INITIAL STUDY AND ENVIRONMENTAL CHECKLIST FOR
Rolling Meadow Ranch LLC
Humboldt County, California

November 25, 2020

Lead Agency: Humboldt County
Lead Agency Contact: Meghan Ryan, Senior Planner

Prepared by:
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I. PROJECT SUMMARY

Project Title:
Rolling Meadow Ranch, LLC, Conditional Use Permits

Humboldt County Commercial Medical Marijuana Land Use Ordinance Record Number:
PLN-12529-CUP

Associated Assessor's Parcel Numbers:
217-022-004, 217-201-001, 211-281-006, 217-181-017

Affected Parcels:
Legal Parcel 1
Development Proposed on APN: 217-181-028, 217-201-001

Lead Agency:
County of Humboldt Planning and Building Department, Cannabis Services Division 3015 H St, Eureka, CA 95501; phone 707-445-7541, fax 707-268-3792

Contact Person:
Meghan Ryan, Senior Planner, Humboldt County Planning and Building Department Cannabis Services Division, 707-441-2622, mryan2@co.humboldt.ca.us

Project Contact:
Prairie Moore, Natural Resources Management Corporation, 707-442-1735, pmoore@nrmcorp.com

Project Sponsor:
Mr. Andrew Machata, 3060 Airport West Drive Vero Beach, FL 32960

Location:
McCann, Humboldt County, California Meyers Flat Quadrangle Approximately 5 miles East of Hwy 101 North of the main stem of the Eel River.

Zoning:
Parcel 1: (AE-B and TPZ) Agriculture Exclusive, Special Building Site and Timber Production Zone.

General Plan Designation:
Parcel 1: Agricultural Grazing (AG).

Coastal Zone: No

Slope Stability Rating:
Parcel 1: Moderate Instability (2) with some low to moderate instability (C).

Possible Permits and Approvals:
RWQCB 401 and Cannabis Enrollment
Humboldt County: Grading Permit / CMMLUO
CDFW: Lake and Streambed Alteration Agreement 1600

CEQA Requirement:

This project is subject to the requirements of the California Environmental Quality Act (CEQA). The Lead Agency is the Humboldt County. The purpose of this Initial Study is to provide a basis for deciding whether to prepare an EIR or a Negative Declaration. This Initial Study is intended to satisfy the requirements of the California Environmental Quality Act, CEQA, (Public Resources Code, Div 13, Sec 21000-21177), the State CEQA Guidelines (California Code of Regulations, Title 14, Sec 15000-15387.

CEQA encourages lead agencies and applicants to modify their projects to avoid significant adverse impacts (CEQA Section 20180(c) (2) and State CEQA Guidelines Section 15070(b) (2)).

Section 15063(d) of the State CEQA Guidelines states that an Initial Study shall contain the following information in brief form:

1) A description of the project including the location of the project;
2) An identification of the environmental setting;
3) An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
4) A discussion of the ways to mitigate the significant effects identified, if any;
5) An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls
6) The name of the person or persons who prepared or participated in the Initial Study.

