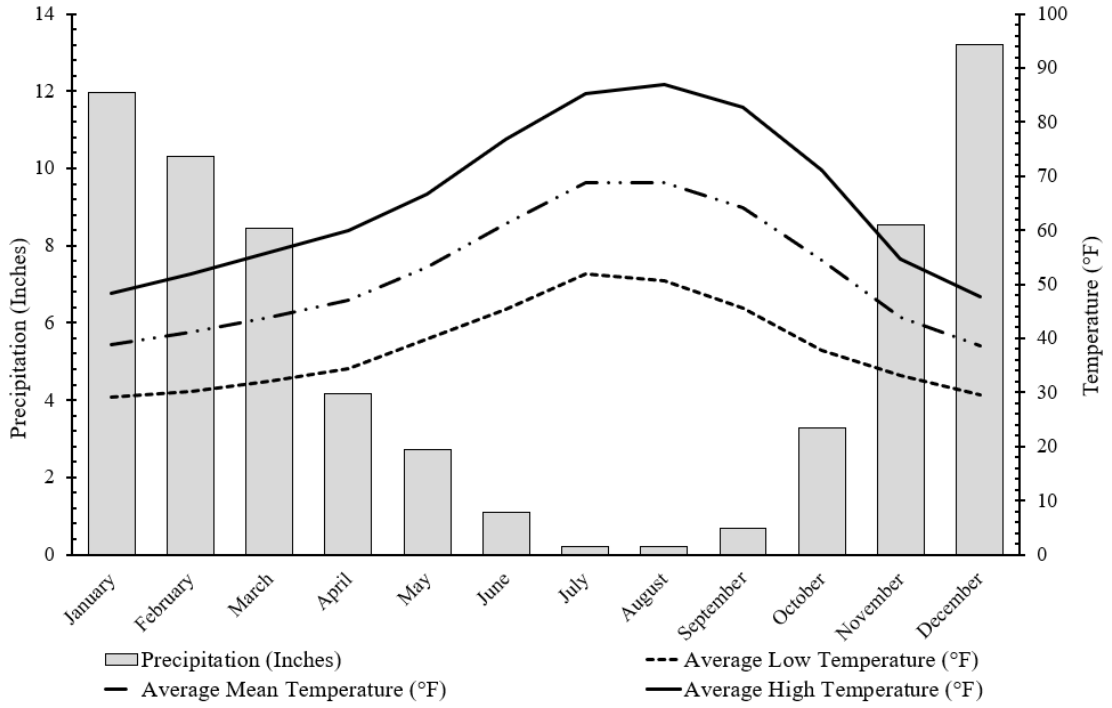


Figure 1- A Presentation of 30-Year Climate Normals Adapted from the PRISM Application.

The overstory vegetation on-site is dominated by Douglas fir (*Pseudostuga menziesii*), Oregon white oak (*Quercus garryana*), California black oak (*Quercus kelloggii*), and ponderosa pine (*Pinus ponderosa*), with additional canopy coverage provided by Pacific madrone (*Arbutus menziesii*). The understory is comprised of manzanita (*Arctostaphylos* spp.) and there is adequate ground cover from grasses throughout the property. In a few areas around the pond and streams, the riparian vegetation present is primarily composed of willow (*Salix* spp.). The relative dominance of species on-site is indicative of the US Forest Service's description of the Pacific Douglas fir alliance.

Six active greenhouses with variable dimensions were identified on the property in which cultivation occurs. Five of the greenhouses are used to cultivate mature cannabis using mixed light and one greenhouse is identified as an immature plant area. The total area designated for mature canopy is roughly 13,500 ft² with an additional 1,500 ft² designated for immature canopy. The cultivation area is located on a gentle slope (approximately 1%). Roughly 1,250 plants are planned per harvest and two harvests are planned annually. In 2020, cultivation occurred in raised beds within the greenhouses. ***Figure 2*** presents a site map of the operation.

There are no year-round occupants on this site. Three seasonal workers are expected to reside on the property during the season. These seasonal workers will occupy the site 8 to 10 months per year. Roughly seven additional temporary workers are expected to reside on the site throughout the growing and harvest season. On average, this operation is expected to generate one daily round trip by vehicle during the season. No new access roads are planned for development. Typical traffic expected on the access road network includes passenger vehicles, light-duty trucks, delivery vehicles, larger dual axle delivery vans and large 3-axle semi-tractor trailers. There is a designated parking area near the dwelling.

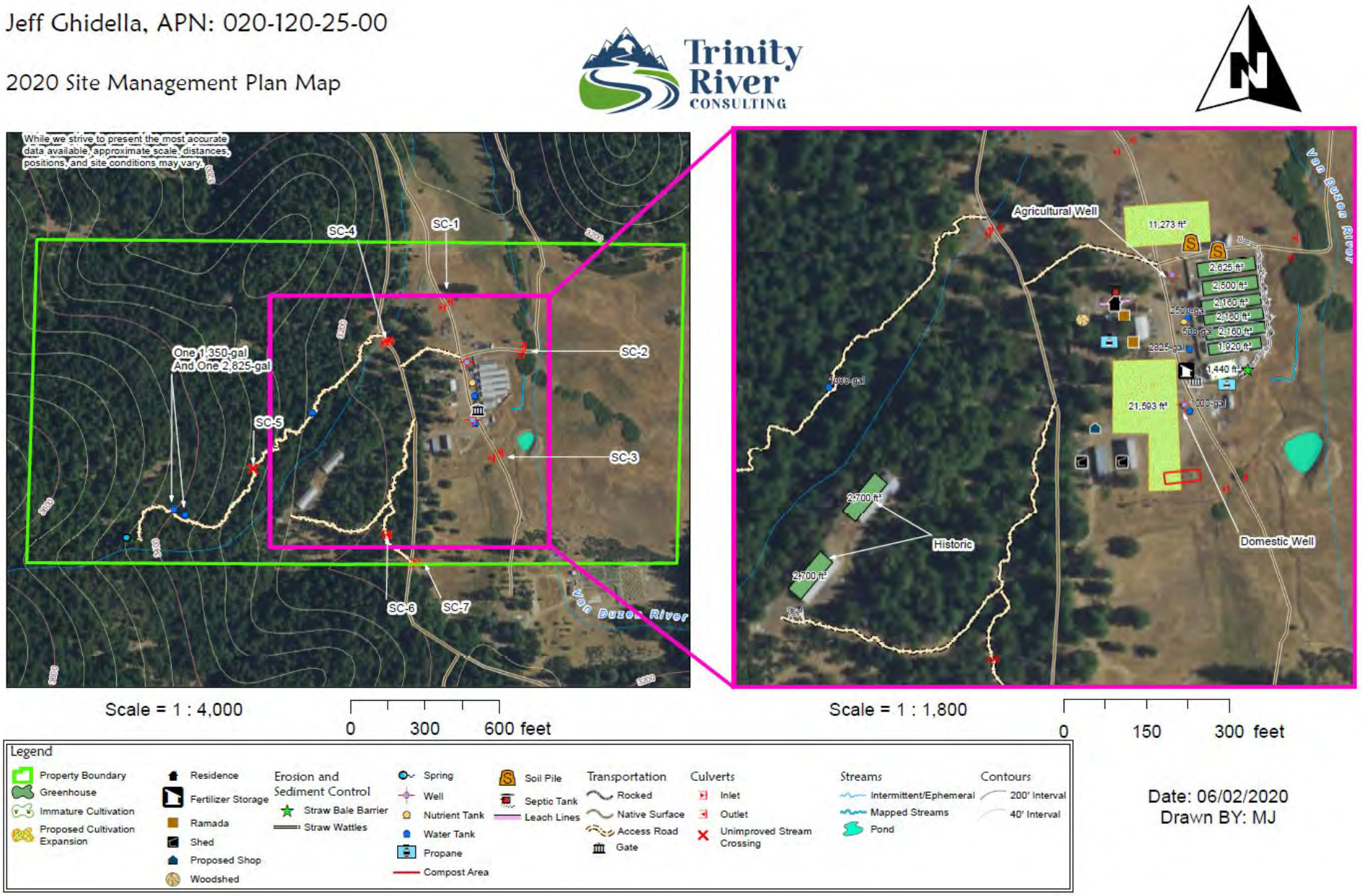


Figure 2- *A Map Depicting the Project Area*

2 Site Management

2.1 Land Development and Maintenance, Erosion Control, and Drainage Features

In June of 2019 this site was filed as a Tier 1 Low Moderate Risk operation (disturbed areas on slopes greater than 30%) by Pacific Watershed Associates. In accordance with the General Order, a Site Erosion and Sediment Control Plan (SESCP) should be generated for this operation. This plan should describe site-specific implementation of Best Practicable or Treatment Measures. Certain reports/plans must be generated under the supervision of a licensed civil engineer, professional geologist, or professional forester. More specifically, in accordance with the General Order, the following individuals are qualified to generate an SESCP:

- A Licensed Civil Engineer in the State of California
- A Registered Professional Geologist in the State of California
- A Certified Engineering Geologist in the State of California
- A Registered Landscape Architect in the State of California
- A Professional Hydrologist whom is registered with the American Institute of Hydrology
- A Certified Professional in Erosion and Sediment Control (CPESC)™ who is registered through EnviroCert International, Inc.
- A Certified Professional in Storm Water Quality (CPSWQ)™ who is registered through EnviroCert International, Inc.
- A Professional in Erosion and Sediment Control who is registered through the National Institute for Certification in Engineering Technologies (NICET)

Please contact Trinity River Consulting if you need assistance finding a licensed professional to write an SESCP. Please note that the report/plan should be approved by the Regional Water Board Executive Officer prior to implementation. There are specific requirements for these plans as dictated by the General Order which include, but are not limited to:

- In-depth site description (soil types, historic precipitation values, etc.)
- Historic disturbances
- Analysis of slope stability
- Recent/planned disturbance
- Areas of special concern
- Stormwater runoff sampling locations
- Site-specific BPTC (Best Practical Treatment and Control) measures
- Winterization measures
- Approved compliance schedule if winterization is not complete by the onset of the winter period

In accordance with the General Order, management of erosion and sediment transport should be addressed in an SESCP and can be referred to in Site Management Plans, if needed. Discussion of specific BPTCs for

erosion and sediment control, and upgrading the road network, will be included in the SESCP. The SESCP should be completed as soon as possible.

A draft Lake or Streambed Alteration Agreement (LSAA) was received from the California Department of Fish and Wildlife in May of 2018 for four unique projects. These projects are described in ***Table 1***. One additional unimproved stream crossing was identified in April of 2019 and it may be a jurisdictional feature for which CDFW was not notified. The draft LSAA may need to be amended to reflect these findings. Please note that a final LSAA should be procured before performing any work within riparian areas and any work should occur in strict accordance with the final LSAA. During a site visit in April of 2019, an active and a legacy cultivation area were identified (***Figure 3*** and ***Figure 4***).

Table 1- *A Presentation of the Projects for which CDFW was Notified.*

Project Type	Location (Decimal Degrees)	Brief Description
Surface Water Diversion	40.256251, -123.413322	Improvement of the diversion point. The water used from this diversion point was designated for domestic use and fire suppression in the LSAA.
Stream Crossing #1	40.258872, -123.408412	This crossing is a ford on a Class III stream. The crossing was determined to be sufficient to convey the 100-year storm event. The road approaches were proposed for seeding and mulching in the LSAA.
Stream Crossing #2	40.25835, -123.407228	This crossing consists of two culverts situated side by side in a Class III stream. This crossing was determined to be insufficient to convey the 100-year storm event. The culverts were proposed for replacement with an armored ford crossing in the LSAA.
Stream Crossing #3	40.2572, -123.407693	This crossing is a ford on a Class III stream. The feature was determined to be adequately sized to convey the 100-year storm event. The feature was proposed for monitoring to limit impacts on water quality.

Figure 3*- An Image of the Current Cultivation Area.*

Figure 4*- An Image of the Historic Cultivation Area.*

2.1.1 Limitations on Earthmoving

There is a proposal to substantially increase the cultivation area in pursuit of a Trinity County permit to cultivate up to 1 acre of cannabis. In accordance with the General Order, land disturbance should not occur during the winter period with a few exceptions (e.g. authorized under a Construction General Permit (CGP)). The winter period is defined as November 15 to April 1. During land disturbance activities, 24-hour weather forecasts should be monitored, and records should be maintained of these 24-hour forecasts for each day that disturbance activities occur. Activities should halt and erosion control measures should be implemented if the 24-hour forecast projects a 50%, or greater, chance of at least 0.5 inches of precipitation in a 24-hour period. Please note that completed cut and fill slopes should not exceed 50%.

The Trinity County Board of Supervisors recently enacted an ordinance restricting mass grading (Ordinance Number 1347). Any grading project that will result in disturbance of greater than 20,000 ft^2 and 800 yd^3 of soil is prohibited, unless a Director's Use Permit or a Conditional Use Permit is obtained. Exemptions to this rule include: firebreaks, road maintenance, development related to septic and utility systems, emergency work, and limited agricultural grading that is either less than 2-feet-deep or covered by a Stormwater Pollution Prevention Plan.

2.1.2 Construction Equipment Use and Limitations

To prevent discharge and transport of pollutants into waters of the state, spill containment and control practices should be implemented during any future construction or land development. Equipment should be staged and stored outside of the riparian zone (100 feet minimum setback) in a designated area. The designated parking area seems to be an appropriate place for staging and storage. Vehicles and equipment should be inspected for leaks daily, and any leaks should be cleaned up immediately to prevent the incidental transport of hazardous materials associated with construction to any nearby surface water.

2.1.3 Erosion and Sediment Control

Erosion and sediment control methods should be explained thoroughly in an SESCP prepared by a qualified individual as defined in the General Order. Erosion and sediment control methods are also referred to in the Water Resource Protection Plan that was prepared in accordance with the North Coast Regional Water Quality Control Board's Order No. 2015-0023 by Pacific Watershed Associates Inc. During a site visit in April of 2019, multiple mechanisms were observed to control erosion and subsequent sediment transport (***Figure 5*** and ***Figure 6***).

Low Impact Development techniques (LIDs) should be given consideration during any future construction, land development, or re-development. LIDs can be used as stand-alone features or as part of a larger treatment plan to prevent discharge of contaminated water. For additional information regarding general implementation of LIDs, please refer to ***Appendix A- General Low Impact Development Details***. Please note that these fact sheets were generated by the County of Sonoma; however, these sheets provide insight into sustainable development practices that could be applied in the County of Trinity.

Figure 5- *A Straw Bale Barrier Identified on the Property.*

Figure 6- *Wattles and Sediment Catchment Basins were Identified Downslope of the Cultivation Area.*

2.1.4 Access Road/Land Disturbance

Access road upgrades, land disturbance, and drainage issues should be explained thoroughly in an SESCP prepared by a qualified individual as defined in the General Order. Access road upgrades, land disturbance, and drainage issues are also referred to in the Water Resource Protection Plan that was prepared in accordance with the North Coast Regional Water Quality Control Board's Order No. 2015-0023 by Pacific Watershed Associates Inc.

During a site visit in 2019, standing water was observed in the area where cultivation was occurring (***Figure 7***). Ground cover in the established cultivation area could be improved. Applying wood chips is one means of improving ground cover. The access road providing passage to the cultivation area was in good condition during this site visit (***Figure 8*** and ***Figure 9***). This section of road was partially graveled and some pot holes were observed. Other sections of the access road were in poor condition. The road leading to the historic cultivation area and the spring are both in need of improvements (***Figure 10*** and ***Figure 11***).

Please note that road conditions must meet the standards demonstrated in the Handbook for Forest, Ranch & Rural Roads to be compliant. The Handbook can be downloaded as a PDF from http://www.pacificwatershed.com/PWA-publications-library. Please refer to ***Appendix B- General Road Details*** for additional information regarding compliant roads.

Figure 7- *Standing Water was Observed in the Cultivation Area.*

Figure 8- *The Access Road Leading to the Garden Area.*

Figure 9- *A Flat Section of Access Road with the Designated Parking Area Visible in the Upper Left Corner of this Image.*

Figure 10*- A Steep Section of Access Road Identified Near the Historic Greenhouse.*

Figure 11*- Portions of the Access Road were Steep and Exhibited Rutting. A Wattle was in Place to Disrupt and Prevent the Concentration of Sheet Flow.*

2.1.5 Drainage Culverts (Watercourse Crossings)

Several drainage culverts were identified on the property. Please refer to ***Section 2.3*** for additional information regarding these features.

2.2 Cleanup, Restoration, and Mitigation

Mitigation of impacts to water quality due to runoff should be explained thoroughly in an SESCP. Mitigation of impact to water quality due to runoff also can be referred to in the Water Resource Protection Plan. Revegetation projects are also proposed in the final LSAA.

In accordance with the General Order, a revegetation plan should be developed if riparian areas are exposed or disturbed, or if any oak trees are damaged or removed. Plans should also be developed for temporary work areas. These plans should include annual monitoring activities spanning, at minimum, five years. The goal of the plan should be achievement of 85% successful growth. It should also include the location of the project, the extent of exposed soils, photos before and after replanting efforts, a diagram of the premises, the types of the plants selected, the methods of planting selected, and records of monitoring efforts. A copy of the plan should be kept on-site and readily available to Water Board staff. Extreme care and effort should be exercised in order to prevent the spread of non-native invasive species into any disturbed areas.

2.3 Stream Crossing Installation and Maintenance

Multiple stream crossings and ditch relief culverts were identified on the property (***Figure 12*** and ***Figure 13***). These crossings are described in ***Table 2***. Please note that in accordance with the General Order, in woody areas where the potential for clogging is high, minimum culvert diameters should be 18 inches. Culverts should be inspected after storm events that generate 0.5 inches in a day or 1 inch in 7 days. Culverts should also be inspected prior to the beginning of fall and winter. Woody debris should be removed as needed, sediment should be removed if the material impacts the effectiveness of the feature, and records should be kept of maintenance activities performed. Please note that the design of watercourse crossings should be completed by a Qualified Professional as defined in the General Order.