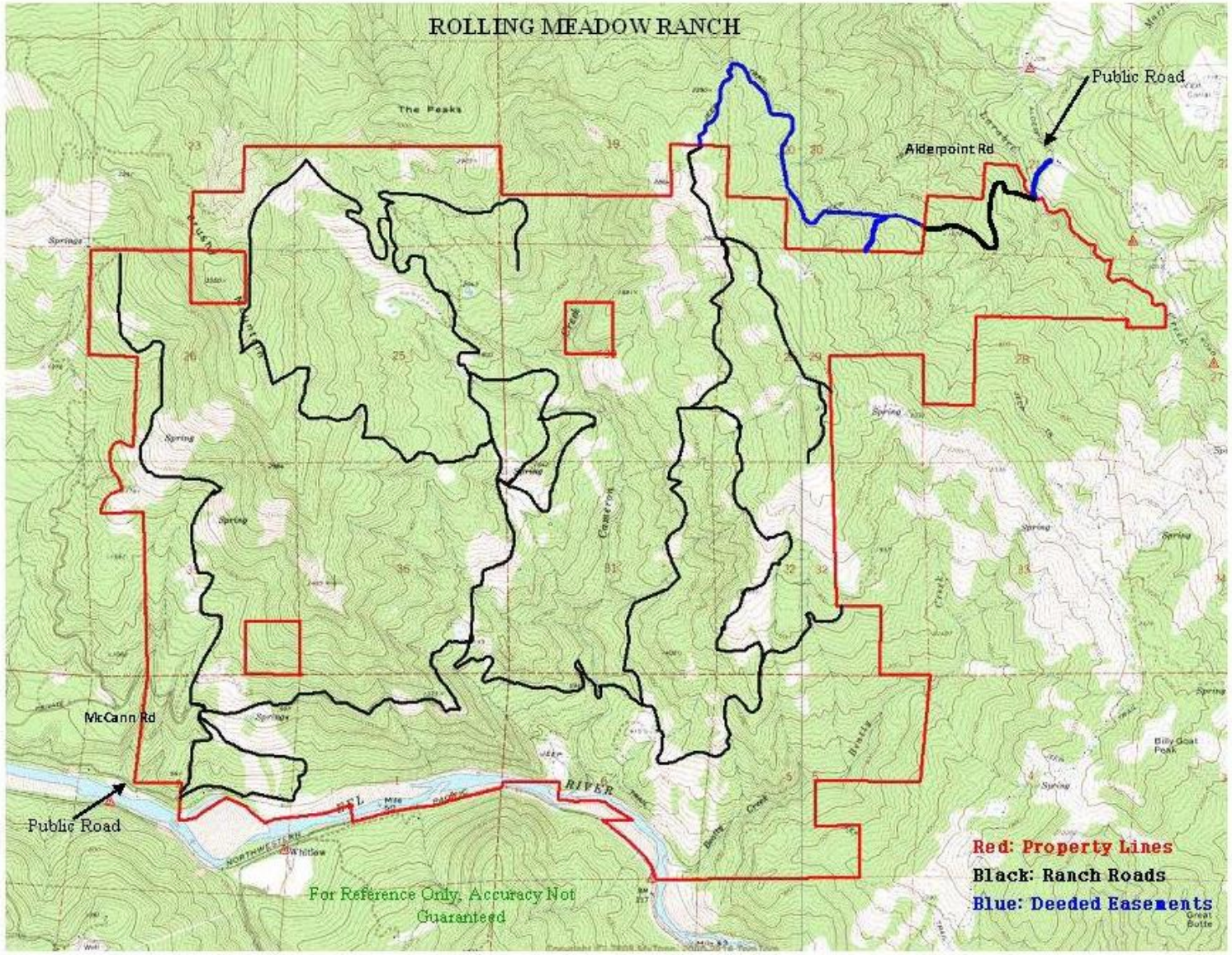


Figure 1. Rolling Meadow Ranch total acreage (7110 acres) and all roads.

II. PROJECT DESCRIPTION

General Project Description

The project is located on the main stem of the Eel River in southern eastern Humboldt County. In its entirety, Rolling Meadow Ranch is comprised of 7,110 acres of agricultural and timber land (Figure 1, 2). The legal parcel, Parcel 1, on which the cannabis cultivation will be located, is approximately 1,632 acres. The proposed project, to be located on Parcel 1, consists of 16 greenhouses, five trimming and drying buildings with restrooms, herein known as, 'processing buildings,' five associated septic systems, and three wells. The 16 greenhouses are located in four geographically separate areas. These four cultivation areas will be located on one legally combined unit, totaling 1632 acres of land, herein known as 'Parcel 1.' The 16 greenhouses, five (5) drying and trimming buildings with restrooms, and five (5) septic systems will be constructed. The three (3) wells have already been installed on Rolling Meadow Ranch.

Facilities #1 and #2 are mixed light greenhouses. Facility #1 and #2 are 19,656 square foot greenhouses designed by Gro-Tech Systems Inc.; the total greenhouse facility space is 39,312 sq. ft. The site is expected to yield approximately 32,236 sq. ft. of cannabis cultivation space (factors out areas, like pathways, that are within the greenhouse but are not planted). Water for irrigation will come from a well located to the north of Facilities #3-5. Facilities #1 and #2 will each have 20,000 gallons (four (4) 5,000-gallon tanks) of hard sided rainwater catchment tanks. On the west side of Facility #2, the project will locate a 45KW emergency standby generator and water pump. On the west side of Facility #1 and #2, the project will locate a stabilized parking area with twenty (20) parking spaces. To the north of Facility #1 and #2, the project will install one 4,500 square foot processing building with restrooms, a septic tank and leach field, and, on the northwest side of the processing building, a 100 sq. ft. covered compost building.

Facility #3, #4 and #5 are mixed light greenhouses located north of Facilities #1 and #2. Each facility is a 19,584 square foot greenhouse designed by Gro-Tech Systems Inc.; the total greenhouse facility space is 58,752 sq. ft. The site is expected to yield approximately 48,177 sq. ft. of cannabis cultivation space (factors out areas, like pathways, that are within the greenhouse but are not planted). At this site, one septic system will be installed as well as one 6,000 square foot processing building with restrooms. The project will locate a 100 sq. ft. covered compost building on the southeast side of the processing building. Water for irrigation and building needs will come from a well located north, northwest of Facility # 5. The well, labeled 'Well 3,' will have a 5,000-gallon transfer tank adjacent to it. Facilities #3, #4, and #5 will each have 20,000 gallons (four (4) 5,000-gallon tanks together) of hard sided rainwater catchment tanks. Near Facility #3, the project will locate a 45KW emergency standby generator and water pump. To the north of Facility #3, the project proposes a stabilized parking area with five (5) parking spaces.

Facilities #6, #7, #8, and #9 are mixed light greenhouse located to the east of Facilities #1-6. Facility #6 - #8 are all 17,280 sq. ft. greenhouses. Facility #9 is a 19,548 sq. ft. greenhouse. All greenhouses are designed by Gro-Tech Systems Inc. The total facility space will be 71,424 sq. ft. The site is expected to yield approximately 58,567 sq. ft. of cannabis cultivation space (factors out areas, like pathways, that are within the greenhouse but are not planted). At this site, one septic system will be installed as well as one 8,250 sq. ft. processing building with restrooms. A 100 sq. ft. covered composting building will be established on the northeast side of Facility #8. Water for irrigation and building needs will come from a well, labeled Well 2, located west, northwest of this site. A 5,000-gallon transfer tank will be located adjacent to the well. Facilities #6, #7, #8, and #9 will each have 20,000 gallons (four (4) 5,000-gallon tanks together) of hard sided rainwater catchment tanks. On the east side of Facility #7, the project will locate a 45KW emergency standby generator and water pump. To the east of Facility #7 and

#8, the project proposes a stabilized parking area with five (5) parking spaces.

Facility #10 through #16 are all mixed light greenhouses. Facilities #10 - #15 are 19,584 sq. ft. in size; Facility #16 will be 17,568 sq. ft. All greenhouses are designed by Gro-Tech Systems Inc. The total facility space will be 135,072 sq. ft. The site is expected to yield approximately 110,759 sq. ft. of cannabis cultivation space (factors out areas, like pathways, that are within the greenhouse but are not planted). At this site, two septic systems will be installed as well as one (1) 7,000 square foot processing building with restrooms and one (1) 8,000 sq. ft. processing building with restrooms. West of Facility #11 and east of the 7,000 sq. ft. processing building, the project will establish a 100 sq. ft. covered composting building. Water for irrigation and building needs will come from a well, labeled Well 1, located north, northeast of this site. A 5,000-gallon transfer tank will be located adjacent to the well. All greenhouses, Facilities #10 through #16 will each have 20,000 gallons (four (4) 5,000-gallon tanks together) of hard sided rainwater catchment tanks. Near facility #10, the project will locate a 45KW emergency standby generator and water pump. To the east of Facility #15, the project proposes a stabilized parking area with five (5) parking spaces.

The total proposed square footage for all cannabis facility space (Facilities #1-#16 combined) is 304,560 square feet (7.04 acres). The total area dedicated to cannabis cultivation will be approximately 249,739sq. ft. (5.73 acres).

Proposed Infrastructure

Greenhouse and building locations are shown on the plot plans in Appendix A. Greenhouses will be professionally built, steel framed structures with ridged corrugated poly carbonate siding. They will be equipped with air ventilation systems and automatic blackout tarp systems. The greenhouse floors will not be hardened. Each processing building will be a steel building with a concrete slab foundation. The processing buildings will be built to county building and fire code standards (including those for buildings in Very High Fire Severity Zones). Figure 15 shows the proposed layout of each drying and trimming building. Each building will have both a women's and men's ADA accessible bathroom with an adjacent septic tank and leach field. Cut and fill amounts for proposed grading to flatten the greenhouse and building pads will be balanced so that all the cut material is incorporated into the project area (see grading evaluation Appendix B).

Electrical

The electricity needed for this project will be supplied by PG&E. There is PG&E infrastructure currently located on the south side of Rolling Meadow Ranch property near the Eel River. This power is strung above ground on poles. Additional infrastructure will be run from this existing section to the proposed greenhouses and processing buildings North and then East. All new electrical lines will be buried under existing Ranch Roads and within the existing road prism. See Electric Exhibit Figure 14 below for the detailed power line routes. Power will be supplied by the local utility Redwood Coast Energy Authority (RCEA) Community Choice Energy (CCE), Repower Plus Program. This program will allow the proposed project to purchase on-grid power with 100% renewable energy resources.

Roads and Access

There is approximately 4.2 miles of road connecting all proposed cannabis facilities that will see routine use during project operations. The total extent of all internal road length is approximately 12.9 miles. All internal roads will observe a 15 mph speed limit. There are two routes that will be used to access the internal roads and all proposed development on Rolling Meadow Ranch. The southern and primary access is McCann Road via Dyerville Loop Road. This route will be used in the dry season when the low water bridge over the Eel River is available. The northern, winter access, is Alderpoint Road. The Alderpoint Rd. route will be used when the low water bridge over the Eel River is not available. When the Eel River flow volume increases to 3,500 cubic feet per second (cfs),

typically late November through late April, Humboldt county closes the low water McCann Bridge and vehicle traffic across the bridge is not possible (Personal Communication Tony Seghetti, Humboldt County Public Works). The county will be replacing the low water bridge with a year-round bridge (www.mccannbridge.com); the estimated year of completion is 2025. Ultimately, once the new McCann Bridge project is complete the southern access via McCann Road will be the primary project access.

McCann Road, southern access:

The southern access route to the project Facilities from the Highway 101 is the Dyerville Loop Road to McCann Rd and onto private Rolling Meadow Ranch property. The project's southern access will be Dyerville Loop Road to McCann Road. Both roads are maintained by the county. Humboldt County Planning and Building Department has confirmed that use of Dyerville Loop Road and the first 1.5 miles of McCann Road from its intersection from Dyerville Loop Road are approved for use by the Humboldt County Public Works Department for commercial cannabis operations as the roads meet the functional capacity of a Category 4 road (HCP&BD communication). With the removal or modification of an existing gate (pinch point), the additional length of McCann road, from the end of the 1.5 miles to the project boundary, will meet Category 4 equivalency (Northpoint Consulting, 2020; Appendix C).

The length of road traveled on the Dyerville Loop from Hwy 101 to McCann Rd. is approximately 8 miles. The length of McCann Road to the property line is approximately 2.6 miles. From the end of the county road (McCann), the length of the private ranch road to the nearest project facility (Facility #1) is approximately 0.8 miles. The length of the private ranch road to the furthest project facility (Facility #16) is approximately 5 miles. Employees will enter the property and park their personal vehicles designated parking areas near Facility #1. Near the parking areas, an existing turnaround will be utilized by an electric bus that will transport the employees to and from the work sites. This will greatly limit the traffic on the private roads.

Alderpoint Road, northern access:

Alderpoint Road will provide cannabis project access when the low water bridge over the Eel River (McCann access) is not available (typically late November through late April). It will also provide access for anticipated timber harvesting on the ranch property. Due to the winter use of the Alderpoint Road access for cannabis operations, the project does not anticipate a conflict with timber harvest traffic as timber harvesting is not a rainy season process.

Alderpoint Road is a major rural collector for Humboldt county with speeds up to 45 mph. This road is paved and has a centerline and meets category four road standards and is therefore appropriate for commercial cannabis traffic. During project operations, employees traveling on this road are expected to travel anywhere from eight (8) miles (Bridgeville, or Blocksburg) to around 38 miles (Garberville) to reach the entrance to the private ranch road. From the intersection of Alderpoint Rd., project traffic accesses the project areas through a combination of travel on property roads and deeded easements (Figure 1). From Alderpoint Rd., the length traveled on interior project roads and easements to the nearest Facility (Facility #16) is 8 miles; the length of the interior roads traveled to the furthest Facility (Facility #1) is approximately 12.3 miles.