Figure 12- *One of the Stream Crossings (SC-4) Identified on the Property.*

Figure 13- *A Ditch Relief Culvert Identified on the Property.*

Table 2- *A Description of the Stream Crossings on the Property.*

Label	Coordinate	Description
SC-1	40.258872, -123.408412	This crossing is a ford on a Class III stream. The crossing was determined to be sufficient to convey the design storm event. The road approaches were proposed for seeding and mulching in the LSAA.
SC-2	40.25835, -123.407228	This crossing consists of two culverts situated side by side in a Class III stream. This crossing was determined to be insufficient to convey the design storm event. The culverts were proposed for replacement with an armored ford crossing in the LSAA.
SC-3	40.2572, -123.407693	This crossing is a ford on a Class III stream. The feature was determined to be adequately sized to convey the 100-year storm event. The feature was proposed for monitoring to limit impacts on water quality.
SC-4	40.258450, -123.409270	This stream crossing consists of a 24-inch-diameter culvert that conveys a Class III stream beneath West Hettenshaw Road. This road is maintained by USFS and USFS should be consulted before any work is performed. Additionally, what appears to be a ditch relief culvert was identified at this crossing. This culvert is 6 inches in diameter with an unknown alignment. Only the outlet of this feature was identifiable.
SC-5	40.257074, -123.411116	This is an unimproved crossing of a Class III stream on the access road leading to the spring. CDFW should be notified of this feature before an upgrade is performed.
SC-6	40.256328, -123.409212	This crossing is a 12-inch-diameter metal culvert that conveys a Class III stream channel beneath a section of road maintained by USFS and USFS should be consulted before any work is performed.
SC-7	40.256055, -123.408876	This crossing is a metal culvert that conveys a Class III stream beneath a section of road maintained by USFS and USFS should be consulted before any work is performed. The diameter of the inlet is 12 inches and the diameter of the outlet is 9 inches.

2.4 Soil Disposal and Spoils Management

Adequately contained soil piles were identified on the property in April of 2019 (***Figure 14***). Please note that soil, construction materials, and waste should not be stored within the riparian setbacks unless the materials are planned for immediate use. If spoils are generated due to land development in the future, then woody debris should be separated from soil and be either removed from the site or burned after obtaining a burn permit. Burn permits can be purchased online from the North Coast Unified Air Quality Management District. Their website is: https://www.ncuagmd.org/index.php?page=burn.permits. Prior to burning, please call 1-800-BURN-DAY to make sure it is an approved burn day. Soils can be contoured back into the land and seeded for long-term stabilization.

Figure 14- *Contained Soils Identified on the Property.*

2.5 Riparian and Wetland Protection and Management

Several instances of surface water were identified on the property. There is a pond on-site that has a capacity of approximately 300,000 gallons (***Figure 15***). This feature is not used as a water source; however, the water is available for fire suppression. The Van Duzen River flows from south to north to the east of the established cultivation area (***Figure 16***). In addition to the Van Duzen River, a unnamed tributary flows roughly southwest to northeast to the west of the historic cultivation area (***Figure 17***). This tributary has been called a Class II and a Class III stream by various agencies and consulting companies. The draft final LSAA written by CDFW describes it as a Class III watercourse. Please note that the proposed expanded cultivation area should be located in accordance with the riparian setbacks in the General Order. Per the draft LSAA, there is proposed work in a riparian area. This work, and subsequent revegetation efforts, should occur in strict accordance with a final LSAA.

All non-permanent man-made items need to be removed from the riparian areas prior to the onset of the wet season (~mid-October). Examples of items include, but are not limited to, lawn chairs, barbeque grills, and inner tubes/rafts. Water rises quickly in these areas and will carry any neglected items with it, subsequently depositing them downstream where they become trash.

Figure 15- *The Pond and Associated Embankment Identified on the Property.*

Figure 16- *The Van Duzen River Flows Through this Property.*

Figure 17*- A Second Instance of Surface Water Identified on the Property.*

2.6 Water Storage and Use

Several water storage areas are located on the property. Tanks were identified near the cultivation area (***Figure 18*** and ***Figure 19***). These tanks are in a flat, stable area and, in the event of complete failure of the tanks, the probability of discharge to waters of the state is low. Water storage tanks were also identified adjacent to the access road leading to the spring (***Figure 20***). Please note that water storage tanks should be placed in a manner such that riparian setbacks are respected. Given rupture of these tanks, the slopes in these areas, and the proximity to a stream, the probability of discharge to waters of the state is high. Given the water-intensive nature of cannabis cultivation, implementation of rainwater catchment systems on structures should be considered. Rainwater catchment systems are a "Universal LID feature" (City of Santa Rosa Water, 2020). ***Appendix A- General Low Impact Development Details*** provides a useful fact sheet regarding rainwater catchment systems. LIDs could also be implemented to prevent discharge to waters of state in the event of a tank rupture.

Figure 18- *Water Storage Tanks Identified on the Property.*

Figure 19- *An Additional Water Storage Tank Identified in the Flat Area Near the Cultivation Operation.*

Figure 20- *One of the Water Storage Tanks Identified Adjacent to the Access Road Leading to the Spring.*

*2.6.1 **Water Supply, Diversion, and Storage***

One well designated for domestic use and one well designated for agricultural use were identified on the property (***Figure 21***). The domestic well has an estimated depth of 200 feet and an estimated yield of 40 gallons per minute (GPM). The agricultural well has an estimated depth of 100 feet and an estimated yield of 7.5 GPM. Combined, there is the capacity to store 12,000 gallons of water on the property (excluding the pond). The current cultivation operation is projected to use roughly 150,000 gallons of irrigation water on an annual basis. Water use values are obtained via the use of a water meter. Please note that wells should be installed, maintained, and destroyed in compliance with all local, state, and federal regulations, and California Department of Water Resources Bulletins 74-90.

In addition to the wells, a spring developed by a previous land owner was identified on the property. CDFW was notified of this feature and a description for use of the spring as a domestic water source was included in the draft LSAA. An Initial Statement of Water Diversion and Use was submitted to the State Water Resources Control Board Division of Water Rights for a riparian right to use the spring as a domestic water source.

Figure 21- *One of the Groundwater Wells Identified on the Property.*

Figure 22- *The Spring Identified on the Property.*

2.6.2 Water Conservation and Use

Sprinklers are used to irrigate the crop and an irrigation system was observed in April of 2019 (***Figure 23***). The immature plants are hand watered. In accordance with the General Order, daily records of water applied to cannabis should be maintained on the site for a minimum of five years. These records should be readily accessible to agents of the Water Boards and CDFW. The entirety of the water delivery system should be inspected on a monthly basis at minimum.

Figure 23- *An Irrigation Manifold Identified on the Property.*

2.6.3 Irrigation Runoff

Evidence of irrigation runoff was observed on the property. Algae was observed in standing water within the cultivation area (***Figure 24***). The straw bale barrier and straw wattles provide a filtration mechanism to prevent runoff. To reduce the probability of agricultural runoff, vegetation should be promoted and maintained. Alternatively, wood chips could be applied to absorb nutrients. When in use, the entirety of the irrigation system should be inspected for leaks, inefficiencies, worn parts, etc. on a weekly basis. Safety valves and other automated systems (e.g. pressure transducers) should be considered to shut off the water system in the event of a significant leak.

Figure 24- *Standing Water on the Property with Evidence of Irrigation Runoff.*

2.7 Fertilizer, Pesticides, and Petroleum Products

Safety Data Sheets (Material Safety Data Sheets) should be kept on-site and all farm managers and employees should familiarize themselves with the hazards associated with fertilizers, pesticides, and other regulated products. Secondary containment should be provided to mitigate the potential rupture of storage containers, and absorbent materials should be kept on-site for application in the event of a spill or leak.

All fertilizers, pesticides, and other regulated products should be stored, applied, and disposed of in accordance with the manufacturer's guidelines and labeling. Fertilizers and pesticides should be stored separately from petroleum and other hazardous materials. All fertilizers, pesticides, petroleum products, and other chemicals should be kept outside of the established riparian setbacks from the stream on-site.

Weather forecasts should be monitored consistently. No agricultural products should be applied if there is a forecast of a 50%, or greater, chance of 0.25 inches of precipitation in 24 hours within a 48-hour period.

2.7.1 Fertilizers and Soils

All fertilizers are purchased as needed from Soilscape Solutions. Materials are stored appropriately in a shed on the premises. ***Table 3*** describes the fertilizers and soil amendments used during the 2019 season. Based on these input values, the farm manager reported that approximately 123 pounds of nitrogen and 110 pounds of phosphorus were applied to the crop.

In accordance with the General Order, the nitrogen application rate should not exceed 319 pounds per acre on an annual basis. This equates to roughly 73 pounds of annual nitrogen application for a 10,000 ft² garden. If this rate is exceeded, then a tissue analysis should be performed to confirm nitrogen deficiency. The analysis should be performed in a laboratory that is certified by the State Water Board's Environmental Laboratory Accreditation Program. When stored, potting soil and soil amendments should be kept in a manner that provides protection from precipitation and erosion and prevents groundwater and surface water contamination (e.g. stored on an impermeable surface and covered with an impermeable material, with wattles staked around the perimeter).

Table 3- *The Fertilizers Used During the 2019 Season.*

Product	Amount Used	NPK Ratio
Soilscape Solutions Double Dep (custom amendment blend)	1300 lbs	UNK
Vital Garden Products Vital Fish Hydrolysate	20 gallons	2-4-0

*2.7.2 **Pesticides and Herbicides***

Previously, sulfur, predatory mites, and beneficial insects were used to control pests.

In accordance with General Order Requirements (State Water Resources Control Board, 2019), pest management on the farm should focus on science-based Integrated Pest Management (IPM) strategies. The four steps to this program are: setting action thresholds, monitoring and identifying pests, prevention methods, and control procedures. Pests and diseases of concern on the site should be identified immediately. Monitoring for pests and diseases should occur on a regular basis. Daily to weekly scouting of the cultivation area for pests and pathology should be performed. A 14x loupe should be used to regularly monitor for broad mites, spider mites, and russet mites. Physical control methods include exclusionary tactics, mulching, use of cover crops, and companion planting. Environmental control methods encompass nutrient management and irrigation evaluations including, but not limited to, monitoring soil moisture content, humidity, and temperature controls. Biological controls are comprised of the introduction of beneficial insects and beneficial microbes (United States Environmental Protection Agency, 2019). In the event of a serious pest outbreak, please refer to the Department of Pesticide Regulation's list of pesticides approved for use on cannabis as well as information about pesticides not allowed to be used on cannabis (http://www.cdpr.ca.gov/docs/cannabis/index.htm). A copy of this list is included in ***Appendix C- Legal Pesticides***.

In order to mitigate for unintended harm to northern spotted owls (*Strix occidentalis caurina*) and fishers (*Pekania pennanti*), the farm should use preventative and non-chemical strategies to control rodents. The rodent prevention strategy should focus on reducing the rodent carrying capacity of the site by removing food access and items/features that could provide habitat to rodents. The farm manager should erect owl

boxes and use domestic predators such as cats or dogs bred to hunt rodents. In the event that an infestation is detected, traps and EradiBait, a non-anti-coagulant powder corn cob, should be used to extirpate the pests.

2.7.3 Petroleum Products and Other Chemicals

One large propane tank was identified on the property (***Figure 25***). It is serviced by Campora. Gasoline and other products were stored adequately in a shed on the property (***Figure 26***). In addition to gasoline, other hazardous materials on-site include diesel fuel, WD40, and motor oil. Containers are refilled at the Dinsmore Store and the Kettenpom Store and oil is recycled.

Equipment and vehicles should only be refueled outside of the riparian setbacks and they should be inspected prior to use. Petroleum products and other chemicals should be stored in a manner such that chemical compatibility is achieved (e.g. separate areas for fuels and fertilizers), protection is provided from incidental ignition, and exposure to sun, wind, and rain is limited.

Figure 25- *A Propane Tank Identified on the Property.*

Figure 26- *Fuel Storage Identified on the Property.*

2.8 Cultivation-Related Waste

A legacy designated compost area was identified in April of 2019 (***Figure 27***). This area is within 50 feet of a Class III, or potentially a Class IV stream, and if the stream is confirmed as a Class III feature, then the compost area should be moved to comply with requirements in the General Order.

Figure 27- *The Legacy Designated Compost Area.*

Organic cultivation-related waste such as plant stems and leaves should be removed from the cultivation area immediately after harvest and placed in the compost area. Removing plant stems will reduce the amount of habitat for russet mites, since females will live in these areas during the winter. All disposable pots, netting, tarps, and other man-made, non-organic cultivation waste needs to be gathered and either stored appropriately for reuse or bagged and transferred to the nearest solid waste facility. Every effort should be made to reuse growth medium (potting soil). In the event that it is not possible, spent soils should be either composted, spread over the landscape and reseeded with native plants, or taken to the nearest solid waste facility (if there is a pest infestation problem associated with the soil).

All composting of cannabis waste must be managed in compliance with Title 14 of the California Code of Regulations at Division 7, Chapter 3.1 (commencing with Section 17850).

2.9 Refuse and Domestic Waste

Electronic waste is transported to the Ruth or Van Duzen Transfer Station. Recyclables are hauled to Fortuna or Garberville. Other non-recyclable waste is hauled to the Ruth or the Van Duzen Transfer Station. In order to reduce landfill contributions, materials should be reused, repurposed, upcycled, or recycled whenever possible. A septic system with two 60-foot long leach lines treats gray and blackwater generated on the property.

2.10 Winterization

In the past, cover crops were grown with little success. Other winterization methods employed include removing the skins from the greenhouses and covering the soil pots.

Please note that there are specific winterization requirements explicitly stated in the General Order.

Irrigation systems need to be winterized at the end of the season, unless the operation is ongoing year-round. The first step is shutting off the main water supply and insulating all above ground pipes. Foam insulating tubes can be purchased at a hardware store. All timers will need to be disabled or put in rain mode. Next, you will need to drain the irrigation pipes and empty the valves. There are detailed instructions on how to complete these tasks in the Winterization Guide provided with this Plan. All above ground valves and backflow devices need to be insulated.

Trinity River Consulting recommends planting a winter cover crop in the cannabis plant beds to maintain soil health during non-cultivation months. Nitrogen-fixing cover crops create symbiotic relationships with microorganisms that take free nitrogen from the air and convert it to ammonia. Cover crops are an effective tool for scavenging phosphorus as well as for breaking up soil compaction and/or heavy clay soils. A spring cover crop could also be planted once temperatures are warm enough and/or an in-season cover crop such as a live mulch could also be utilized. An excellent source for cover crops is Strictly Medicinal Seeds. You can find them online at https://www.strictlymedicinalseeds.com/product-category/seeds/cover-crop-seeds/.

Organic cultivation-related waste such as plant stems and leaves should be removed from the cultivation area immediately after harvest and composted or placed in sealed garbage bags and taken to the dump. Removing plant stems will reduce the amount of habitat for russet mites, since females overwinter in them. All pots, netting, tarps, and other manmade, non-organic cultivation waste needs to be gathered and either stored appropriately for reuse or bagged and transferred to the nearest solid waste facility. Every effort should be made to reuse growth medium (potting soil). In the event that it is not possible, spent soils should be either composted, spread over the landscape and reseeded with native plants, or taken to the nearest solid waste facility (if there is a pest infestation problem associated with the soil).

The following is from the Cultivation Policy, Attachment A (p 47) Winterization:

Cannabis cultivators shall implement all applicable Erosion Control and Soil Disposal and Spoils Management Requirements in addition to the Winterization Requirements below by the onset of the winter period.

Cannabis cultivators shall block or otherwise close any temporary access roads to all motorized vehicles no later than the onset of the winter period each year.

Cannabis cultivators shall not operate heavy equipment of any kind at the cannabis cultivation site during the winter period, unless authorized for emergency repairs contained in an enforcement order issued by the State Water Board, Regional Water Board, or other agency having jurisdiction.

Cannabis cultivators shall apply linear sediment controls (e.g., silt fences, wattles, etc.) along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow length at the frequency specified in ***Table 4.***

Table 4- The General Order Has Provisions that Limit the Length of Sheet Flow.

Slope (Percent)	Sheet Flow Length Not to Exceed (Feet)
0-25	20
25-50	15
>50	10

Cannabis cultivators shall maintain all culverts, drop inlets, trash racks and similar devices to ensure they are not blocked by debris or sediment. The outflow of culverts shall be inspected to ensure erosion is not undermining the culvert. Culverts shall be inspected prior to the onset of fall and winter precipitation and following precipitation events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation to determine if maintenance or cleaning is required.

Cannabis cultivators shall stabilize all disturbed areas and construction entrances and exits to control erosion and sediment discharges from land disturbance.

Cannabis cultivators shall cover and berm all loose stockpiled construction materials (e.g., soil, spoils, aggregate, etc.) that are not actively (scheduled for use within 48 hours) being used as needed to prevent erosion by storm water. The cannabis cultivator shall have adequate cover and berm materials available onsite if the weather forecast indicates a probability of precipitation.

Cannabis cultivators shall apply erosion repair and control measures to the bare ground (e.g., cultivation area, access paths, etc.) to prevent discharge of sediment to waters of the state.

As part of the winterization plan approval process, the Regional Water Board may require cannabis cultivators to implement additional site-specific erosion and sediment control requirements if the implementation of the Requirements in this section do not adequately protect water quality.

3 Other Natural Resource Considerations

The mean fire return interval for this property is variable. The wooded area in the western portion of the property is characterized by a return interval of 11 to 15 years. The areas around the unnamed Class II stream exhibits an interval of 36 to 40 years. The dominant interval in the areas around the Van Duzen River is 11 to 15 years. There are also patches of intervals of 6 to 10 years throughout the property (grasslands). Prescribed burning could improve the remaining habitat while providing a fire resilient landscape, thereby reducing the risk of catastrophic fire in the garden. Please contact the Watershed Center in Hayfork if you would like help with a burn plan. The Watershed Center can be reached at (530) 628-4206. Fire Safety is further detailed in ***Appendix D- Fire Safety***.

4 Monitoring and Reporting

A Monitoring and Reporting Program shall be implemented and monitoring reports should be annually submitted by March 1, following the year of monitoring. A letter should accompany each submission of annual reports noting any violations found during the reporting interval, and planned corrective actions or actions taken. Additionally, a penalty of perjury statement should accompany the reports. The annual report should also include:

- Winterization Measures
  - Report methods, outstanding measures, and a schedule for completion
- Tier Status Confirmation
  - Report any changes in tier status
- Third Party Identification
  - Report any changes in third party status

All records, reports, and applications should be kept on site for a minimum of three years following the report or application date. Pursuant to BPTCs 14, 35, and 98, additional records should be kept on-site and accessible to inspectors, as noted in ***Table 5***.