<u>Construction Phase</u>

Facilities and Infrastructure

Earth moving and pad building will take place during dry periods spring through fall. Construction will take place during daylight hours only; no lighting is proposed for construction period. Construction of the greenhouse and building flats will happen concurrently with the road improvements. It will take approximately 8-12 weeks to

complete the proposed grading for the for the greenhouses, processing buildings, power and access improvements. Additional construction (greenhouse erection, plumbing, wiring, etc.) will take place over time as power becomes available and greenhouses are phased in. Equipment used during the earthwork construction may include, backhoe, excavator, bulldozer, compaction roller, dump trucks, concrete trucks, water truck, and power tools. If any equipment is stored on site a drip pan will be placed underneath it. Fuel for the equipment will either not be stored on site or it will be stored onsite in secondary containment. All fuel storage will be removed when construction is complete. Standard BMPs will ensure that 1) fueling for all vehicles and equipment will take place away from any wetland; 2) all heavy equipment on site will be inspected in case of hydraulic leaks, oil leaks, etc. Equipment will reach the site using the McCann Road and the existing network of facility access roads on the property (Figure 13).

The roads, construction sites and associated temporary construction stockpiles will be watered as necessary to keep dust down. Water used for dust abatement will come from project wells and be administered with a water truck provided by the contractor. During the construction phase porta potties including bathrooms and handwashing stations will be provided for construction workers, bottled water will be provided for drinking water. Cut and fill amounts for proposed grading to flatten the greenhouse and building pads will be balanced so that all the cut material is incorporated into the project area (Grading Estimate; Appendix B). Following construction of all infrastructure, all areas of bare dirt will be seeded with grass seed (no species on the California invasive list will be included in this mix; and covered with two inches of weed free straw. If necessary, the straw will be held down by a tackifier. A total of four (4) native trees will be removed as a result of facility construction (Table 1, Agriculture and Forestry). Drainage structures such as French drains, settling areas, and infiltration zones will be engineered into the flat designs for the greenhouses and buildings per the specifications of the designing engineer. These will be designed to manage the erosion potential of stormwater runoff from roads and from the overflow of the planned rainwater catchment tanks.

Internal Roads

Road maintenance work recommended by Oscar Larson and Associates in their 2019, *Supplemental Internal Road Evaluation Reports*, was completed on most ranch roads during the summer of 2019. Completed road maintenance included brushing, blading, and rocking of some internal ranch roads. All work was completed inside of the existing road prism. Additional road improvements on internal roads are needed to meet Humboldt county and Fire Safe standards. On the 12.9 miles of internal road, 34 of 45 identified crossings will be improved and some widening and realignment as well as additional rocking and general brushing will occur.

Natural Resources Management Corp. carried out stream crossing investigations in Oct 2020 on the internal access roads (Appendix K). Crossings on the Rolling Meadows Ranch roads that do not access proposed cultivation sites were not inspected; crossings on sections of road not owned by Rolling Meadow Ranch (deeded easements) were not inspected as the crossings were evaluated and will be improved per the ongoing Jets Timber Harvest Plan (THP 1-19-00119HUM; Appendix K). A total of 45 crossings (including two existing bridges) were identified in the internal ranch road between the McCann and Alderpoint road access points. It was determined that 34 of the 44 crossings were in need of culvert installation, replacement or other repairs (Appendix K). A Lake or Streambed Alteration Notification will be prepared for these 34 crossing repairs and submitted to the California Department of Fish and Wildlife (CDFW). One bridge is a one-lane steel bridge over Cameron Creek; it is in good condition. The second bridge is over Larabee Creek. A separate permit for the bridge over Larabee Creek (Alderpoint Access) has already been issued by CDFW (LSA no. 1600-2020-0285-R1; Appendix K) as the bridge improvement is a part of ranch operations that will progress independently of this cannabis project. The crossing improvement project will impact a total of 369.8 linear feet (717.7 square feet) of channel that is not currently impacted by existing road prism. A maximum total of 10 trees (all currently located within the existing road prism) will be removed as a result of stream crossing improvements (Table 2, Agriculture and Forestry Resources).

Road evaluations for a section of the public access road, McCann road and additional internal road evaluations were performed in 2020 by Northpoint Consulting Group. Road evaluations are found in Appendix C. The 2020 evaluations capture the most recent access layouts and updated road conditions with recommendations for improvements. All recommended improvements, excluding RP 4, RP 6 through RP 16, and RP 53, can be performed within the existing road prism and disturbed areas. The access road section between RP 6 and RP 16 will need minor re-alignment in some sections and widening that will require earthwork. The interior roads will require widening at four (4) points, realignment at four (4) points, and turnout installation at one (1) point. The nine (9) work points will impact approximately 2,205 feet of road and an approximate total disturbance area of 13,350 square feet. A maximum total of 10 trees will be removed as a result of road improvements at the nine (9) work points (Table 3, Agriculture and Forestry). All other road improvements will not impact surrounding trees or water courses. This work includes brush removal, leveling of existing turnouts, and will also include some road rocking.

Ongoing Project Operations

All cultivation sites will be run in a similar manner; all green houses are mixed light facilities. From project initiation, as they are phased in all greenhouses will operate year-round. Under year-round operations, the project will have a maximum of four cycles per year, and employees will be onsite year-round. There is no fixed calendar schedule that applies to any single green house. They will be staggered so that they harvest at different times allowing for staggered processing. Within an individual greenhouse the plants will be grown in vegetative growth (18 hours of light from a mix of natural and supplemental light, the amount of supplemental light needed will depend on the time of year) for three weeks to a month. The greenhouse will then be switched to flower with 12 hours of light supplied for 7 to 10 weeks depending on the strain of cannabis cultivated. During the winter months supplemental light will be used during this 12-hour flowering stage. At the height of summer light depravation may be used to limit the day length to 12 hours. All greenhouses will be equipped with an automated blackout curtain. The curtain will be used one hour before sunset till one hour after sunrise whenever any supplemental light is used in the greenhouse. The curtain will also be used for light depravation (eliminating natural light from the greenhouse) if it is in flower during the early summer. All greenhouses will be powered by commercial electric service from the grid. Grow lights, powered by the grid, will be used to supplement natural sunlight for both vegetation and flowering. Each greenhouse will use approximately 440kw of energy to supply 12 hours of light. The use will vary throughout the year based on sunlight availability as described above. Power will be supplied by the local utility. The greenhouses will not be heated. Supplies (such as nutrients, pesticides, etc.), will be trucked into the site in a delivery box truck. This same truck will be used to haul processed product off site for distribution. It is estimated that on average, one to two round trip truck trips per week will be needed to remove waste, bring in supplies, and transport finish product. Supplies will be sourced from the local surrounding communities of Fortuna and Garberville.

Generators

The only generators that will be utilized by the project will be standby in case of a power failure during a fire. Generators will only be used to run water pumps for fire suppression. Generators will not be used to power grow lights. Each grouping of Facilities (Facilities #1-2; #3-5, #6-9, #10-16) will have one standby generator. The standby generators used will be 45KW, 90 HP Generac propane generators. There will be a total of four (4) standby generators for the overall project. These generators are designed to attenuate noise and are rated at 73 dBA at 23ft when operating at a normal load. According to the manufacture when running at 25% of the rated load the generator will use 2.3 gallons of propane per hour. When running between 50 and 75% of the rated load the generator will used approximately 5.5 gallons of propane per hour. Each generator will be hooked to a 500-gallon propane tank. These tanks will be buried in the ground near the generator. This will allow the generator to

run the emergency water pumps for 90 to 217 hours water for fire suppression if needed. Propane tanks will be located near the generators. According to the manufacture, in order to maintain readiness, the generators will automatically turn on and run for five minutes every two weeks. This "exercise cycle" runs the generator at a lower,180 RPMs. As a result, it uses less fuel (0.7 gal per hour) and has a lower decibel output (61 dBA at 23 ft) during the "exercise cycle". To maintain readiness each generator would run for a five minute interval 26 times a year, for a yearly total of 130 minutes (or 2 hour and 10 minutes). This would consume 1.5 gallons of propane a year. If no fires occur, generators will not run apart from the "exercise cycle," and the 500 gallon tanks will not require refilling until the year 2119.

Noise

This project will use grid power for daily operations; the only noise that the project will generate from ongoing project operations apart from the infrequent driving of the electric bus and human conversation will come from the working components of the greenhouses (dehumidifiers and fans). In general, greenhouse components with the most potential noise pollution are the fans. The project will limit fan noise by design. In each greenhouse bay end wall, the project will use (2) two Quietaire 56-inch, 1.5hp fan; in each greenhouse bay gable, the project will use one (1) Quietaire 30-inch 1/2hp fan. According to sound testing (see Appendix D), at 100% speed, the 56-inch fans will produce an overall sound level of 47dB at a distance of 20-feet from the fan. The 30-inch gable fan will produce a sound level of 35 dBA at 10-feet. At the closest property boundary, approximately 260-feet away from Facility #2, the sound level (dBA) produced by the fans would be between 23 and 29. At the closest property boundary, approximately 260-feet away from Facility #2, the sound level (dBA) produced by the fans and generator running in exercise mode will be 43.5dBA. The noise will be well within the 60dBA at the property boundary, per the county requirement (Ordinance 2559).

The noise during the construction period will primarily come from the use of heavy equipment during the initial phase (trenching for electric lines, grading roads and flats and application of gravels). This phase will last approximately 8-12 weeks. All outdoor construction activity and use of heavy equipment will take place between 7:00 a.m. and 6:00 p.m., Monday through Friday, and between 9:00 a.m. and 6:00 p.m. on Saturday and Sunday. Apart from the grading for Facilities #1 and #2 and construction of the 20-space parking area and bus turnaround, the work for the cannabis operations will be concentrated at locations away from the property boundary. Facilities #1 and #2 are the closest greenhouses to the property boundary; at around 260-feet away from the boundary, the short-term construction related noise is not considered a source of nuisance noise (see Figure 33 for detailed distances). The sections of this document, titled, "Biological Resources," and "Noise," have a more detailed analysis of construction and project noise production and the potential impacts on human neighbors and regional fauna.

Water Use

All water used in cultivation, processing, and employee needs will be sourced on-site from wells. Water from each well will be pumped into a 5000-gallon tank. There will be one tank for each well. All irrigation of cannabis will be done by drip irrigation, ensuring that plants are not over-watered. Water use for irrigation is estimated at 780 gallons per day for each greenhouse. It is estimated that an additional 40 gallons a day will be used by employees for personal use at each processing building; The total daily water use for project operations will be 12,680 gallons per day for all 16 greenhouses and employees; for year-round operations (365 days a year), the project would use approximately 4,628,200 gallons of water. In June 2019, the applicant drilled three wells on Parcel 1 and tested for yield. Well #1 was drilled to a depth of 240-feet; it yielded 20gmp. Well #2 was drilled to a depth of 200-feet; it yielded 30gpm. Well #3 was drilled to a depth of 270-feet; it yielded 13gmp. Assuming year-round flow rates as tested, the project could produce a combined average of 63gpm; 63gpm would result in 90,720 gallons in 24hrs and a more than sufficient water supply for the projected project needs. All well reports and associated letters are

found in Appendix E.