Table 5- *Additional Monitoring and Keeping of Records as Required by the General Order.*

BPTC Category	BPTC Subcategory & No	Monitoring Requirement
Land Development and Maintenance, Erosion Control, Drainage Features	Erosion Control (14)	Erosion control measures will be monitored during and after the following storm events: 0.5"/day. 1.0"/week.
Cleanup Restoration and Mitigation	(35)	Develop a revegetation plan for temporary work areas and monitor for 5 years.
Water Storage and Use	Water Conservation and Use (98)	Maintenance of daily records of water use for 5 years.

Ninety days before ending cannabis cultivation activities, a Site Closure Report is required with an accompanying Notice of Termination (General Order Attachment C). The report should include the date the operations ended and methods to prevent sediment discharge from the cultivation area. If construction activities are proposed as a component of closure, an implementation schedule should be provided, along with a final Monitoring and Reporting Program report, proof the operation ended, proof of stabilization of disturbed areas, proof of consolidation, and proof of waste disposal.

Please note that there are additional reporting requirements for Region 1's *Investigative Order No. R1-2019-0023: North Coast Regional Supplement to Annual Monitoring and Reporting Requirements for Statewide Cannabis General Order WQ 2017-0023-DWQ*. WQ 2017-0023-DWQ was updated in April of 2019, and this document is now referred to as WQ 2019-0001-DWQ. The Investigative Order went into effect on March 22, 2019. This Investigative Order requires several additional quantitative assessments of sites. These additional requirements are presented in ***Table 6***. In addition to the data listed in ***Table 6***, the Investigative Order requires detailed water application information. Reporting of monthly inputs to storage facilities and water used for cannabis irrigation is required on a monthly basis. Up to three sources can be reported for inputs to storage facilities and for water applied to the crop. Reporting the method used to calculate water input to storage facilities and water applied to the crop is also required.

Table 6- *A Presentation of the Additional Reporting Requirements in Accordance with Investigative Order R1-2019-0023.*

Requirement	Units and Format
Report total outdoor cultivation area(s)	Square feet (ft^2)
Report plants per harvest for outdoor gardens	Number (count)
Outdoor planting medium	Examples: soil bags, raised beds, directly in topsoil, other, multiple, or NA
Report total mixed light cultivation area(s)	Square feet (ft^2)
Report plants per harvest for mixed light gardens	Number (count)
Mixed light planting medium	Examples: soil bags, raised beds, directly in topsoil, other, multiple, or NA
Report total indoor cultivation area(s)	Square feet (ft^2)
Report plants per harvest for indoor gardens	Number (count)
Indoor planting medium	Examples: soil bags, raised beds, directly in topsoil, other, multiple, or NA
Minimum distance to Class I watercourse	Examples: 0-49 ft, 50-99 ft, 100-149 ft, 150-199 ft, 200+ft
Minimum distance to Class II watercourse	Examples: 0-49 ft, 50-99 ft, 100-149 ft, 150-199 ft, 200+ft
Minimum distance to Class III watercourse	Examples: 0-49 ft, 50-99 ft, 100-149 ft, 150-199 ft, 200+ft
Average slope of cultivation area	Slope (%)
Crossings of surface waters	Number (count)
Length of unpaved roads	None, less than ¼ mile, ¼ - 1 mile, 1-2 miles, 2-5 miles, greater than 5 miles
Total water storage	Gallons
Annual nitrogen application	Pounds
Annual phosphorus application	Pounds

There are specific additional qualitative monitoring requirements for Tier 1 and Tier 2 Moderate Risk operations. ***Table 7*** presents these additional monitoring requirements. There are also additional quantitative monitoring requirements for Tier 1 and Tier 2 Moderate Risk operations. ***Table 8*** presents these additional monitoring requirements. Please note that measurements should be made with calibrated instruments and at locations that are representative of the entirety of the site. Monitoring is not required once winterization is complete (e.g. complete recommendations in the Site Erosion and Sediment Control Plan). Monitoring is also not required on sites that are unoccupied during winter months if winterization techniques are complete; however, monitoring should resume when the parcel is in active use.

All data should be neatly organized in a tabular format for submission to the State Water Board or Regional Water Board. The data should efficiently present compliance status.

Table 7- *Additional Qualitative Monitoring Requirements in Accordance with the General Order.*

Qualitative Observation	Notes	Frequency
Runoff	Note any instances of surface water runoff including the source, location, and duration	Monthly
Erosion Control	Note any instances or signs of erosion	Monthly
Sediment Capture	Note the status of any sediment capture features	Monthly
Maintenance	Note any maintenance activities performed on erosion prevention or sediment capture features	Monthly
Materials Storage, Spill Prevention	Note delivery and storage of any materials that could degrade waters of the state	Monthly
Septic System	Note the date, activity, and the company servicing feature	Monthly

Table 8- *Additional Quantitative Monitoring Requirements in Accordance with the General Order.*

Quantitative Observation	Timing	Frequency
Turbidity	Once per month when precipitation is greater than 0.25 inches in a day, or whenever runoff is generated	Each month until winterization procedures are finalized
pH	Once per month when forecasted precipitation is greater than 0.25 inches in a day	Each month until winterization procedures are finalized

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6 Appendix A- General Low Impact Development Details

These fact sheets were pulled from the City of Santa Rosa, County of Sonoma Low Impact Development Technical Design Manual accessed via https://srcity.org/1255/Low-Impact-Development.

Intentional White Space

FACT SHEET- RAINWATER HARVESTING

Universal BMP

RAINWATER HARVESTING

Also know as: Rain Barrel, Cistern, and Rainwater Collection

DESCRIPTION

Rainwater harvesting is the practice of collecting and using rainwater from impervious surfaces such as roofs and patios. Rain barrels, or cisterns, are containers or tanks that are typically designed to capture rainwater runoff for irrigation. Rain barrels are inexpensive, easy to install and maintain, and well suited for small-scale residential sites. Cisterns are larger can be installed above or below ground depending upon design requirements and site conditions.

ADVANTAGES

- Can provide volume capture if collected water is used for irrigation or allowed to infiltrate.
- Attenuates peak flow and provides hydromodification benefits.
- Can be used as part of a treatment train with other BMPs.
- Low maintenance requirements (for above ground installations).
- Good for sites where infiltration is limited.
- Provides another source for irrigation water.

FACT SHEET- RAINWATER HARVESTING

- Prioritized as a "Universal LID feature."

LIMITATIONS

- Limited storage capacity.
- Does not provide water quality treatment.
- May require infrastructure (pumps or valves) to use stored water.
- Inadequate maintenance can result in mosquito breeding and/or algae production.
- May require building permits. Contact the governing agency for requirements.

KEY DESIGN FEATURES

- Roof surfaces and downspouts shall not include copper or materials treated with fungicides or herbicides.
- Gutters, if present, must be fully screened and installed at continuous grade.
- Storage containers, tank liners, and tank coatings must be listed as food grade, or be approved for potable water storage.
- Containers must be opaque, water tight, vented, completely covered and screened.
- Screen all openings.
- For above-ground systems, spigot and/or hose bib for drawing water must be at least 2 inches from the bottom and must be labeled "NONPOTABLE".
- Overflow device must be equal in size to the total of all inlets and must lead to an approved discharge location with approved air gap.
- First flush diverter must be automatic self-draining with a clean out.
- Safety labels (non-potable, vector hazard, drowning hazard icons) should be included as applicable.
- Outdoor spigots must have an atmospheric vacuum breaker attached.

- Prior to installation, roofs must be cleaned, and downspouts disconnected from the storm drain system.
- All municipal water service lines to facilities with rainwater harvesting systems require the installation of an approved backflow prevention device. This condition may be met if the backflow prevention was installed as part of the fire sprinkler system.
- Not permitted within the front yard setback.
- Tanks up to 8 feet in height are permitted within the rear and side yard setbacks.
- Tanks in excess of 8 feet in height, shall be subject to the same setbacks as a detached residential accessory structure.
- Both rain barrels and above-ground cisterns must be sited in a stable, flat area. Rain barrels and cisterns may not block the path of travel for fire safety access.

FACT SHEET- RAINWATER HARVESTING

Universal BMP

- Overflow locations, such as rain gardens, swales, or the downstream storm drain system, must be designed to both direct outflow away from building foundations and prevent nuisance flows to adjacent properties.
- Overflow may not discharge water across a public right-of-way.
- Regular use of the water stored in systems between rain events is critical to ensure that storage is available for the next storm event.

FACT SHEET- RAINWATER HARVESTING

SIZING DESIGN GOALS AND REQUIREMENTS

- ***For projects that increase the amount of impervious surface, but create or replace less than a total of one acre:*** The **Delta Volume Capture** component requires that any increase in volume due to development for the water quality design storm must be infiltrated and/or reused on site. Further discussion of the Treatment and Delta Volume Capture requirements and the accompanying formulas can be found in Chapter 6.
- ***For projects that create or replace one acre or more of impervious surface***: These larger projects must mitigate their impacts by meeting the **Hydromodification Requirement** by capturing 100% of the post development volume generated by the water quality rain event.
- All calculations shall be completed using the "Storm Water Calculator" available at www.srcity.org/stormwaterLID.

INSPECTION AND MAINTENANCE REQUIREMENTS

A maintenance plan shall be provided with the Final SWLID Submittal. The maintenance plan shall include recommended maintenance practices, state the parties responsible for maintenance and upkeep, specify the funding source for ongoing maintenance with provisions for full replacement when necessary and provide site specific inspection checklist. At a minimum maintenance shall include the following:

- Inspect twice annually to confirm that all the parts are operable and not leaking.
- Debris and clear all screens to prevent mosquitoes and other vectors from breeding.
- Test all backflow prevention assemblies annually by the system owner using an approved certified tester.
- Regular use of the water stored in systems between rain events is critical to ensure that storage is available for the next storm event.
- Clear roof gutter screens and first flush diverters.

FACT SHEET- VEGETATED BUFFER STRIP

Runoff Reduction Measure

VEGETATED BUFFER STRIP

Also know as: Filter Strip, Grassed Filter

DESCRIPTION

Vegetated buffer strips are sloping planted areas designed to allow storm water to naturally infiltrate sheet flow from adjacent impervious surfaces. Buffer strips slope away from the impervious surface and are most often vegetated with low lying ground cover. Buffer strips function by slowing storm water runoff and allowing sediment and other pollutants to settle and infiltrate. Vegetated buffer strips are well-suited to addressing runoff from roads and highways, roof downspouts, and parking lots.

ADVANTAGES

- Reduces the size of downstream storm water BMPs.
- Enhances water quality of downstream water bodies through natural processes.
- Aesthetically pleasing.
- Can establish habitat for birds and other pollinators like butterflies and bees.
- Require minimal maintenance (typically erosion prevention, mowing, and/or pruning).

FACT SHEET- VEGETATED BUFFER STRIP

LIMITATIONS

- Must receive sheet flow.
- Requires sufficient area.
- Downsteam storm water collection needs to be considered in design.
- May not be appropriate for industrial sites or locations where chemical spills may occur.
- A thick vegetative cover is needed for these practices to function properly.
- Prohibited in areas of known contamination. If soil and/or groundwater contamination is present on the site or within a 100' radius of the proposed location, the North Coast Regional Water Quality Control Board review and approval is required.
- Not appropriate for sites with a high risk of landslides or other geotechnical concerns. Slope stability shall be determined by a licensed Geotechnical Engineer.

KEY DESIGN FEATURES

- Slopes should not exceed 15%.
- Slope shall be at least 2%.
- Minimum length (in direction of flow) shall be 15 feet.
- Strip shall be sized as long as the site will reasonably allow.
- Vegetation should be carefully selected per the approved **Plant List** included in Appendix G.
- Strip shall be free of gullies or rills.
- All calculations shall be completed using the "Storm Water Calculator" available at www.srcity.org/stormwaterLID.

INSPECTION AND MAINTENANCE REQUIREMENTS

A maintenance plan shall be provided with the Final SWLID Submittal. The maintenance plan shall include; recommended maintenance practices, parties responsible for maintenance and upkeep, specify the funding source for ongoing maintenance with provisions for full replacement when necessary, and provide site specific inspection checklist.

At a minimum inspection and maintenance shall include the following:

- Mow as needed and irrigate during dry weather to the extent necessary to keep vegetation alive. Remove obstructions and trash from vegetated buffer strip.
- Pesticides and fertilizers shall not be used in the vegetated buffer strip.
- Where mowing is required, grass height shall be maintained between 3" and 6".

Vegetated buffer strips shall be inspected and maintained twice a year to review:

- Condition of vegetation.
- Obstructions and trash.
- Ponded flow is drained within 72 hours after a rainfall event.

FACT SHEET- VEGETATED BUFFER STRIP

Runoff Reduction Measure

- If ponding is observed, grading will be required to restore positive drainage.

INFILTRATION TRENCH

Also know as: Infiltration Gallery, Soakage Trench

DESCRIPTION

Infiltration Trenches are typically long narrow trenches that are filled with gravel that receive storm water and allow it to infiltrate into the soil. Infiltration trenches can be used to intercept storm water from landscape or open space before it crosses onto paved area or can be used as part of a treatment train with other BMP (such as Vegetated Buffer Strips or Vegetated Swales) to achieve the Volume Capture requirement.

ADVANTAGES

- Provides volume capture.
- Can be used as part of a treatment train with other BMPs.
- Can be used on sloped sites.
- Simple to install.

LIMITATIONS

- Impacts to adjacent buildings and overflow requirements need to be considered in design.
- Requires adequate space.

KEY DESIGN FEATURES

- Install a designated high flow bypass inlet or route.
- Design to prevent standing water. All surface water must drain within 72 hours to prevent mosquito breeding.

SIZING DESIGN- GOAL AND REQUIREMENTS

- **For all projects:** The treatment component requires that all of the runoff generated by this water quality design storm from impermeable surfaces must be treated on site for the pollutants of concern.
- ***For projects that increase the amount of impervious surface, but create or replace less than a total of one acre:*** The **Delta Volume Capture** component requires that any increase in volume due to development for the water quality design storm must be infiltrated and/or reused on site. Further discussion of the Treatment and Delta Volume Capture requirements and the accompanying formulas can be found in Chapter 6.
- ***For projects that create or replace one acre or more of impervious surface***: These larger projects must mitigate their impacts by meeting the **Hydromodification Requirement** by capturing 100% of the post development volume generated by the water quality rain event.
- All calculations shall be completed using the "Storm Water Calculator" available at www.srcity.org/stormwaterLID.

INSPECTION AND MAINTENANCE REQUIREMENTS

A maintenance plan shall be provided with the Final SWLID Submittal. The maintenance plan shall include recommended maintenance practices, identify the parties responsible for maintenance and upkeep, specify the funding source for ongoing maintenance with provisions for full replacement when necessary and provide site specific inspection checklist.

At a minimum inspection and maintenance shall include the following:

- Inspect twice annually for ponded water. If ponded water is observed, the top layer of pea gravel will need to be replaced.
- If ponded water remains, further grading and replacement may be necessary to prevent mosquito breeding.
- The high flow inlet should be inspected and cleaned as necessary to remove any obstructions.
- Pesticides and fertilizers shall not be used in vegetated areas draining to the infiltration trench.
- Remove any accumulated sediment and/or trash.

FACT SHEET- POROUS PAVEMENT

POROUS PAVEMENT

Also know as: Unit Pavers, Porous Concrete, and Pervious Pavement

DESCRIPTION

Porous Pavement is a system comprised of load-bearing, durable surface together with an underlying layered structure that temporarily stores water prior to infiltration or drainage to a controlled outlet. The surface can be porous such that water infiltrates across the entire surface of the material (e.g., crushed aggregate, porous concrete and porous asphalt), or it can be constructed of impermeable blocks separated by spaces and joints, through which the water can drain. This latter system is termed 'permeable' paving. Pervious paving is used for light vehicle loading in parking areas. For a surface to be considered porous it must allow water to infiltrate in to the soil below. Perforated pipe may be installed high in the section and the volume below the perforated pipe may be counted toward volume capture if no impermeable liner is installed. Sections with perforated pipe or liners at the bottom provide treatment only.

ADVANTAGES

- Significant flow attenuation and improvement in water quality.
- Can remove both the soluble and fine particulate pollutants.
- Roof runoff can be piped into the subsurface storage area directly, which would increase the level of flow attenuation.
- Within lined systems, there is the opportunity for stored runoff to be piped out for reuse.
- Pervious pavements have a high level of applicability because they are unobtrusive.

FACT SHEET- POROUS PAVEMENT

LIMITATIONS

- Can become clogged if improperly installed or maintained. However, this problem is minimized by the ease with which small areas of paving can be cleaned or replaced when blocked or damaged.
- Use should be limited to car parking areas and other lightly trafficked or nontrafficked areas. Pervious surfaces are currently not considered suitable for roadways within the public right-of-way.
- Prohibited in areas of known contamination. If soil and/or groundwater contamination is present on the site or within a 100' radius of the proposed location, the North Coast Regional Board review and approval is required.
- Do not use in areas of slope instability where infiltrated storm water may cause failure. Slope stability shall be determined by a licensed Geotechnical Engineer.
- Do not use in locations that can negatively impact building foundation or footings. Location shall be approved by a licensed Geotechnical Engineer.

KEY DESIGN FEATURES

- The subgrade should be able to sustain traffic loading without excessive deformation.
- The granular capping and sub-base layers should give sufficient load-bearing to provide an adequate construction platform and base for the overlying pavement layers.
- Pervious pavements require a single size grading to create voids for infiltration. The choice of materials is therefore a compromise between stiffness, permeability and storage capacity.
- Because the sub-base and capping will be in contact with water for extended periods, the strength and durability of the aggregate particles when saturated and subjected to wetting and drying should be assessed.
- Pervious concrete shall be designed and installed as described by the current version of CalTrans "Pervious Pavement Design Guidance."
- Must be installed under the supervision of a Certified Craftsman level contractor.

SIZING DESIGN- GOAL AND REQUIREMENTS

- For all projects: The treatment component requires that all of the runoff generated by this water quality design storm from impermeable surfaces must be treated on site for the pollutants of concern.
- *For projects that increase the amount of impervious surface, but create or replace less than a total of one acre:* The Delta Volume Capture component requires that any increase in volume due to development for the water quality design storm must be

infiltrated and/or reused on site. Further discussion of the Treatment and Delta Volume Capture requirements and the accompanying formulas can be found in Chapter 6.

- *For projects that create or replace one acre or more of impervious surface*: These larger projects must mitigate their impacts by meeting the Hydromodification Requirement by capturing 100% of the post development volume generated by the water quality rain event.
- All calculations shall be completed using the "Storm Water Calculator" available at www.srcity.org/stormwaterLID.