Storm water from roof runoff will be stored near each greenhouse site in hard sided water storage tanks. Each greenhouse will have 20,000 gallons of water stored in four (4) 5,000 gallons storage tanks. There will be 320,000 gallons of hard sided storage tanks for rainwater catchment on site (16 greenhouses). This stored rainwater water will be generally used for summertime landscaping and lawn maintenance around the facilities as well as fire protection and supplemental water for dust mitigation and irrigation.

Road Maintenance

In order to eliminate dust from driving on the private ranch road network during ongoing project operations these roads will be heavily rocked to reduce airborne particulate. The use of a single electric bus observing a conservative (<15mph speed limit) on internal roads will eliminate unnecessary passenger vehicle traffic and further reduce the project's potential to produce dust. Roads will be re rocked as necessary to maintain a safe and stable driving surface and to reduce airborne particulate.

Water Quality

The site was enrolled in the North Coast Regional Water Quality Boards Cannabis Cultivation Order. It was transitioned to the new State Order prior to July 1, 2019. Cultivation will occur in greenhouses with natural floors. All runoff will be contained inside the greenhouses. The sides of the greenhouses will be flush with the leveled greenhouse pad. This will ensure any surface water runoff from irrigation cannot leave the greenhouse. Plants will be grown either inground, or in bags or pots set on the native soil surface or on benches. Drip irrigation will be used. All greenhouses are located outside of stream buffers (see Biological section for figures and explanations). To protect water quality, in addition to controlling irrigation water, all graded flats will have engineered design features to manage stormwater runoff (rainwater catchment tanks and engineered solutions to overflow as described above in the Construction Phase). The parking spaces and pathways around and between greenhouses will be covered in gravel or wood chips to provide a stable year-round surface for walking and driving small electric utility vehicles. Any disturbed areas outside of designated parking spaces and pathways will be revegetated with grasses. In addition, prior to the wet season, the site will be winterized per the guidelines established by the State Water Resources Quality Control Board (SWRCB) order WQ 2019-0001-DWQ under which the applicant is enrolled (SWRCB application numbers 418867 and 419259). Pursuant to this order, the applicant will also provide a technical report, the Site Management Plan, that will describe in detail, the steps the applicant will take to meet the water quality and winterization standards described in the order. The applicant will also provide a detailed Nitrogen Management Plan that accounts for all of the potential nitrogen sources that will be added to soils on site (More detail in Water Quality section of this document).

Storage of cultivation related products

Various natural fertilizer and pesticide products will used in cultivation; only pesticide products that are citrus or neem-seed based and/or permitted for use in organic farming will be used on the site. These materials will be kept in the processing buildings and will be returned to storage immediately after use. No rodenticides will be used on site at any time. If rodents become an issue in the buildings, trapping or other non-poison methods will be used to remove them. Soils in the project will be amended in situ and reused. Soils will always be kept inside the greenhouses.

Employees

The project will employee a total of 30 people. Employees will be on site seven days a week. Hours of operation will be 7am to 7pm daily. Generally, there will 22 employees on site on any given day. Employees will park near Facility #1 and #2 (Figure 13) and ride the electric bus to the cultivation locations. Employees will be sourced

from the already existing pool of cannabis workers in Southern Humboldt County. Harvesting will be done by the greenhouse staff. Curing and trimming will be taken care of on- site by the employees. After being harvested, cannabis will be dried and trimmed in the processing buildings. The cannabis will be sorted and packaged for the distributor. All work will take place within the greenhouses or the processing buildings.

Green waste

All green-waste will be composted on the property. There will be composting facility located with each processing building, for a total of five (5) composting facilities. The composting facilities will be 10 feet by 10 feet covered areas and will be maintained by greenhouse staff. The composting facility will be permitted with the Regional Water Board if determined to be required (WQ 2015-0121-DWQ); composting operations will meet all of the required standards to keep storm water form mixing with the composting material and to eliminate any runoff from the composting site. The composting areas will have a concrete pad and will be enclosed with three walls and a roof to keep storm water out. Non-compostable waste will be hauled off site at least once per week by project staff and disposed of at either the Redway or Fortuna Transfer Stations.

Security

Security lighting and cameras will be placed around all processing buildings. Security lighting will have backup batteries to supply power in case of a PGE outage. Lighting, in conformance with the International Dark Sky standards, will have a warm color rating (approx. 2500K) and be shielded to avoid uplighting and glare; lighting will only illuminate downward to provide safe access and security. Processed cannabis will be stored in the processing buildings until it is taken off site. The buildings will be locked at all times. Each site will be fenced (Appendix A). A security gate with a guarded entrance will be placed on the ranch road that continues East off of McCann Road East before Facilities #1 - #2. This security guard will have a small 6-foot by 4-foot structure to provide shelter (See Figure 13 for guard gate location). This security guard position will be staffed 24 hours a day. The security guard position will be shift work and will not require onsite accommodation. Another security gate will be placed on the ranch road off of the Alderpoint Road entrance. There will be cameras at both gates.