INSPECTION AND MAINTENANCE REQUIREMENTS

A maintenance plan shall be provided with the Final SW LID Submittal. The maintenance plan shall include recommended maintenance practices, state the parties responsible for maintenance and upkeep, specify the funding source for ongoing maintenance with provisions for full replacement when necessary and provide site specific inspection checklist.

At a minimum inspection and maintenance shall include the following:

- Keep landscaped areas well maintained
- Prevent soil from washing onto pavement

Pervious Pavement shall be inspected and maintained 2-3 times per year:

a) Vacuum clean surface using commercial sweeping machines at the following times:

- End of winter (April)
- Mid-summer (July / August)
- After autumn leaf-fall (November)
- Inspect outlets annually

b) As needed maintenance:

- If routine cleaning does not restore infiltration rates, then reconstruction of part of the pervious surface may be required.
- The surface area affected by hydraulic failure should be lifted for inspection of the internal materials to identify the location and extent of the blockage.
- Surface materials should be lifted and replaced after brush cleaning. Geotextiles, if used, may need complete replacement.
- Sub-surface layers may need cleaning and replacing.
- Due to the accumulation of pollutants, removed silts may need to be disposed of as controlled waste.

VEGETATED SWALE

Also know as: Bioretention Swale, Treatment Swale, and Grassy Swale

DESCRIPTION

The swale best management practice (BMP) functions as a soil and plant-based filtration and infiltration feature that removes pollutants through a variety of natural physical, biological, and chemical treatment processes. Vegetated swales are open, shallow channels with vegetation covering the side slopes and bottom that collect and slowly convey runoff flow to downstream discharge points. They are designed to treat runoff through filtering by the vegetation in the channel, filtering through a subsoil matrix, and/or infiltration into the underlying soils. They trap particulate pollutants (suspended solids and trace metals), promote infiltration, and reduce the flow velocity of storm water runoff. Vegetated swales can serve as part of a storm water drainage system and can replace curbs, gutters and storm sewer systems.

ADVANTAGES

- Can be designed to achieve Treatment, Delta Volume Capture, or Hydromodification requirements.

- Enhances water quality of downstream water bodies through natural processes.
- Aesthetically pleasing.
- The vegetation reduces heat island effects and improves an area's landscape.
- Vegetated swales can be designed to convey high flow as well as water quality flow.

LIMITATIONS

- A thick vegetative cover is needed for these practices to function properly.
- Swales are more susceptible to failure if not properly maintained than other treatment BMPs.
- Can be difficult to avoid channelization, which may cause erosion and limit infiltration potential.
- Not effective and may even erode when flow velocities are high, if the grass cover is not properly maintained.
- May not be appropriate for industrial sites or locations where spills may occur.
- Grassed swales cannot treat a very large drainage area. Large areas may be divided and treated using multiple swales.
- Should not be used in areas of know contamination. If soil and/or groundwater contamination is present on the site or within a 100' radius of the proposed BMP location, the North Coast Regional Water Quality Control Board will need to be contacted and the site reviewed.
- Should not be used in areas of slope instability where infiltrated storm water may cause failure. Slope stability should be determined by a licensed geotechnical engineer.
- Do not use in locations that can negatively impact building foundation or footings. Location shall be approved by a licensed Geotechnical Engineer.

KEY DESIGN FEATURES

- The longest flow path for the swale shall have a minimum retention time of 12 minutes for conditions when the treatment flows enter the Vegetated Swale uniformly along the swale length. The longest flow path for the swale shall have a minimum retention time of 8 minutes if 90 percent or more of the treatment flow enters the swale at the upstream end.
- Swale should be designed so that the water level does not exceed 2/3rds the height of the grass or 4 inches, whichever is less, at the design treatment rate.
- Longitudinal slopes between 1% and 2.5% are recommended.
- Maximum allowable slope is 8% slope. In steep areas, check dams up to 24-inches high and at least 25 feet apart are allowed.
- Trapezoidal channels are normally recommended but other configurations, such as parabolic, can also provide substantial water quality improvement and may be easier to mow than designs with sharp breaks in slope.

- Swales constructed in cut are preferred, or in fill areas that are far enough from an adjacent slope to minimize the potential for gopher damage. Do not use side slopes constructed of fill, which are prone to structural damage by gophers and other burrowing animals.
- Shall be planted with plants from the approved **Plant List** and **Tree List** included in Appendix F and shall be planted to achieve 51% cover.

- Vegetated swales shall have a maximum treatment width of 10 feet. The vegetated swale bed shall be at least 2-feet wide and no more than 7-feet wide. Parallel swales may be used if calculations show greater width is needed.
- The bed of the swale flow area shall slope at about 2% from toe of side slope to center of swale. Side slopes shall be no greater than a 2 to 1 slope.
- If vegetation is not established prior to rain, additional soil stabilization methods may be necessary.
- If the 10 or 100-year storm event flow velocity is greater than 4 feet per second, a permanent geofabric liner shall be used that is rated for the calculated flow velocity.
- If used, the perforated pipe trench shall be backfilled with ¾" crushed rock with a 2-inch bed underneath and 6-inch cover.

SIZING DESIGN- GOAL AND REQUIREMENTS

- **For all projects:** The treatment component requires that all of the runoff generated by this water quality design storm from impermeable surfaces must be treated on site for the pollutants of concern.
- ***For projects that increase the amount of impervious surface, but create or replace less than a total of one acre:*** The **Delta Volume Capture** component requires that any increase in volume due to development for the water quality design storm must be infiltrated and/or reused on site. Further discussion of the Treatment and Delta Volume Capture requirements and the accompanying formulas can be found in Chapter 6.
- ***For projects that create or replace one acre or more of impervious surface***: These larger projects must mitigate their impacts by meeting the **Hydromodification Requirement** by capturing 100% of the post development volume generated by the water quality rain event.
- All calculations shall be completed using the "Storm Water Calculator" available at www.srcity.org/stormwaterLID.

INSPECTION AND MAINTENANCE REQUIREMENTS

A maintenance plan shall be provided with the Final SWLID Submittal. The maintenance plan shall include recommended maintenance practices, state the parties responsible for maintenance and upkeep, specify the funding source for ongoing maintenance with provisions for full replacement when necessary and provide site specific inspection checklist.

At a minimum maintenance shall include the following:

- Mow and irrigate during dry weather to the extent necessary to keep vegetation alive. Where 6-inch high grasses are used, the grass height shall be at least 3 inches after mowing. Where mowed grasses are shown, the grass height shall be mowed when the height exceeds 3 inches.
- Remove obstructions and trash from vegetated swale.
- Pesticides and fertilizers shall not be used in the swale.

Vegetated Swales shall be inspected and maintained monthly during the rainy season to review:

- Obstructions and trash.
- Ponded flow is drained within 72 hours after a rainfall event.
- Condition of grasses.
- If ponding is observed, grading will be required to restore positive drainage.

FACT SHEET- CONSTRUCTED WETLANDS

CONSTRUCTED WETLAND

Also know as: Artificial Wetlands

DESCRIPTION

Constructed wetlands are designed to mimic natural wetlands with varied depth pools and wetland plants. Constructed wetlands remove pollutants through a variety of natural physical, biological, and chemical treatment processes. They retain storm water and allow it to infiltrate and evapotranspirate while allowing pollutants to settle out and provide habitat.

ADVANTAGES

- Can be designed to achieve Treatment, Delta Volume Capture, or Hydromodification requirements.
- Enhances water quality of downstream water bodies through natural processes.
- Aesthetically pleasing.
- Can provide recreation and educational information to the public.
- Vegetation provides shade and wind breaks, absorbs noise, reduces heat island effects and adds to an area's landscape features.
- Establishes habitat for birds, amphibians, dragonflies, and pollinators like butterflies and bees.

FACT SHEET- CONSTRUCTED WETLANDS

LIMITATIONS

- Requires more complex design and construction.
- Requires sufficient area.
- Prohibited in areas of known contamination. If soil and/or groundwater contamination is present on the site or within a 100' radius of the proposed location, the Regional Board review and approval is required.
- Do not use in areas of slope instability where infiltrated storm water may cause failure. Slope stability shall be determined by a licensed Geotechnical Engineer.

KEY DESIGN FEATURES

- Compartmentalization and variation in pool size and depth recommended.
- 20' maximum distance across wetland if only accessible from all weather access road on one side.
- Perimeter all weather access road required if wetland is greater than 20' wide. Roads should be located as close to the shoreline as possible.
- 40' maximum distance across wetland.
- Design for water depth over 1'. Preferably 3'-4' with plant free areas over 5' in depth.
- 50% or less overall vegetative cover.
- 25% of vegetation should be maintained as isolated islands away from the ponds perimeter.
- Raised planting beds to limit and narrow vegetated zones.
- 1%-5% slope recommended along bottom of wetland for dewatering, maintenance, and mosquito control.
- 2.5:1 to 4:1 bank slope recommended to limit vegetation growth and ensure access.
- 4:1 max bank slope to allow access for mowing and sampling.
- Peripheral vegetation zones should be less than 3' wide or minimum required for wildlife.
- Design to maximize spread and movement of water in wetland.
- Design to allow for complete dewatering of wetland for maintenance and mosquito control.
- Include an access ramp to basin floor for maintenance equipment.
- Concrete liners in shallow areas to discourage vegetation where not necessary.
- Design and necessary approvals to drain wetland completely when needed (Salinas – Outlet structure should be designed to drain the WQv (Water Quality Volume) within a minimum of 48 hours.
- Ensure permanently wet portions and water is suitable for mosquito fish.

FACT SHEET- CONSTRUCTED WETLANDS

SIZING DESIGN- GOAL AND REQUIREMENTS

- **For all projects:** The treatment component requires that all of the runoff generated by this water quality design storm from impermeable surfaces must be treated on site for the pollutants of concern.
- *For projects that increase the amount of impervious surface, but create or replace less than a total of one acre:* The **Delta Volume Capture** component requires that any increase in volume due to development for the water quality design storm must be infiltrated and/or reused on site. Further discussion of the Treatment and Delta Volume Capture requirements and the accompanying formulas can be found in Chapter 6.
- *For projects that create or replace one acre or more of impervious surface*: These larger projects must mitigate their impacts by meeting the **Hydromodification Requirement** by capturing 100% of the post development volume generated by the water quality rain event.
- All calculations shall be completed using the "Storm Water Calculator" available at www.srcity.org/stormwaterLID.

INSPECTION AND MAINTENANCE REQUIREMENTS

- A maintenance plan shall be provided with the Final SWLID Submittal. The maintenance plan shall include recommended maintenance practices, state the parties responsible for maintenance and upkeep, specify the funding source for ongoing maintenance with provisions for full replacement when necessary, and provide site specific inspection checklist. Remember; designing for maintenance and to restrict emergent vegetation minimizes maintenance requirements.

At a minimum inspection and maintenance shall include the following:

- If vegetation removal is performed, biomass must be removed.
- Ability to dewater sections or the entire wetland for mosquito control or maintenance. Valves, weirs, etc.
- Vegetation control – removal, thinning, or mowing

FACT SHEET- BIORETENTION

BIORETENTION

Also know as: Rain garden, roadside bioretention, and bioretention cell

DESCRIPTION

The bioretention area best management practice (BMP) functions as a soil and plant-based filtration and infiltration feature that removes pollutants through a variety of natural physical, biological, and chemical treatment processes.

ADVANTAGES

- Can be designed to achieve Treatment, Delta Volume Capture, or Hydromodification requirements.
- Enhances water quality of downstream water bodies through natural processes.
- Aesthetically pleasing.
- The vegetation can provide shade and wind breaks, absorbs noise, reduces heat island effects and improves an area's landscape.
- Provides habitat for birds and attracts other pollinators like butterflies and bees.
- Does not interrupt utility installation.
- Does not interfere with tree planting.

FACT SHEET- BIORETENTION

LIMITATIONS

- Specialized design is required for areas where street slopes exceed 10%.
- Should not be used in areas of know contamination. If soil and/or groundwater contamination is present on the site or within a 100' radius of the proposed BMP location, the North Coast Regional Water Quality Control Board will need to be contacted and the site reviewed.
- Should not be used in areas of high groundwater. In general a minimum of 2' of clearance should be provided between the bottom of the bioretention cell and seasonal high groundwater.
- Should not be used in areas of slope instability where infiltrated storm water may cause failure. Slope stability should be determined by a licensed geotechnical engineer.
- Do not use in locations that can negatively impact building foundation or footings. Location shall be approved by a licensed Geotechnical Engineer.

KEY DESIGN FEATURES

ALL BIORETENTION

- Structural soil should be used within the bioretention area requiring load bearing capacity (adjacent to roadways and/or buildings).
- Structural soil, if used, shall be installed as described in Appendix E.
- Some BMPs may not require the use of structural soil and a more organic type planting soil and/or treatment media may be used in its place. It may be possible in some cases to use native soil or to amend the native soil so that it is suitable. Use of non-structural soil will depend on evaluation of the criteria in "Chapter 4-Site Assessment" as well as consideration of structural needs and may require evaluation by a licensed Geotechnical Engineer.
- Underlining native soil should remain un-compacted to preserve infiltration capacity. Fence off the area during construction to protect it from compaction.
- Bottom of bioretention should be un-lined to allow infiltration into native soil.
- Moisture barrier must be installed vertically to protect road sub-base and any trenches adjacent to the bioretention area.
- If used, pervious concrete shall be designed and installed as described in Appendix E and protected during construction to prevent sediment loading.
- If the porous gutter design option is used additional trash and sediment capture BMPs is required.
- A curb opening type design may be used in place of a porous gutter if appropriate for the project and does not require additional trash capture.
- Bioretention areas shall be planted with plants from the approved **Plant List** and **Tree List** included in Appendix F and shall be planted to achieve 51% cover.
- All bioretention areas shall be designed with a designated high flow bypass inlet for storms larger than the design storm.

- For designs that include perforated pipe, the 6" perforated pipe must be installed a minimum of 6" below the adjacent road structural section.
- Perforated pipe shall be installed in straight runs only.
- The volume below the perforated pipe must be sufficient to hold and infiltrate the design volume.

SIZING DESIGN- GOAL AND REQUIREMENTS

- **For all projects:** The treatment component requires that all of the runoff generated by this water quality design storm from impermeable surfaces must be treated on site for the pollutants of concern.
- ***For projects that increase the amount of impervious surface, but create or replace less than a total of one acre:*** The **Delta Volume Capture** component requires that any increase in volume due to development for the water quality design storm must be infiltrated and/or reused on site. Further discussion of the Treatment and Delta Volume Capture requirements and the accompanying formulas can be found in Chapter 6.
- ***For projects that create or replace one acre or more of impervious surface***: These larger projects must mitigate their impacts by meeting the **Hydromodification Requirement** by capturing 100% of the post development volume generated by the water quality rain event.
- All calculations shall be completed using the "Storm Water Calculator" available at www.srcity.org/stormwaterLID.

INSPECTION AND MAINTENANCE REQUIREMENTS

A maintenance plan shall be provided with the Final SWLID Submittal. The maintenance plan shall include recommended maintenance practices, state the parties responsible for maintenance and upkeep, specify the funding source for ongoing maintenance with provisions for full replacement when necessary and provide site specific inspection checklist.

At a minimum maintenance shall include the following:

- Dry street sweeping upon completion of construction
- Dry street sweeping annually, and
    - When water is observed flowing in the gutter during a low intensity storm.
    - Algae is observed in the gutter.
    - Sediment/debris covers 1/3 of the gutter width or more.
- Inspect twice annually for sedimentation and trash accumulation in the gutter. Obstructions and trash shall be removed and properly disposed of.
- Inspect twice during the rainy season for ponded water.
- Pesticides and fertilizers shall not be used in the bioretention area.
- Plants should be pruned, weeds pulled and dead plants replaced as needed.

FACT SHEET- FLOW THROUGH PLANTER

FLOW THROUGH PLANTER

Also know as: Above Ground Bioretention, Filter Planter, and Water Quality Planter

DESCRIPTION

Flow Through Planters function as a soil and plant-based filtration feature that removes pollutants through a variety of natural physical, biological, and chemical treatment processes. Flow Through Planters are usually installed next to buildings or common open areas to treat storm water from rooftops.

ADVANTAGES

- Provides water quality treatment.
- Can be used as part of a treatment train with other BMPs.
- Used in urban areas where space is limited or infiltration is not acceptable.
- Used on sloped sites.
- Provides habitat for birds and attracts pollinators like butterflies and bees.

FACT SHEET- FLOW THROUGH PLANTER

LIMITATIONS

- Do not achieve Delta Volume Capture or Hydromodification Control requirements.
- Impacts to adjacent buildings and overflow requirements need to be considered in design.
- Plant selection needs to consider effects of fast draining soils.

KEY DESIGN FEATURES

- Bottom shall be impervious to protect adjacent structures and slope stability, unless otherwise approved by a licensed Geotechnical Engineer. If designed to allow infiltration, the underlying soil should not be compacted.
- Shall be planted with plants from the approved **Plant List** and **Tree List** included in Appendix F and shall be planted to achieve 51% cover.
- Install a designated high flow bypass inlet or route.
- Underdrain required.
- All surface water must drain within 72 hours to prevent mosquito breeding.
- Select non-floatable surface mulching material to prevent clogging of downstream inlets.
- Downspouts to incorporate splash blocks and/or other dissipation methods to prevent erosion.

SIZING DESIGN- GOAL AND REQUIREMENTS

- **For all projects:** The **treatment** component requires that all of the runoff generated by this water quality design storm from impermeable surfaces must be treated on site for the pollutants of concern.
- All calculations shall be completed using the "Storm Water Calculator" available at www.srcity.org/stormwaterLID.

INSPECTION AND MAINTENANCE REQUIREMENTS

A maintenance plan shall be provided with the Final SWLID Submittal. The maintenance plan shall include recommended maintenance practices, identify the parties responsible for maintenance and upkeep, specify the funding source for ongoing maintenance with provisions for full replacement when necessary and provide site specific inspection checklist.

At a minimum inspection and maintenance shall include the following:

- Inspect twice annually for ponded water. If ponded water is observed, the perforated pipe shall be cleaned.
- If ponded water remains, further grading and replacement may be necessary to prevent mosquito breeding.

FACT SHEET- FLOW THROUGH PLANTER

- The high flow inlet should be inspected and cleaned as necessary to remove any obstructions.
- Pesticides and fertilizers shall not be used in the rain garden area.
- Plants should be pruned, weeds pulled and dead plants replaced as needed.
- Check downspout splash blocks for proper location and fill/regard any washouts.
- Evaluate mulching around plants. Add/replace as needed.

7 Appendix B- General Road Details

CHARACTERISTICS OF STORM-PROOFED ROADS

Storm-proofed stream crossings

- All stream crossings have a drainage structure designed for the 100-year flood flow (including woody debris and sediment).
- Stream crossings have no diversion potential (functional critical dips are in place).
- Culvert inlets have low plug potential (trash barriers or deflectors are installed where needed).
- Culverts are installed at the base of the fill and in line with the natural channel.
- Any existing culverts or new emergency overflow culverts that emerge higher in the fill have full round, anchored downspouts that extend to the natural channel.
- Stream crossing culvert outlets are protected from erosion (extend culverts at least 6 feet beyond the base of the fill and use energy dissipation, where needed).
- Culvert inlet, outlet and bottom are open and in sound condition.
- Deep fills (deeper than a backhoe can reach from the roadbed) with undersized culverts or culverts with high plugging potential are fitted with an emergency overflow culvert.
- Bridges have stable, non-eroding abutments and do not significantly restrict 100-year flood flow.
- Stream crossing fills are stable (unstable fills are removed or stabilized).
- Approaching road surfaces and ditches are "disconnected" from streams and stream crossing culverts to the maximum extent feasible using road shaping and road drainage structures.
- Class I (fish-bearing) stream crossings meet State Fish and Wildlife and National Marine Fisheries Service fish passage criteria.
- Decommissioned stream crossings are excavated to exhume the original, stable, stream bed and channel sideslopes, and then stabilized with mulch and vegetation.

Storm-proofed road and landing fills

- Unstable and potentially unstable road and landing fills that could deliver sediment to a stream are excavated (removed) or structurally stabilized.
- Excavated spoil is placed in locations where eroded material will not enter a stream.
- Excavated spoil is placed where it will not cause a slope failure or landslide.

Storm-proofed road surface drainage

- Road surfaces and ditches are hydrologically "disconnected" from streams and stream crossing culverts. Road surface runoff is dispersed, rather than collected and concentrated.
- Ditches are drained frequently by functional ditch relief culverts, rolling dips or cross road drains.
- Outflow from ditch relief culverts does not discharge to streams.
- Ditch relief culverts with gullies that deliver to a stream are removed or dewatered.
- Ditches and road surface drainage does not discharge (through culverts, rolling dips or other cross drains) onto active or potential landslides.
- Decommissioned roads have permanent drainage and do not rely on ditches.
- Fine sediment contributions from roads, cutbanks and ditches are minimized by utilizing seasonal closures and installing a variety of surface drainage techniques including berm removal, road surface shaping (outsloping, insloping or crowning), rolling dips, ditch relief culverts, waterbars and other measures to disperse road surface runoff and reduce or eliminate sediment delivery to the stream.

HANDBOOK FOR FOREST, RANCH AND RURAL ROADS

TABLE 9. Typical minimum standards for low-volume roads[1]

Design standard	Collector or mainline road	Rural access or secondary road
Design speed (mph)	40–55	20–30
Road subgrade (ft)	16–20 ft wide (optional 2–3 ft ditch)	12–16 ft wide (optional 2 ft ditch)
Running surface width (ft)	12–16 ft	12 ft
Road grade (%)	12% max.	15% max.
Curve radius (ft)	80 ft min.	50 ft min.
Road shape	Outsloped, insloped, crowned (5%)	Outsloped, insloped, crowned (5%)
Road drainage types	Ditch, ditch relief culverts, rolling dips	Ditch, ditch relief culverts, rolling dips, water bars
Road surface material	Gravel, chip-seal, pavement	Native or gravel

[1]based on Keller and Sherar (2003) and Oregon Department of Forestry (2000)

TABLE 30. Settings and equipment combinations suitable for various types of road construction and upgrading methods

Generic road type	Hillslope characteristics	Typical equipment types
Sidecast (cut-and-sidecast)	Gentle (<35%); stable, far from streams	Tractor; grader; water truck
	Moderate (<55%); stable, far from streams	Excavator and tractor, or tractor; grader; water truck
Cut-and-fill (with compaction)	Gentle (<35%)	Excavator and tractor; grader; water truck
	Moderate to steep, close to streams (35-55%)	Excavator, or excavator and tractor; grader; water truck
Full bench (cut)	All slopes	Excavator; dump trucks; tractor; grader; water truck
Temporary fill (cribbed)	Moderate to steep	Excavator and tractor
Reconstruction	All slopes	Excavator; tractor; loader; dump trucks; grader

TABLE 4. Timing of road planning and construction activities for a Mediterranean climate[1]

Season	Planning and design	Field layout	Construction and re-construction	Inspection and maintenance	Closure
Winter	+[1]	+	No	+	No
Spring	+	+	✓ (late)	+	–
Summer	+	–	+	+	+
Fall	+	–	✓ (early)	+	+

[1]Key to symbols: + = good or excellent season for this activity. ✓ = OK or good time to perform this work. – = not a very good season for this type of work. No = this is not a good time for construction or closure work using heavy equipment, unless there is an extended dry period. Each season has periods when work can be undertaken. Wet weather equipment work, if undertaken, should be planned and conducted carefully, with erosion control work kept up to date.

FIGURE 184. *Rock armored ditches, if constructed with proper rock sizes, rock gradations and U-shaped channel form, can prevent ditch downcutting and erosion, but also inhibits easy ditch maintenance using machinery. Rather than armoring or installing check dams in ditches, it is usually best to reduce the volume of flow by installing additional ditch relief culverts.*

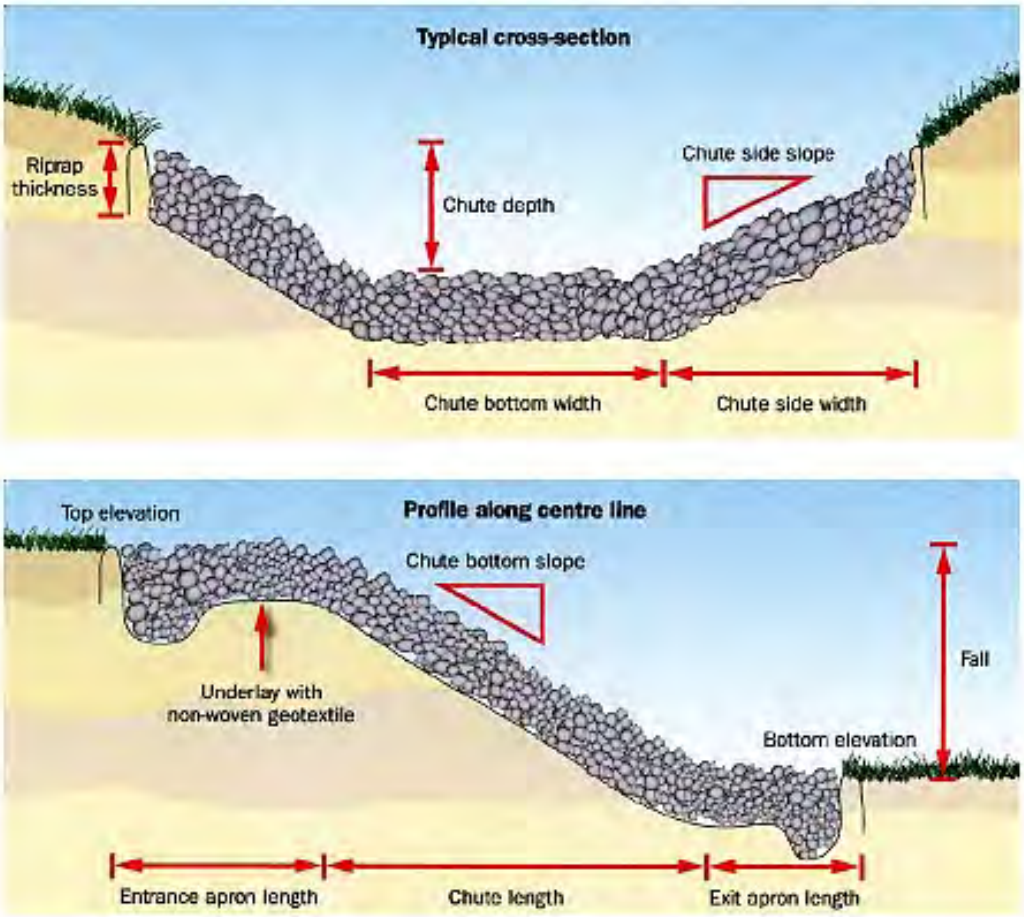


FIGURE 185. *Rock-lined chute or channel (Brook, 2013)*

TABLE 32. Guidelines for rocking a road[1]

Factors *for* rocking a road	Factors for *not* rocking a road
Road is in a coastal or valley climate.	Road is in a dry climate.
Soil type is weak and poor draining, prone to erosion.	Well drained gravely road.
Road grade is steep, any water will have potential to run down the road and erode surface.	Gentle road grade, less than 8%
The road use is permanent and access is needed throughout the year.	This is a one time or one season road use that could be timed to occur during dry periods of the year.
It is not practical or possible to close road during unneeded periods.	The road can be decommisioned or closed after short-term use.
Heavy use is planned for the road.	Low use is planned for the road.
Rock is readily available and relatively inexpensive.	Rock is scarce, must be hauled long distances and is expensive to apply.
High use recreation area that would make it difficult to keep traffic off road during wet seasons.	Road can be easily and effectively blocked until weather permits
	Road is located on ridge or high on the hillslope and there is little risk of damage from erosion.

[1]Modified from: ODF, 2000

TABLE 31. Soil characteristics for road subgrade materials[1]

Material type	Strength, compaction, and foundation suitability	Drainage	Reaction to frost	Common symbols of soil types[2]
Clean gravels and clean sand[3]	Good to excellent	Excellent	None to slight	GW, GP, SW, SP
Gravels and sands with non-plastic[4] fines	Good to excellent	Fair to poor	Slight to high	GMd, SMd
Gravels and sands with plastic[4] fines	Fair to good	Poor to impervious	Slight to high	GMu, GC, SMu, SC
Non-plastic and slightly plastic[4] silts and clays	Poor to fair	Fair to impervious (mostly poor)	Medium to high	ML, CL, OL
Medium and highly plastic[4] silts and clays	Very poor to poor	Fair to impervious (mostly poor)	Medium to very high	MH, CH
Peat and other highly organic soils	Very unstable, poor compaction	Fair to poor	Slight	Pt

[1]Washington DNR (1982)
[2]Unified Soil Classification System (USCS) symbol
[3]"Clean" means less than 12% of the material is smaller than 1/64" (the smallest particle visible to the naked eye).
[4]Plasticity can be tested by simple field methods, including lightly wetting a hand sample, rolling the fines into a ball and then into a thread before it crumbles: The range of plasticity includes: **Non-plastic**: a thread cannot be formed regardless of the moisture content; Low plasticity: after 2–3 times, the molded ball will crumble; **Medium plasticity**: after 3–5 times, the ball will easily crumble with moderate force (pressed between thumb and forefinger); and **High plasticity**: the ball will not crumble, even with moderate force, after five times.

TABLE 18. Outsloping "pitch" for roads up to 8% grade[1]

Road grade	Outslope "pitch" for unsurfaced roads	Outslope "pitch" for surfaced roads
≤ 4%	3/8" per foot	1/2" per foot
5%	1/2" per foot	5/8" per foot
6%	5/8" per foot	3/4" per foot
7%	3/4" per foot	7/8" per foot
≥ 8%	1" per foot	1 ¼" per foot

[1]California Department of Forestry and Fire Protection (2008)

HANDBOOK FOR FOREST, RANCH AND RURAL ROADS

TABLE 19. Recommended maximum rolling dip and ditch relief culvert spacing, in feet, based on road gradient and soil erodibility [1, 2]

Soil erodibility	Road gradient (%) and drainage structure spacing (feet)				
	0–3	4–6	7–9	10–12	>12
High to moderate	250	160	130	115	100
Low	400	300	250	200	160

[1]Based on Keller and Sherar, 2003. Also suggested by California Board of Forestry and Fire Protection in Technical Rule Addendum No. 5 (see Appendix C)

TABLE 21. Table of rolling dip dimensions[1]

Road grade (%)	Upslope approach[2] (distance from up-road start of rolling dip to trough) (ft)	Reverse grade[2] (distance from trough to crest) (ft)	Depth below average road grade at discharge end of trough[2] (ft)	Depth below average road grade at upslope end of trough[2] (ft)
<6	55	15–20	0.9	0.3
8	65	15–20	1.0	0.2
10	75	15–20	1.1	0.1
12	85	20–25	1.2	0.1
>12	100	20–25	1.3	0.1

[1]USDA-SCS (1981)
[2]See also Figure 36

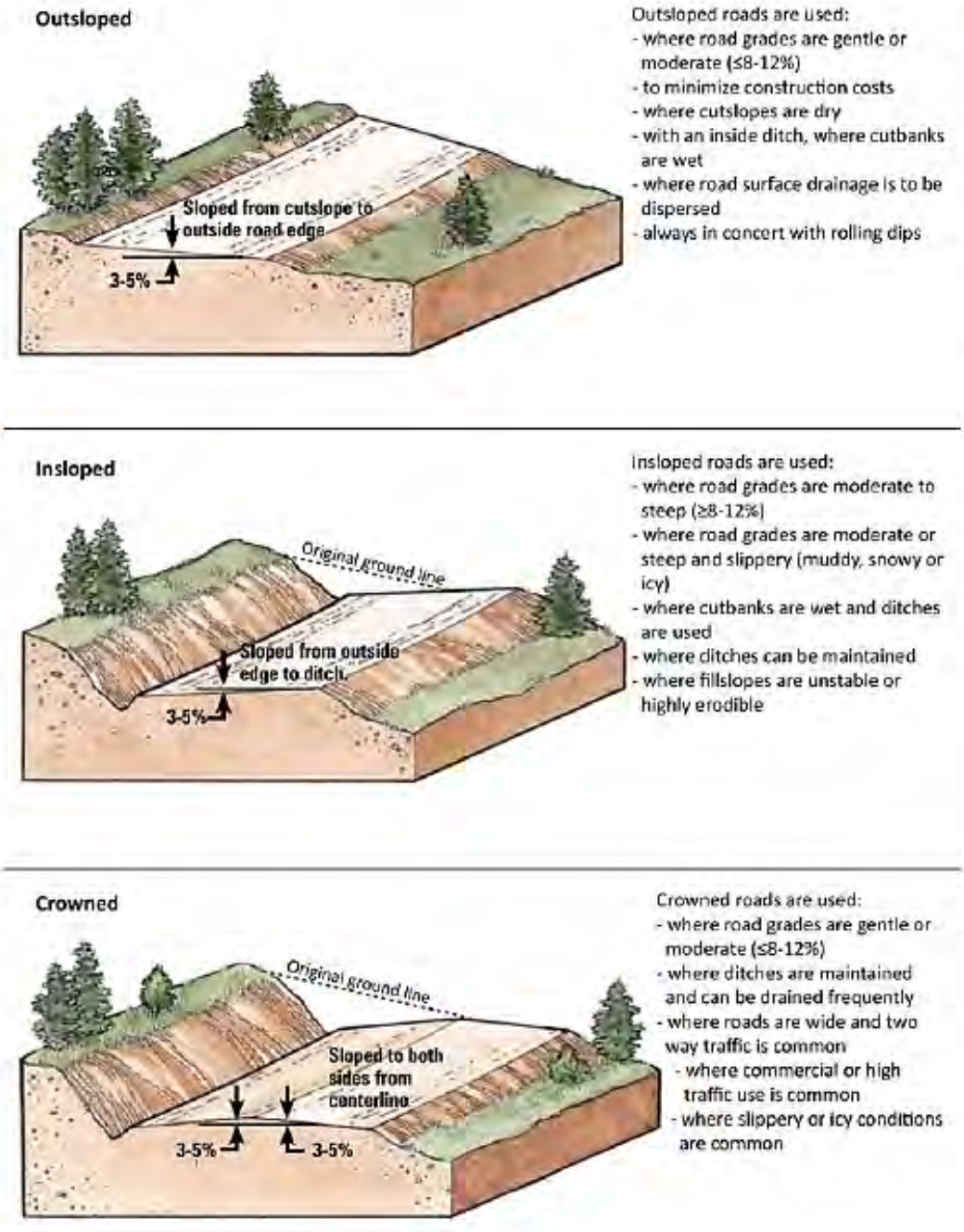


FIGURE 27. *Road surface shapes include outsloped, insloped and crowned. The diagram depicts an outsloped road with no ditch (top), an insloped road with the inside ditch (center), and a crowned road with an inside ditch (bottom). Outsloped road shapes are generally preferred because of lower construction and maintenance costs. Where cutbanks are wet with spring flow an outsloped road shape can be combined with an inside ditch. Note that insloped and crowned roads generally require more hillslope cutting and have higher cutbanks than outsloped roads because of the extra width needed for a ditch (Modified from: Adams and Storm, 2011).*

FIGURE 31A. *Centerline crown with proper cross-slope for an unpaved road. Road drainage flows without obstruction off the road surface into surrounding vegetation. Note the slight grade increase at the road shoulder to encourage off-road drainage (Center for Dirt and Gravel Road Studies, 2005).*

FIGURE 31B. *Centerline crown has become misshapen over time. Road surface drainage is trapped on the road by gravel movement, grader berms or by road rutting under heavy traffic. Road drainage travels down the rutted road surface causing erosion, loss of road material, and increased maintenance. The road can be reshaped to restore cross drainage, but rolling dips are needed for effective, permanent surface drainage (Center for Dirt and Gravel Road Studies, 2005).*

TABLE 20. Comparison of drainage structures used on dirt and gravel roads

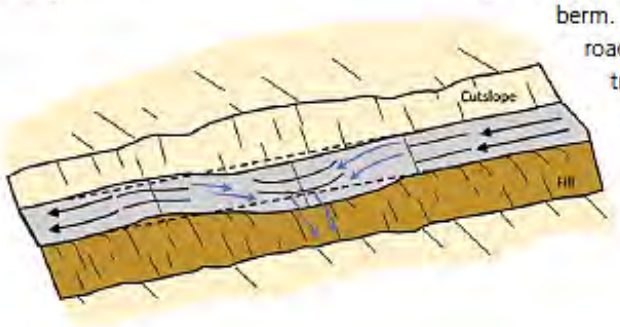
Structure type	Ditch relief culverts	Rolling dips	Water bars	Cross road drains
Purpose	Drains the road's inside ditch	Drains the road surface; Only drains the ditch if dip is deep and intersects the ditch	Drains the road surface	Drains road surface, ditch and springs on decommissioned or closed roads
Construction costs	High	Medium	Low	Low to Medium
Maintenance	Medium Needs frequent inspection and inlet cleaning	Low Needs occasional repair or reshaping	High Needs frequent cleaning, reshaping and replacement	None Should not need any maintenance
When to use	On all road grades On high or low traffic roads with frequent maintenance	On low and moderate grades On high or low traffic roads	On all road grades On low traffic roads or seasonal roads	On all closed or decommissioned roads, especially at springs and seeps
When not to use	On infrequently maintained roads; or wherever they would discharge to streams or onto unstable areas Below unstable or raveling cut slopes	On steep grades (>12% to 18%), depending on traffic type On curves	On high traffic roads	Where the cross road drain would feed water onto an unstable area or deliver eroded sediment to a stream

TABLE 4. Timing of road planning and construction activities for a Mediterranean climate[1]

Season	Planning and design	Field layout	Construction and re-construction	Inspection and maintenance	Closure
Winter	+[1]	+	No	+	No
Spring	+	+	✓ (late)	+	–
Summer	+	–	+	+	+
Fall	+	–	✓ (early)	+	+

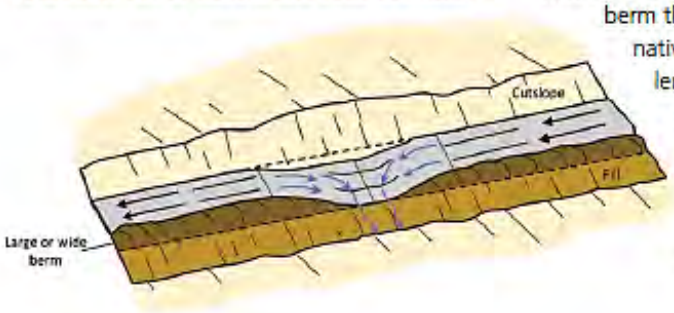
[1]Key to symbols: + = good or excellent season for this activity. ✓ = OK or good time to perform this work. – = not a very good season for this type of work. No = this is not a good time for construction or closure work using heavy equipment, unless there is an extended dry period. Each season has periods when work can be undertaken. Wet weather equipment work, if undertaken, should be planned and conducted carefully, with erosion control work kept up to date.