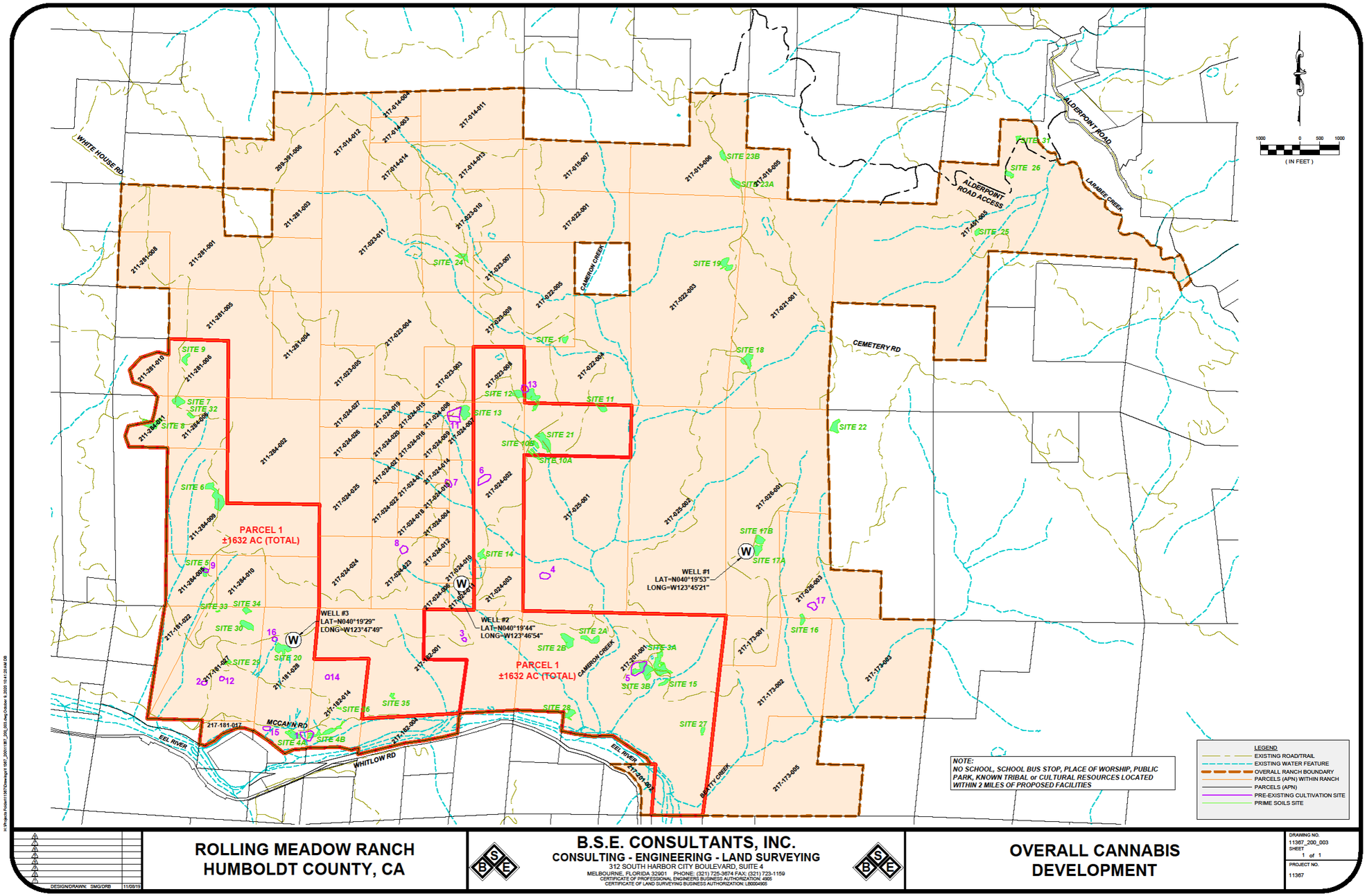


Figure 2. Overall Cannabis Development

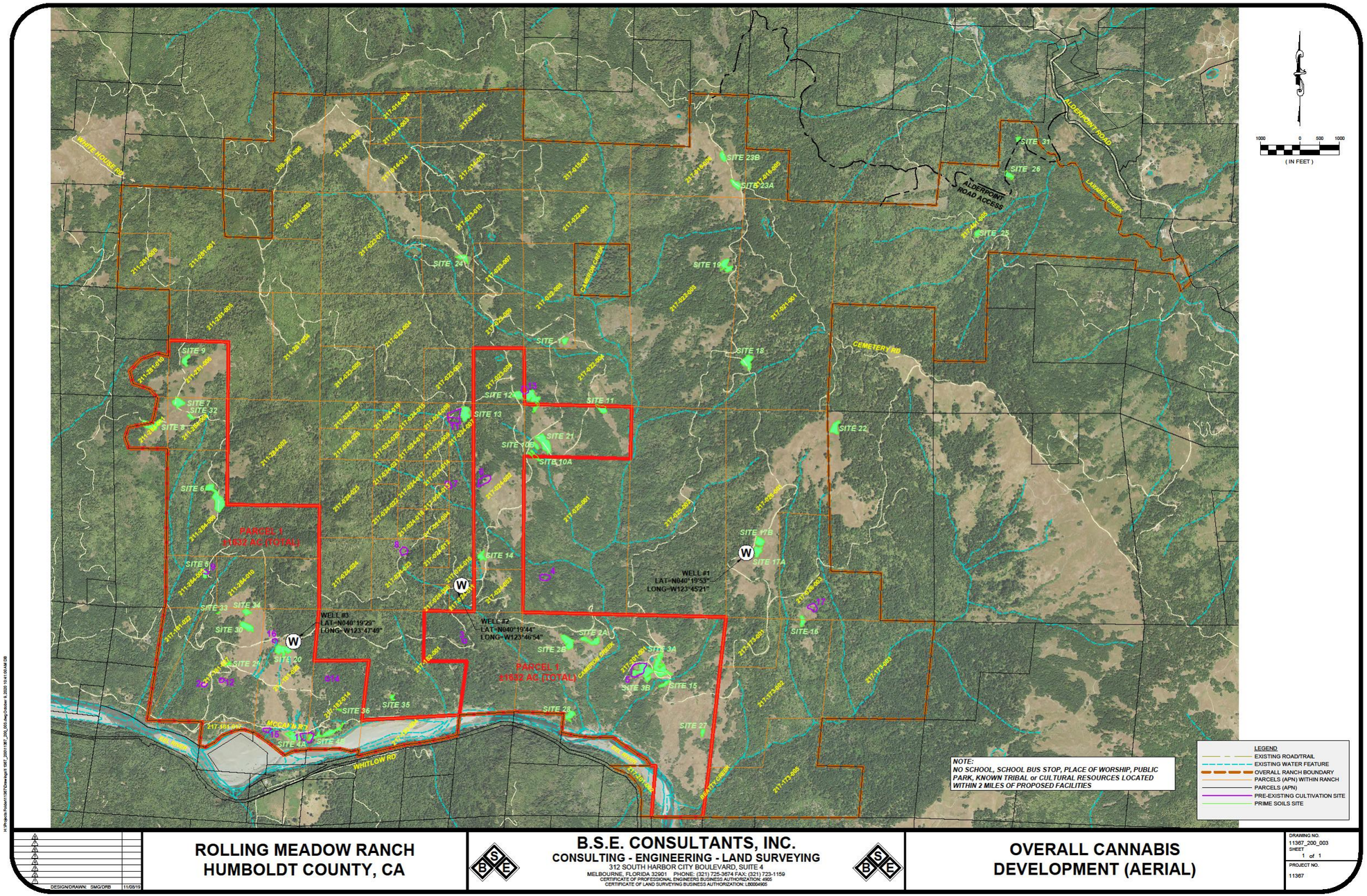