Type 1 Rolling Dip (Standard)



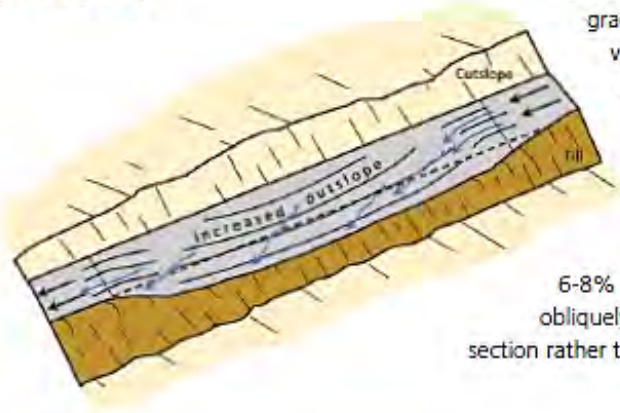
Type 1 rolling dips are used where road grades are less than about 12-14% and road runoff is not confined by a large through cut or berm. The axis of the dip should be perpendicular to the road alignment and sloped at 3-4% across the road tread. Steep roads will have longer and more abrupt dip dimensions to develop reverse grade through th dip axis. The road tread and/or the dip outlet can be rocked to protect against erosion, if needed.

Type 2 Rolling Dip (Through-cut or thick berm road reaches)



Type 2 rolling dips are constructed on roads up to 12-14% grade where there is a through cut up to 3 feet tall, or a wide or tall berm that otherwise blocks road drainage. The berm or native through cut material should be removed for the length of the dip, or at least through the axis of the dip, to the extent needed to provide for uninterrupted drainage onto the adjacent slope. The berm and slope material can be excavated and endhauled, or the material can be sidecast onto native slopes up to 45%, provided it will not enter a stream.

Type 3 Rolling Dip (Steep road grade)



Type 3 rolling dips are utilized where road grades are steeper than about 12% and it is not feasible to develop a reverse grade that will also allow passage of the design vehicle (steep road grades require more abrupt grade reversals that some vehicles may not be able to traverse without bottoming out).

Instead of relying on the dip's grade reversal to turn runoff off the roadbed, the road is built with an exaggerated outslope of 6-8% across the dip axis. Road runoff is deflected obliquely across the dip axis and is shed off the outsloped section rather than continuing down the steep road grade.

TABLE 1.

An example of ditch-relief culvert and rolling dip spacing guidelines is found in the University of California's Publication 8262, *Rural Roads: A Construction and Maintenance Guide for California Landowners* (Kocher et al. 2006, adopted from Keller and Sherar 2003). Note that spacing of rolling dips and ditch relief culverts should be a function of proximity to a watercourse, with closer spacing near the channel.

Road Grade (percent)	Soil Erodibility	
	Low to Nonerosive soils	Erosive soils
0–3%	400'	250'
4–6%	300'	160'
7–9%	250'	130'
10–12%	200'	115'
12+	160'	100'

Note: (1) **Low Erosion Soils** = Coarse Rocky Soils, Gravel, and Some Clay

(2) **High Erosion Soils** = Fine, Friable Soils, Silt, Fine Sands

FIGURE 40. *Waterbars are constructed on unsurfaced forest and ranch roads that will have little or no traffic during the wet season. The waterbar should be extended to the cutbank to intercept all ditch flow (1) and extend beyond the shoulder of the road. A berm (2) must block and prevent ditch flow from continuing down the road during flood flows. The excavated waterbar (3) should be constructed to be self-cleaning, typically with a 30° skew to the road alignment with the excavated material bermed on the downhill grade of the road (4). Water should always be discharged onto the downhill side on a stable slope protected by vegetation. Rock (shown in the figure) should not be necessary if waterbars are spaced close enough to prevent serious erosion. (5) The cross ditch depth (6) and width (7) must allow vehicle cross-over without destroying the function of the drain. Several alternate types of waterbars are possible, including one that drains only the road surface (not the ditch), and one that drains the road surface into the inside ditch (BCMF, 1991).*

8 Appendix C- Legal Pesticides

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LEGAL PEST MANAGEMENT PRACTICES FOR MARIJUANA GROWERS IN CALIFORNIA

Department of Pesticide Regulation

PESTS OF MARIJUANA IN CALIFORNIA

Marijuana pests vary according to cultivar (variety), whether the plants are grown indoors or outdoors, and where the plants are grown geographically. The pests included in this review are preliminary and based on the following sources: a presentation given in 2013 by Whitney Cranshaw, an extension entomologist at Colorado State University, and a review article by John M. McPartland, a professor of family medicine at the University of Vermont. We also received input from Kevin Hoffman, Primary State Entomologist, California Department of Food & Agriculture (CDFA).

HOW TO INTERPRET THE TABLES

Table 1 lists active ingredients not illegal to use on marijuana and the pests that these active ingredients target.

These active ingredients are exempt from **residue tolerance requirements**[1] *and* either exempt from **registration requirements**[2] or registered for a use that's broad enough to include use on marijuana. Residue tolerance requirements are set by U.S. EPA for each pesticide on each food crop and is the amount of pesticide residue allowed to remain in or on each treated crop with "reasonable certainty of no harm." Some pesticides are exempted from the tolerance requirement when they're found to be safe. Some of these pesticides are bacterial-based insect pathogens (e.g., *Bacillus thuringiensis*) or biofungicides (e.g., *Bacillus subtilis*, *Gliocladium virens*).

Active ingredients exempt from registration requirements are mostly food-grade essential oils such as peppermint oil or rosemary oil.

Tables 2 and 3 list pests of marijuana grown outdoors and indoors, and Table 3 shows pests arranged by the portion of the plant they attack. An explanation of the column labels for Tables 2 and 3 follow.

PESTS. The tables show the most likely pests in California based on Cranshaw's presentation and McPartland's list and gleaned from California-based web sites and blogs. Some pests that drew attention on several blogs (e.g., russet mites) may be worse during drought years. Many have cyclic population fluctuations and others are mainstays of general greenhouse cultivation (e.g., whiteflies, thrips, and fungus gnats). We'll add weeds to this compendium when we have more information.

DAMAGE. For damage caused by greenhouse pests, we derived information from Cranshaw's presentation; for that of outdoor pests when there wasn't any overlap, McPartland's list was used and information from UC IPM for various crops. Accounts of damage by rodents is anecdotal.

PESTS NOT OFFICIALLY IDENTIFIED IN CALIFORNIA. Kevin Hoffman of CDFA notes that several marijuana pests in other states are not yet known in California. These pests would add to the russet mites, aphids, cutworms, budworms, borers, and flea beetles already in California. As more and more marijuana is planted throughout the state, collecting potential pests will enable entomologists to identify new species.

THE IMPORTANCE OF CORRECT IDENTIFICATION. It's essential to identify the potential pest, or you may launch a futile program for a mite or insect that isn't a pest. And likewise, you need to know the correct species or you may use the wrong management strategy. For accurate identification, take specimens to an entomologist.

HOW TO PRESERVE SPECIMENS FOR IDENTIFICATION. If the mite or insect specimen is hard bodied (e.g., beetles, moths) carefully place it in a small pill vial and cushion with crumpled tissue paper. If your specimen isn't yet dead, put it in a jar and place in a freezer overnight. Do not wrap specimens in tissue and seal them in plastic bags or you'll end up with smashed bug parts.

Place soft-bodied specimens (e.g., mites, leafhoppers, aphids, caterpillars) in a jar filled with rubbing alcohol. Include written information such as where on the plant you found the specimen, the general location of the plant, and date captured. Note original color and texture, since these will change once you immerse the specimen in alcohol. Also helpful are photographs of the specimen in its original habitat.

IPM PRACTICES. Most of these are standard practices for pests on hosts other than marijuana. For more detailed explanations, see information compiled by the

[1] 40 CFR (Code of Federal Regulations)
[2] under FIFRA section 25(b) and 3 CCR section 6147

University of California Statewide IPM Program (UC IPM) at www.ipm.ucdavis.edu. You can enter a pest name in the search box (e.g., cutworm) and read about IPM practices for the pest on crops other than marijuana. For marijuana grown indoors, go to the UC IPM [illegible], click on [illegible] and scroll down the alphabetical list until you reach [illegible].

Some practices were excluded because they apply to nearly all of the pests. For example, when targeting aphids, whiteflies, and thrips, growers can attract predaceous and parasitic arthropods by planting strips or borders of cover crops (e.g., California buckwheat) and insectary plants—especially those in the carrot, mustard, and sunflower families (Pickett & Bugg, 1998).

LEGAL PESTICIDES. These are covered above in the Table 1 description and are exempt from **residue tolerance requirements** *and* either exempt from **registration requirements** or registered for a use that is broad enough to include use on marijuana.

Table 4 shows representative marijuana pests by plant part. Not all of these pests are important, but their collective damage may affect the overall health of the plant.

REFERENCES

Cranshaw, Whitney. 2013. Challenges and opportunities for pest management of medical marijuana in Colorado. Presentation.

McPartland, J.M. 1996. *Cannabis* pests. J. Internatl. Hemp Assoc. 3(2): 49, 52–55.

Pickett, C.H. & R.L. Bugg, eds. 1998. Enhancing Biological Control: Habitat management to promote natural enemies of agricultural pests. UC Press, Oakland, Calif.

Table 1. Active ingredients that are exempt from residue tolerance requirements[a] and either exempt from registration requirements[b] or registered for a use broad enough to include use on marijuana.

ACTIVE INGREDIENT	PEST OR DISEASE
azadirachtin[a]	aphids, whiteflies, fungus gnats, leafminers, cutworms
Bacillus subtilis QST[a1]	root diseases, powdery mildew
Bacillus thuringiensis[a2] subsp. aizawai or kurstaki	moth larvae (e.g., cutworms, budworms, borer)
Bacillus thuringiensis[a2] subsp. israelensis	fly larvae (e.g., fungus gnats)
Beauveria bassiana[a3]	whiteflies, aphids, thrips
cinnamon oil[b]	whiteflies
Gliocladium virens[a1]	root diseases
horticultural oils[a] (petroleum oil)	mites, aphids, whiteflies, thrips; powdery mildew
insecticidal soaps[a] (potassium salts of fatty acids)	aphids, whiteflies, cutworms, budworms
iron phosphate[a], sodium ferric EDTA[a]	slugs and snails
neem oil[a]	mites; powdery mildew
potassium bicarbonate[a]; sodium bicarbonate[a]	powdery mildew
predatory nematodes[a]	fungus gnats
rosemary + peppermint essential oils[b]	whiteflies
sulfur[a]	mites, flea beetles
Trichoderma harzianum[a1]	root diseases

[a] 40 CFR (Code of Federal Regulations)
[b] FIFRA §25(b) and 3 CCR §6147 [FIFRA = the Federal Insecticide, Fungicide, and Rodenticide Act; CCR = California Code of Regulations)

[1] Biofungicides
[2] Bacterial-based insect pathogen
[3] Fungal-based insect pathogen

Table 2. PEST MANAGEMENT PRACTICES FOR MARIJUANA GROWN OUTDOORS

PEST		DAMAGE	IPM PRACTICES (monitoring; cultural, physical, mechanical, biological)	PESTICIDES
MITES & INSECTS				
two-spotted spider mites Tetranychus urticae (and other Tetranychidae)		Suck plant sap; stipple **leaves**	☐ Keep dust down by hosing off plants (if dust is a problem) ☐ Release predatory mites	neem oil, horticultural oil
russet mites Aculops spp.		Suck plant sap; kill **leaves** and **flowers**	☐ Release predatory mites	neem oil, horticultural oil, sulfur
crickets (field & house)		Eat **seedlings**	☐ Use floating row covers or cones on individual plants	—
termites		Eat **roots**	☐ Flood nests	—
leafhoppers		Suck plant sap; weaken plants	☐ Encourage natural enemies by planting nectar sources	horticultural oil or insecticidal soaps for nymphs
aphids Myzus persicae, Aphis fabae		Suck plant sap; weaken plants	☐ Hang up yellow sticky cards (alates) ☐ Hose off plants	azadirachtin, horticultural oil, insecticidal soaps, Beauveria bassiana
whiteflies Trialeurodes vaporariorum, Bemisia tabaci, B. argentifolii		Suck plant sap; weaken plants	☐ Hang up yellow sticky cards ☐ Use reflective plastic mulch	azadirachtin, horticultural oil, insecticidal soaps, rosemary + peppermint oils, Beauveria bassiana
leafminers Liriomyza spp.		Bore into **roots** and **leaves**	☐ Remove older infested leaves ☐ Use biocontrol: release Diglyphus parasitoids	azadirachtin
LEPIDOPTERA	**cutworms** Agrotis ipsilon, Spodoptera exigua (Noctuidae)	Eat **seedlings**	☐ Use pheromone traps to detect adults. ☐ Remove weeds, which serve as a reservoir for cutworms and other noctuids	Vegetative stage only: Use Bacillus thuringiensis kurstaki if egg-laying adults found, insecticidal soap; azadirachtin
	budworms Helicoverpa zea (Noctuidae)	Eat flowering **buds**	☐ Shake plants to dislodge larvae ☐ Remove infested buds ☐ Plant corn as trap crop	Vegetative stage only: Use Bacillus thuringiensis kurstaki, insecticidal soap

PEST		DAMAGE	IPM PRACTICES (monitoring; cultural, physical, mechanical, biological)	PESTICIDES
COLEOPTERA	**flea beetles** (Chrysomelidae)	Bore into **stems** (grubs); feed on seedlings and **leaves** of larger plants (adults)	☐ Use reflective mulches ☐ Plant trap crops (e.g., radish or Chinese mustard)	sulfur
	scarab grubs (possibly other beetles)	Bore into **stems**	☐ Use parasitic nematodes	—
MAMMALS				
mice (e.g., house mice)		Eat **young sprouts and seeds**	☐ Double wrap a 3'-tall chicken wire fence around plants ☐ Trap (minus rodenticides) ☐ Mount barn owl boxes	rodenticides*
roof rats, Rattus rattus **wood rats**, Neotoma spp.		Strip bark from **stems** to build nests		
pocket gophers, Thomomys spp.		Tunnel through planting areas; feed on plants; gnaw on irrigation lines	☐ Install underground fencing (hardware cloth or ¼" mesh poultry wire) ☐ Mount barn owl boxes	
Columbian black-tailed deer, Odocoileus hemionus columbianus		Knock over plants; leave dander, droppings, and ticks behind	☐ Install deer fencing	—
black bears, Ursus americana		Knock over plants	☐ Install electric fencing	—

* If using a rodenticide, use products that are not DPR-restricted materials or federally restricted-use pesticides and are registered for a broad enough use to include use in or around marijuana cultivation sites. If using a rodenticide always read and follow the label and check to make sure that the target rodent is listed. Second-generation anticoagulant products (contain the active ingredients brodifacoum, bromadiolone, difenacoum, and difethialone) are DPR-restricted materials not labeled for field use and should never be used in or around marijuana cultivation sites.

Table 3. PEST MANAGEMENT PRACTICES FOR MARIJUANA GROWN INDOORS
(e.g., greenhouses, sheds, and grow rooms)

PEST	DAMAGE	IPM PRACTICES (monitoring; cultural, physical, mechanical, biological)	PESTICIDES
DISEASES			
powdery mildew Sphaerotheca macularis	Grow on leaves as white and gray powdery patches	☐ Use fans to improve air circulation	horticultural oil; neem oil; sodium bicarbonate, potassium bicarbonate; Bacillus subtilis
pythium root rots Pythium spp.	Attack root tips and worsens when plants grow in wet soil	☐ Avoid hydroponic production or wet soil conditions	Incorporate biocontrol agents into root-growing media (e.g., Gliocladium virens, Trichoderma harzianum, Bacillus subtilis)
MITES & INSECTS			
two-spotted spider mite Tetranychus urticae (and other Tetranychidae)	Suck plant sap; stipple leaves	☐ Disinfest cuttings before introducing to growing area ☐ Release predatory mites	neem oil, horticultural oil, sulfur
leafhoppers	Suck plant sap; weaken plants	☐ Encourage natural enemies by planting nectar sources	horticultural oil or insecticidal soaps for nymphs
whiteflies Trialeurodes vaporariorum, Bemisia tabaci, B. argentifolii	Suck plant sap; weaken plants	☐ Hang up yellow sticky cards ☐ Use biocontrol: Encarsia formosa	azadirachtin, Beauveria bassiana, cinnamon oil, horticultural oil
thrips Heliothrips haemorrhoidalis, Frankliniella occidentalis, Thrips tabaci	Stipple leaves and vector viruses	☐ Hang up yellow or blue sticky cards	
dark-winged fungus gnats (Diptera: Sciaridae) Bradysia spp.	Damage roots and stunt plant growth	☐ Avoid overwatering ☐ Use growing media that deters gnat development ☐ Hang up yellow sticky cards ☐ Use biocontrol: soil-dwelling predatory mites	Bacillus thuringiensis israelensis (BTI); predatory nematodes; azadirachtin soil drenches

Table 4. PESTS OF MARIJUANA BY PLANT PART

Seedlings	Flower & Leaf (grown outdoors)	Flower & Leaf (grown indoors)	Stalk & Stem	Root
crickets	flea beetles	spider mites	rats	flea beetles
cutworms	leafminers	leafhoppers		white root grubs
flea beetles	budworms	aphids		root maggots
slugs		whiteflies		termites & ants
rodents		thrips		fungus gnats
birds				wireworms

CANNABIS

PESTICIDES THAT ARE **LEGAL** TO USE

Protecting workers, the public, and the environment from adverse effects of pesticide use in cannabis cultivation is critical to the mission of the California Department of Pesticide Regulation (DPR). DPR and the County Agricultural Commissioners (CAC) enforce the use and sale of pesticides under Divisions 6 and 7 of the California Food and Agricultural Code (FAC), and Title 3 of the California Code of Regulations (CCR). These laws and regulations apply to all pesticide use; cannabis is no exception.

All pesticide product labels include a warning statement, precautionary statements for protecting human and environmental health, storage and disposal statements, and directions for use. By law, all pesticide users must follow these statements.

When using pesticide products in cannabis cultivation, applicators must not use a rate that is higher than the rates listed on the label and follow the agricultural use requirements including method of application, restricted entry interval, personal protective equipment, and pre-harvest interval.

Some pesticide products are never allowed in cannabis cultivation under any circumstances (see DPR's document: Pesticides that Cannot be Used on Cannabis).

Always read the label prior to using any pesticide.

PRODUCTS THAT CAN BE LEGALLY APPLIED TO CANNABIS IN CALIFORNIA

A pesticide product can legally be applied to cannabis under state law if the active ingredients found in the product are exempt from residue tolerance requirements and the product is either exempt from registration requirements or registered for a use that is broad enough to include use on cannabis.

Residue tolerance requirements are set by U.S. EPA for each pesticide on each food crop and are the amount of pesticide residue allowed to remain in or on each treated crop with "reasonable certainty of no harm." Some pesticides are exempt from the tolerance requirement when they are found to be minimal risk.

Active ingredients exempt from registration requirements are mostly food-grade essential oils such as peppermint oil or rosemary oil.

Cannabis cultivators who are licensed by the California Department of Food and Agriculture are required to comply with pesticide laws and regulations as enforced by DPR and the CAC's.

For more information:
www.cdpr.ca.gov/cannabis

dpr Department of Pesticide Regulation

PESTICIDES THAT ARE **LEGAL** TO USE ON CANNABIS

The following are examples of pesticide active ingredients that are exempt from tolerance requirements and either exempt from registration requirements or have labels broad enough to include use on cannabis. This is not an exhaustive list of active ingredients that may fit the legal use criteria. The active ingredients are organized by the intended target.

Insecticides and Miticides

- Azadirachtin
- *Bacillus thuringiensis* sub. *kurstaki*
- *Bacillus thuringiensis* sub. *israelensis*
- *Beauveria bassiana*
- *Burkholderia* spp. strain A396
- Capsaicin
- Cinnamon and cinnamon oil
- Citric acid
- Garlic and garlic oil
- Geraniol
- Horticultural oils (petroleum oil)
- Insecticidal soaps (potassium salts of fatty acids)
- Iron phosphate
- *Isaria fumosorosea*
- Neem oil
- Potassium bicarbonate
- Potassium sorbate
- Rosemary oil
- Sesame and sesame oil
- Sodium bicarbonate
- Soybean oil
- Sulfur
- Thyme oil

Fungicides and Antimicrobials

- *Bacillus amyloliquefaciens strain D747*
- Cloves and clove oil
- Corn oil
- Cottonseed oil
- *Gliocladium virens*
- Neem oil
- Peppermint and peppermint oil
- Potassium bicarbonate
- Potassium silicate
- Rosemary and rosemary oil
- Sodium bicarbonate
- Reynoutria sachalinensis extract
- Trichoderma harzianum

Vertebrate Repellants

- Castor oil
- Geraniol

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CANNABIS

PESTICIDES THAT CANNOT BE USED

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All pesticide product labels include a warning statement, precautionary statements for protecting human and environmental health, storage and disposal statements, and directions for use. By law, all pesticide users must follow these statements.

When using pesticide products in cannabis cultivation, applicators must not use a rate that is higher than the rates listed on the label and follow the agricultural use requirements including method of application, restricted entry interval, personal protective equipment, and pre-harvest interval.

Always read the label prior to using any pesticide.

Some pesticides cannot be used in cannabis cultivation.

While there are some pesticide products that are legal to use on cannabis under state law, (see DPR's document: Pesticides that are Legal to Use on Cannabis) other products are never allowed in cannabis cultivation. The following criteria identify pesticide products that cannot be used in California cannabis cultivation under any circumstances. The use of any pesticides meeting any one of these criteria on cannabis will be strictly enforced as a violation of the FAC and could result in civil or criminal penalties (FAC sections 12996 and 12999.5):

- Not registered for a food use in California
- California Restricted Material including Federal Restricted Use Pesticides (3CCR section 6400)
  On the groundwater protection list (3CCR section 6800)

Cannabis cultivators who are licensed by the California Department of Food and Agriculture are required to comply with pesticide laws and regulations as enforced by DPR and the CAC's.

For more information:
www.cdpr.ca.gov/cannabis

dpr Department of Pesticide Regulation

CANNABIS

PESTICIDES THAT CANNOT BE USED

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Cannabis cultivators who are licensed by the California Department of Food and Agriculture are required to comply with pesticide laws and regulations as enforced by DPR and the CAC's.

For more information:
www.cdpr.ca.gov/cannabis

dpr Department of Pesticide Regulation

PESTICIDES THAT CANNOT BE USED ON CANNABIS

The following are criteria for identifying pesticides that cannot be used in cannabis cultivation and examples of active ingredients meeting these criteria. This is a representative list of active ingredients and not intended to be exhaustive. The fact that an active ingredient is not listed does not authorize its use on cannabis in California.

Pesticides Not Registered for Food Use in California

If a pesticide product does not have directions for use on a food crop, it cannot be used in cannabis cultivation. Examples of active ingredients that do not have food uses include:

- Aldicarb
- Carbofuran
- Chlordane
- Chlorfenapyr
- Coumaphos
- Daminozide
- DDVP (Dichlorvos)
- Etofenprox
- Fenoxycarb
- Imazalil
- Methyl parathion
- Mevinphos
- Paclobutrazol
- Propoxur
- Spiroxamine
- Thiacloprid

California Restricted Materials

DPR designates certain pesticides as California restricted materials (3 CCR section 6400). A pesticide can be considered a restricted material for many reasons including designation as a federal Restricted Use Pesticide. Many of these products have product labels that clearly state "Restricted Use Pesticide." Consult your local CAC to determine whether a product is a restricted material. Examples of California restricted materials include:

- Abamectin
- Bifenthrin
- Brodifacoum
- Bromodiolone
- Cyfluthrin
- Difenacoum
- Difethialone
- Fipronil
- Naled

Pesticides on the Groundwater Protection List

Active ingredients that are on the Groundwater Protection List (3CCR section 6800) have chemical characteristics that make them likely to move into groundwater. Examples of active ingredients on the groundwater protection list include:

- Acephate
- Azoxystrobin
- Boscalid
- Carbaryl
- Chlorantraniliprole
- Diazinon
- Dimethoate
- Dimethomorph
- Ethoprop(hos)
- Fludioxonil
- Imidacloprid
- Malathion
- Metalaxyl
- Methiocarb
- Methomyl
- Myclobutanil
- Propiconazole
- Tebuconazole
- Thiamethoxam

Version 9/18

9 Appendix D- Fire Safety

Join the Blue Dot Brigade

OK, you've done the most important things to protect your home from wildfire – established 100' of defensible space, provided safe access and turnarounds for firefighters, and set up a hydrant or accessible water supply.

Would firefighters be able to locate your hydrant or water supply in the dark or under smoky conditions?

Mark your firefighting water supply with a blue reflector!

Mark **only** water supplies that are set up specifically for firefighting, such as:

- Hydrants with 2 ½" National Standard male thread
- Swimming pools or ponds that that can be accessed by a large fire engine with a short hose

Don't mark just any water supply.
See reverse side for more information.
Please don't endanger your firefighters!
Check with your local VFD to learn what to mark and to obtain free blue reflectors.

Firefighting Water Supplies

Water is one of the limiting factors in fighting fires. Having a water tank, swimming pool or pond nearby is not enough – the water must be accessible to firefighters. Consider this:

1. There are 2 basic types of water sources: draft and pressurized.

2. In most draft systems, the fire engine has to suck water into its pump, where it's pressurized for firefighting. Draft water sources can be a swimming pool, pond or water tank. Because a fire engine's suction hose is very short, the fire engine must be able to park within 7 feet of the source. Both the parking location AND the approach to it must be a hard surface capable of holding a 14' tall, 40,000-pound vehicle.

3. The better choice is a pressurized system, using gravity or a pump. Gravity systems are the most desirable for fire protection, since they can work when the power goes out.

   In a gravity system, water is stored in an elevated tank or tanks before it is needed. The tank is kept full and water is brought down to a hydrant through a large diameter pipe (3" or more). An elevated tank provides 1 pound of pressure for every 2.3' in elevation. A tank 80' uphill provides 35 pounds of pressure – the minimum needed to protect a home from fire.

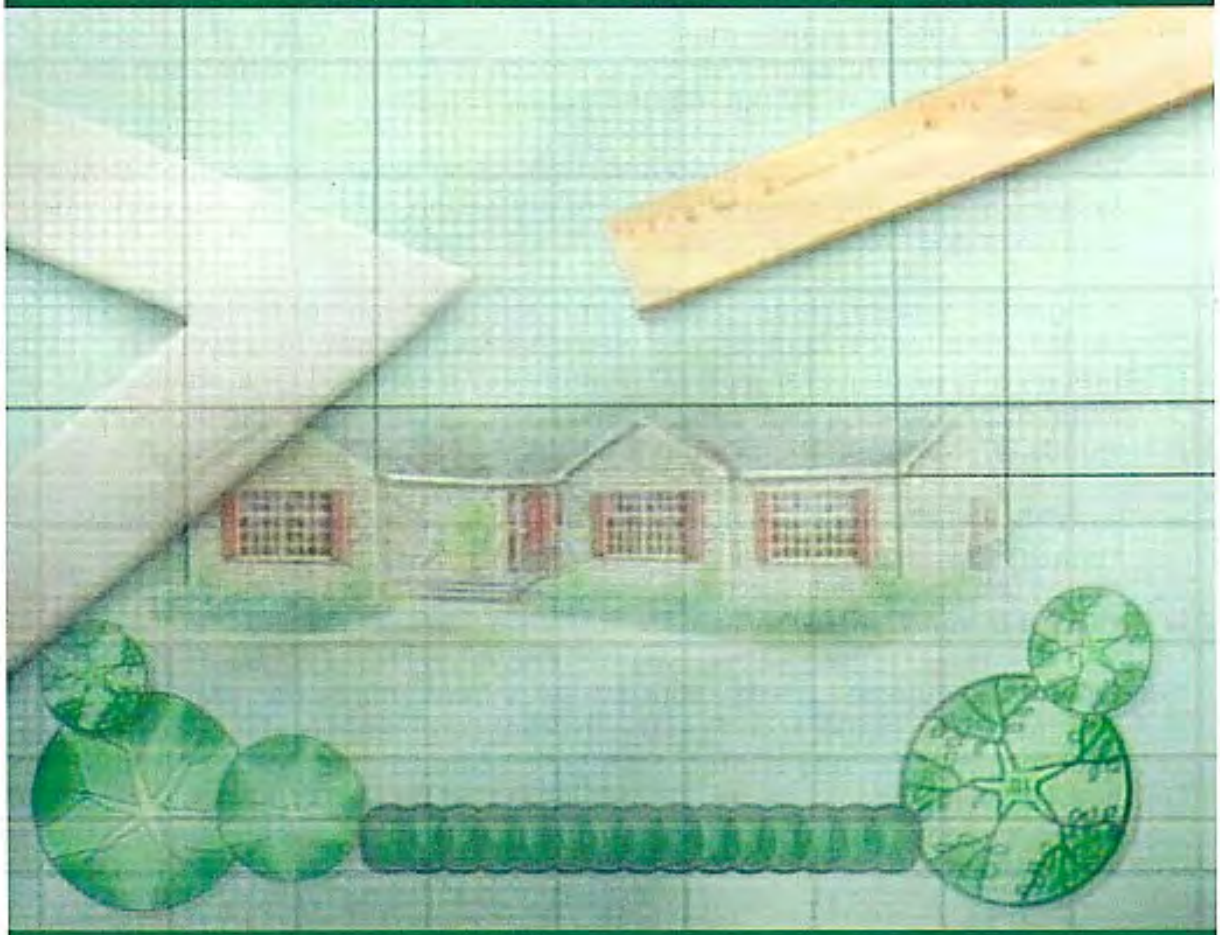
4. Portable water pumps can be used with tanks, pools, ponds or streams. Pumps should be pre-fitted with 1 ½" or 2 ½" male National Hose pipe thread fittings on their discharge sides and must have suction hoses long enough to reach the water.

5. Hydrants should be located about 50' away from your house. At this distance, if the house is on fire, the hydrant can probably still be reached. Hydrants must be very sturdy. Fortify PVC pipe so that it can withstand heavy weights and pressures. Hydrants should be 18-24" high and placed 4-12' from any road. Protect your hydrant from vehicles with barriers, but make sure that firefighters can park near it.

6. Install round blue reflectors to guide firefighters to your firefighting water supply. Do not use blue reflectors for any other purpose – this could lead to confusion and endanger firefighters.

Abridged from "Water, water everywhere", Forestland Steward, Summer 2008. Published by the CA Forest Stewardship Program.
http://ceres.ca.gov/foreststeward/pdf/34-Foreststeward-Sum08.pdf.
Contact your local fire department for more information about firefighting water supplies.

Firewise Guide to Landscape and Construction



NFPA
www.nfpa.org

FIREWISE

The roof is the most important element of the home. Use rated roofing material.

Cover openings with 1/8" metal screen to block fire brand sand embers from collecting under the home or deck.

Use non-flammable fencing if attached to the house such as metal.

"When considering improvements to reduce wildfire vulnerability, the key is to consider the home in relation to its immediate surroundings. The home's vulnerability is determined by the exposure of its external materials and design to flames and firebrands during extreme wildfires. The higher the fire intensities near the home, the greater the need for nonflammable construction materials and a resistant building design" – Jack Cohen, USDA-Forest Service

Use Rated Roofing Material. Roofing material with a Class A, B or C rating is fire resistant and will help keep the flame from spreading. Examples:

- ✓ Composition shingle
- ✓ Metal
- ✓ Clay
- ✓ Cement tile

Use Fire-Resistant Building Materials on Exterior Walls. Examples include:

- ✓ Cement
- ✓ Plaster
- ✓ Stucco
- ✓ Masonry (concrete, stone, brick or block)

While vinyl is difficult to ignite, it can fall away or melt when exposed to extreme heat.

Use Double-Paned or Tempered Glass. Double-pane glass can help reduce the risk of fracture or collapse during an extreme wildfire. Tempered glass is the most effective. For skylights, glass is a better choice than plastic or fiberglass.

Enclose Eaves, Fascias, Soffits and Vents. "Box" eaves, fascias, soffits and vents, or enclose them with metal screens. Vent openings should be covered with 1/8" metal screen.

Protect Overhangs and Other Attachments. Remove all vegetation and other fuels from around overhangs and other attachments (room additions, bay windows, decks, porches, carports and fences). Box in the undersides of overhangs, decks and balconies with noncombustible or fire-resistant materials. Fences constructed of flammable materials like wood should not be attached directly to the house.

Anything attached to the house (decks, porches, fences and outbuildings) should be considered part of the house. These act as fuel bridges, particularly if constructed from flammable materials.

1) If a wood fence is attached to the house, separate the fence from the house with a masonry or metal barrier.
2) Decks and elevated porches should be kept free of combustible materials and debris.
3) Elevated wooden decks should not be located at the top of a hill. Consider a terrace.

Use glass skylights; plastic will melt and allow embers into the home.

Enclose eaves and soffits.

Enclose under decks so fire brands do not fly under and collect.

Guide to Landscaping

The primary goal for Firewise landscaping is fuel reduction — limiting the level of flammable vegetation and materials surrounding the home and increasing the moisture content of remaining vegetation. This includes the entire 'home ignition zone' which extends up to 200 feet in high hazard areas.

Use the Zone Concept

Zone 1 is the 30 feet adjacent to the home and its attachments; Zone 2 is 30 to 100 feet from the home; Zone 3 is 100 to 200 feet from the home.

Zone 1 (All Hazard Areas) *This well-irrigated area encircles the structure and all its attachments (wooden decks, fences, and boardwalks) for at least 30 feet on all sides.*

1) Plants should be carefully spaced, low-growing and free of resins, oils and waxes that burn easily.
2) Mow the lawn regularly. Prune trees up six to ten feet from the ground.
3) Space conifer trees 30 feet between crowns. Trim back trees that overhang the house.
4) Create a 'fire-free' area within five feet of the home, using non-flammable landscaping materials and/or high-moisture-content annuals and perennials.
5) Remove dead vegetation from under deck and within 10 feet of house.
6) Consider fire-resistant material for patio furniture, swing sets, etc.
7) Firewood stacks and propane tanks should not be located in this zone.
8) Water plants, trees and mulch regularly.
9) Consider xeriscaping if you are affected by water-use restrictions.

Zone 2 (Moderate and High Hazard Areas) Plants in this zone should be low-growing, well-irrigated, and less flammable.

1) Leave 30 feet between clusters of two to three trees, or 20 feet between individual trees.
2) Encourage a mixture of deciduous and coniferous trees.
3) Create 'fuel breaks,' like driveways, gravel walkways and lawns.
4) Prune trees up six to ten feet from the ground.

Zone 3 (High Hazard Areas) Thin this area, although less space is required than in Zone 2. Remove smaller conifers that are growing between taller trees. Remove heavy accumulation of woody debris. Reduce the density of tall trees so canopies are not touching.

Maintaining the Firewise Landscape

- ✓Keep trees and shrubs pruned six to ten feet from the ground.
- ✓Remove leaf clutter and dead and overhanging branches.
- ✓Mow the lawn regularly and dispose of cutting and debris promptly.
- ✓Store firewood away from the house.
- ✓Maintain the irrigation system regularly.
- ✓Familiarize yourself with local regulations regarding vegetative clearance, debris disposal, and fire safety requirements for equipment.

Use grass and driveways as fuel breaks from the house.

Use faux brick and stone finishes and high-moisture-content annuals and perennials.

Use groupings of potted plants that include succulents and other drought resistant vegetation.

Create a cinder block wall around the perimeter of your yard and use grass and stone to break up the landscape.

The use of pavers and rock make for a pleasing effect and creates a fuel break.

I can make my home Firewise® by:

Use sprinklers or garden hoses regularly to keep vegetation moist.

Use a concrete patio instead of a wooden deck and rubber mats instead of natural fiber.

Use pebbles instead of mulch near the home's foundation where possible.

FWC-200-08-PH

OUTSIDE

1 Design/Construction

(For new Wildland/Urban Interface Construction or Remodel)

- Use ignition resistant construction (effective January 1, 2008) for roof/roof assemblies, gutters, vents, decks, exterior walls, exterior windows
- Enclose the underside of eaves, balconies and above ground decks with fire resistant materials
- Show your 100 foot Defensible Space on plot plan
- Build your home away from ridge tops, canyons and areas between high points of a ridge
- Consider installing residential sprinklers
- Make sure that electric service lines, fuse boxes and circuit breaker panels are installed and maintained per code
- Contact qualified individuals to perform electrical maintenance and repairs

2 Access

- Make sure that your street name sign is visibly posted at each street intersection
- Post your house address so it is easily visible from the street, especially at night
- Address numbers should be at least 3 inches tall and on a contrasting background
- Identify at least two exit routes from your neighborhood
- Clear flammable vegetation at least 10 feet from roads and five feet from driveways
- Cut back overhanging tree branches that cross roads
- Construct roads that allow two-way traffic
- Make sure dead end roads, and long drive ways have turn-around areas wide enough for emergency vehicles
- Design bridges to carry heavy emergency vehicles
- Post clear road signs to show traffic restrictions such as dead-end roads, and weight and height limitations

3 Roof

- Install a fire resistant roof. Contact your local fire department for current roofing requirements
- Remove dead leaves and needles from your roof and gutters
- Remove dead branches overhanging your roof and keep branches 10 feet from your chimney
- Cover your chimney outlet and stovepipe with a nonflammable screen of 1/2 inch or smaller mesh

4 Landscape

- Create a **Defensible Space** of 100 feet around your home. It is required by law
- Create a **"LEAN, CLEAN and GREEN ZONE"** by removing all flammable vegetation within 30 feet immediately surrounding your home
- Then create a **"REDUCED FUEL ZONE"** in the remaining 70 feet or to your property line

  You have two options in this area:

  A. Create horizontal and vertical spacing between plants. The amount of space will depend on how steep your property is and the size of your plants.

  B. Large trees do not have to be removed as long as all of the plants beneath them are removed.
- Remove lower tree branches at least six feet from the ground
- Landscape with fire resistant plants
- Maintain all plants with regular water, and keep dead branches, leaves and needles removed
- When clearing vegetation, use care when operating equipment such as lawnmowers. One small spark may start a fire; a string trimmer is much safer

5 Yard

- Stack woodpiles at least 30 feet from all structures and remove vegetation within 10 feet of woodpiles
- Above ground Liquefied Petroleum Gas (LP-gas) containers 500 or less water gallons shall be located a minimum of 10 feet with respect to buildings, public ways, and lot lines of adjoining property that can be built upon. - CFC 3-013
- Remove all stacks of construction materials, pine needles, leaves and other debris from your yard
- Contact your local fire department to see if debris burning is allowed in your area; if so, obtain a burning permit and follow all local air quality restrictions

6 Emergency Water Supply

- Maintain an emergency water supply that meets fire department standards through one of the following:
  - a community water/hydrant system
  - a cooperative emergency storage tank with neighbors
  - a minimum steady supply of 2,500 gallons on your property like a pond or pool
- Clearly mark all emergency water sources
- Create easy firefighter access to your chosen emergency water source
- If your water comes from a well, consider an emergency generator to operate the pump during a power failure

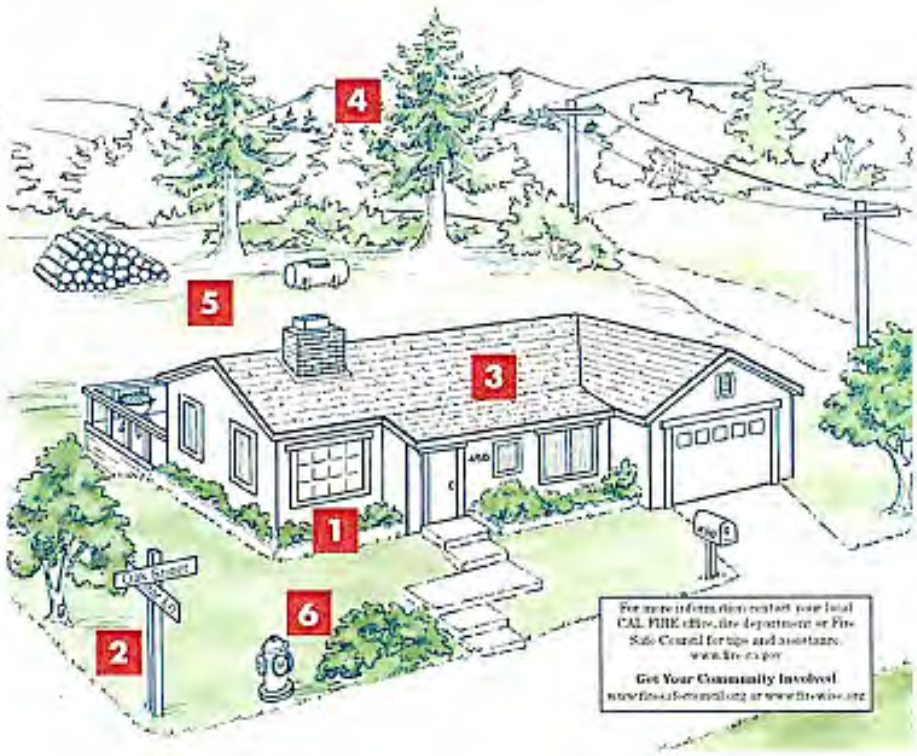
March 2009

California Department of Forestry and Fire Protection

Homeowners Checklist

www.fire.ca.gov

How To Make Your Home Fire Safe



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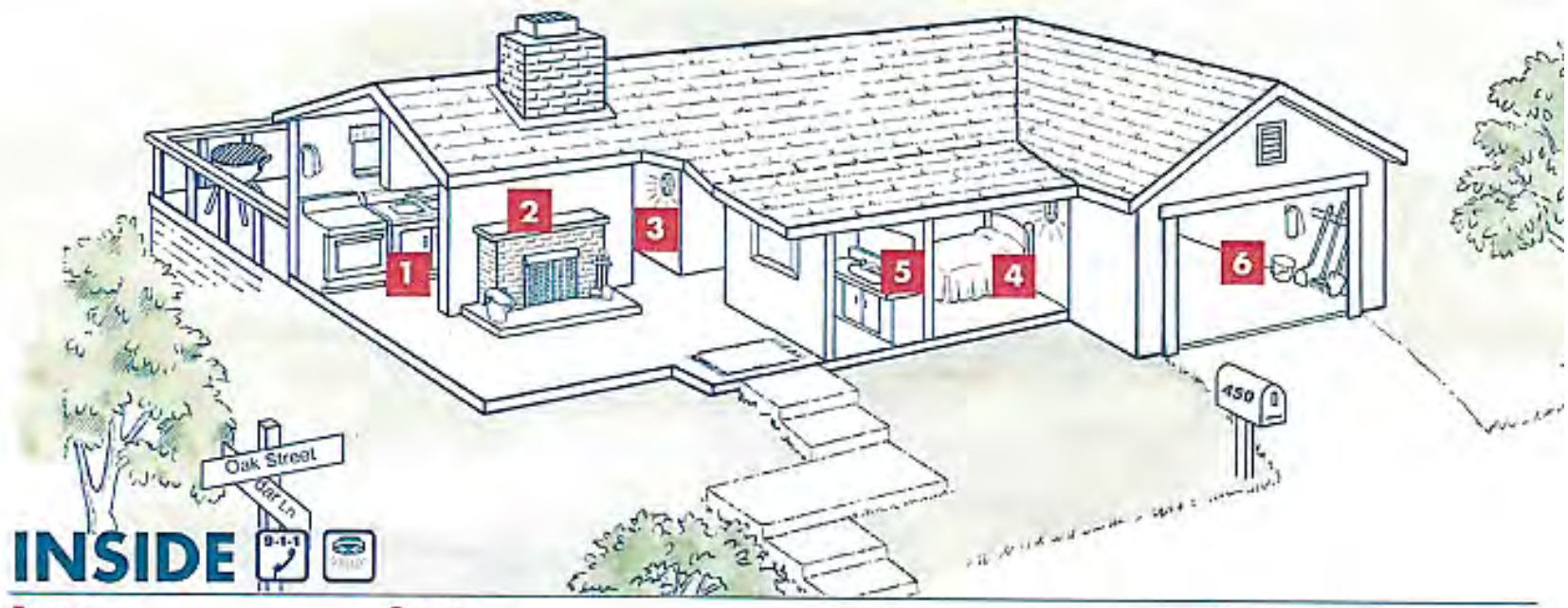


INSIDE

1 Kitchen

- Keep a working fire extinguisher in the kitchen
- Maintain electric and gas stoves in good operating condition
- Keep baking soda on hand to extinguish stove-top grease fires
- Turn the handles of pots and pans away from the front of the stove
- Install curtains and towel holders away from stove burners
- Store matches and lighters out of reach of children
- Make sure that electrical outlets are designed to handle appliance loads

2 Living Room

- Install a screen in front of fireplace or wood stove
- Store the ashes from your fireplace (and barbecue) in a metal container and dispose of only when cold
- Clean fireplace chimneys and flues at least once a year

3 Hallway

- Install smoke detectors between living and sleeping areas
- Test smoke detectors monthly and replace batteries twice a year, when clocks are changed in the spring and fall
- Replace electrical cords that do not work properly, have loose connections, or are frayed

4 Bedroom

- If you sleep with the door closed, install a smoke detector in the bedroom
- Turn off electric blankets and other electrical appliances when not in use
- Do not smoke in bed
- If you have security bars on your windows or doors, be sure they have an approved quick release mechanism so you and your family can get out in the event of a fire

5 Bathroom

- Disconnect appliances such as curling irons and hair dryers when done; store in a safe location until cool
- Keep items such as towels away from wall and floor heaters

6 Garage

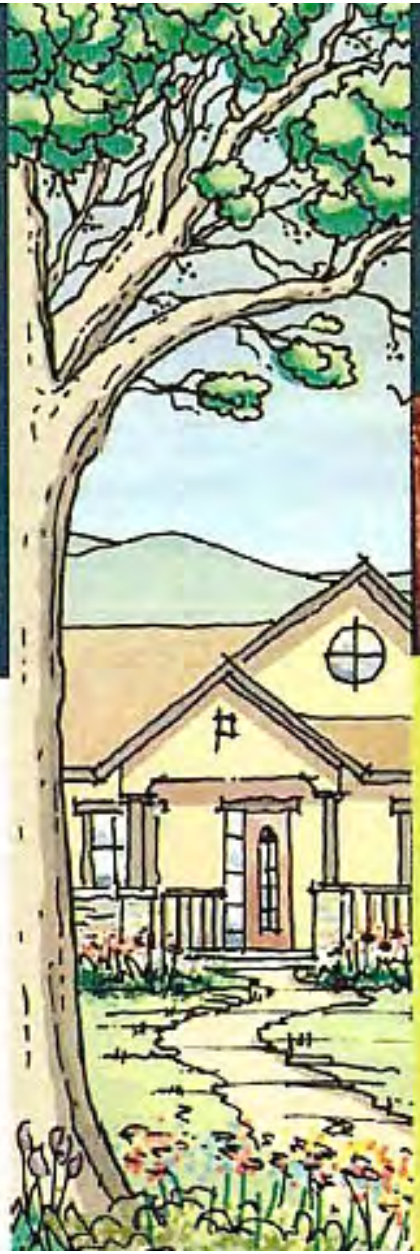
- Mount a working fire extinguisher in the garage
- Have tools such as a shovel, hoe, rake and bucket available for use in a wildfire emergency
- Install a solid door with self-closing hinges between living areas and the garage
- Dispose of oily rags in Ⓤ Underwriters Laboratories approved metal containers
- Store all combustibles away from ignition sources such as water heaters
- Disconnect electrical tools and appliances when not in use
- Allow hot tools such as glue guns and soldering irons to cool before storing
- Properly store flammable liquids in approved containers and away from ignition sources such as pilot lights

*Disaster Preparedness

- Maintain at least a three-day supply of drinking water, and food that does not require refrigeration and generally does not need cooking
- Maintain a portable radio, flashlight, emergency cooking equipment, batteries and batteries
- Outdoor cooking appliances such as barbecues should never be taken indoors for use as heaters
- Maintain first aid supplies to treat the injured until help arrives
- Keep a list of valuables to take with you in an emergency; if possible, store these valuables together
- For safety, securely attach all water heaters and furniture such as cabinets and bookshelves to walls
- Have a contingency plan to enable family members to contact each other. Establish a family/friend phone tree
- Designate an emergency meeting place outside your home
- Practice emergency exit drills at the house (EDITH) regularly
- Make sure that all family members understand how to STOP, DROP AND ROLL if their clothes should catch fire

WHY 100 FEET?...

...Because Defensible Space is YOUR responsibility



WHY 100 FEET?...

Protect Your Home... and Property.

Contact your local CAL FIRE office, fire department, or Fire Safe Council for tips and assistance.

www.fire.ca.gov

WHEN CREATING DEFENSIBLE SPACE, KEEP THESE SAFETY TIPS IN MIND:

- All equipment with an internal combustion engine must be equipped with an approved and operable spark arrestor.
- Metal blades striking rocks can create sparks and start fires. Use caution.
- To protect water quality and habitat do not remove vegetation associated with water, avoid using heavy equipment near waterways and do not clear vegetation near waterways to the bare mineral soil. Keep soil disturbance to a minimum.

OTHER HINTS TO SECURE A LEAN, CLEAN AND GREEN ZONE:

- Select less flammable plants for your Lean, Clean and Green Zone:

  Shorter plants (less than 2 feet) are safer than taller ones.

  If kept green, herbaceous plants (grass and non-woody flowers) are better choices than shrubs and trees.

  If planting shrubs and trees, choose deciduous (trees that shed their leaves) ones over evergreens. Avoid planting juniper, pine and palms.
- Remove tree limbs that are touching the house or deck, or are within 10 feet of the chimney. If limbs are encroaching on overhead lines, contact your telephone or power company for removal.
- Use hard surfaces (concrete, stone, asphalt, brick, etc.) in your landscaping.
- Clear ALL flammable vegetation from within 10 feet of propane tanks.

YOUR RESPONSIBILITY:

California law (PRC 4291) requires property owners and/or occupants to create 100 feet of DEFENSIBLE SPACE around homes and buildings *

YOUR GOAL — TO CREATE A:

Lean, Clean and Green Zone

An area of 30 feet immediately surrounding your home.

Reduced Fuel Zone

The fuel reduction zone in the remaining 70 feet (or to the property line).

**Compliance to PRC 4291 is required by any person who owns, leases, controls, operates or maintains a building or structure in or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands or any land that is covered with flammable material and is within the State Responsibility Area. PRC 4291 requires 100 feet of Defensible Space or to the property line if less than 100 feet from every building or structure that is used for support or shelter of any use or occupancy.*

Owner, lessee or operator must also comply with all existing environmental protection laws and must obtain all necessary permits. Contact your local resource or planning agency officials to ensure compliance with federal, state and local requirements.

TWO ZONES MAKE UP THE REQUIRED 100 FEET OF DEFENSIBLE SPACE.

1. Lean, Clean and Green Zone

An area of 30 feet immediately surrounding your home.

2. Reduced Fuel Zone

The fuel reduction zone in the remaining 70 feet (or to the property line).

COMPLY WITH THE LAW AND HELP SAVE YOUR HOME BY CREATING DEFENSIBLE SPACE.

Follow these guidelines:

1. Create a Lean, Clean and Green Zone

Remove all flammable vegetation and any dead or dying plants within 30 feet of each building or structure.

You may keep single trees or other vegetation that are trimmed of all dead and dying foliage and are well pruned and maintained.

2. Decrease Fuel in the Reduced Fuel Zone

Surface litter consists of fallen leaves, needles, twigs, bark, cones, pods, small branches, etc. Remove loose surface litter so it does not exceed a depth of three inches.

Make It Safe: Logs, Stumps and Snags

- All logs and stumps should be removed unless they are embedded in the soil. If you keep an embedded log, remove nearby vegetation.
- A standing dead tree (snag) may be kept for wildlife providing there is only one snag per acre, and if the snag were to fall, it would not reach buildings or structures and would not land on roadways or driveways.

Provide Fuel Separation and Treatment

- Guidelines for fuel treatment as published by CDF are designed to reduce the spread of wildfires.
- Choose option 2a or 2b. The best option for your property will be based on its characteristics (slope, vegetation size, vegetation type-brush, grass, trees, etc. — and other fuel characteristics). Properties with greater fire hazards will require larger separation between fuels. For example, a property on a steep slope with larger vegetation will require greater spacing between trees and shrubs than a level property that has small, sparse vegetation.