Figure 3. Overall Cannabis Development (Aerial)

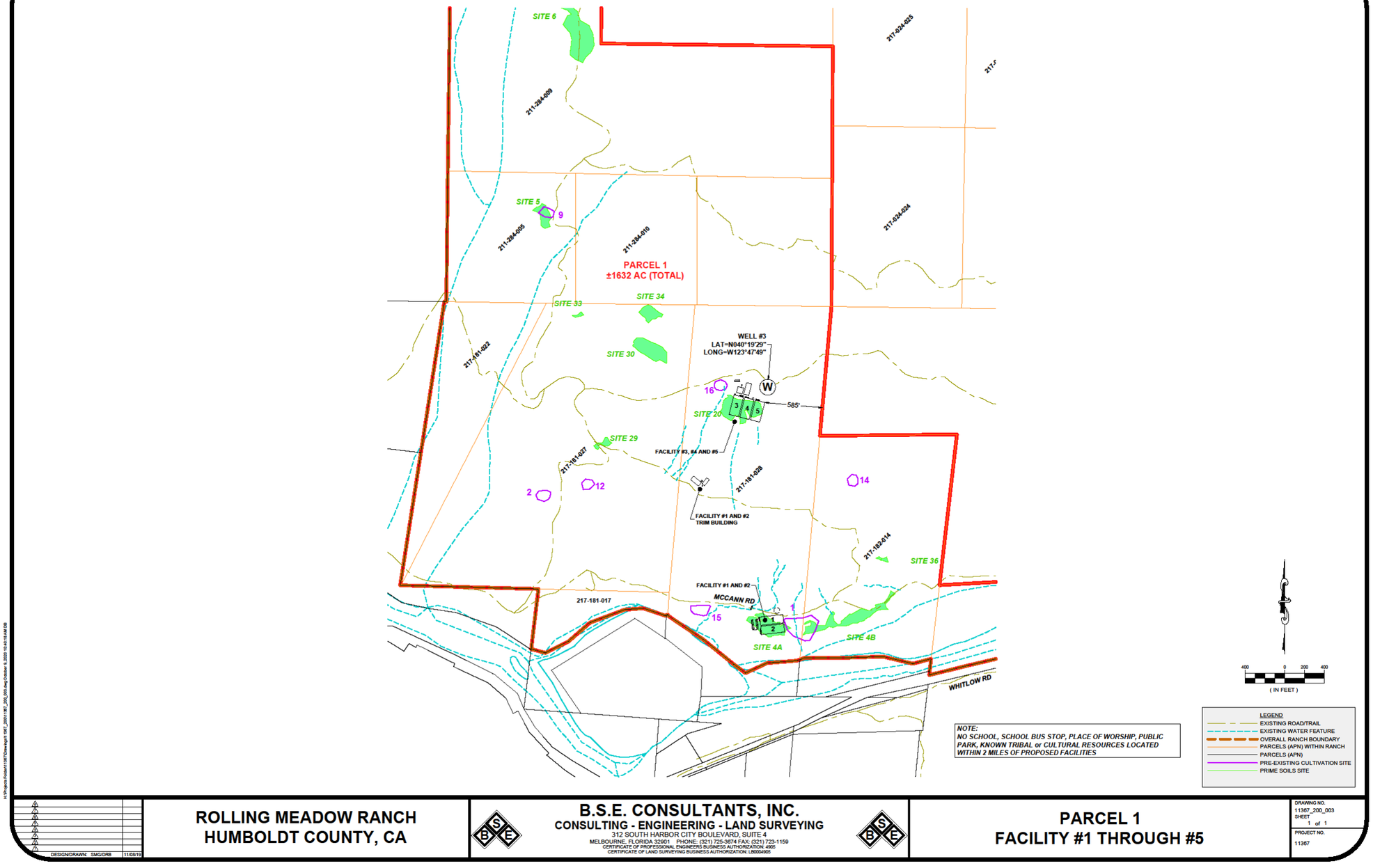


Figure 4. Parcel 1; Facility #1 - #5

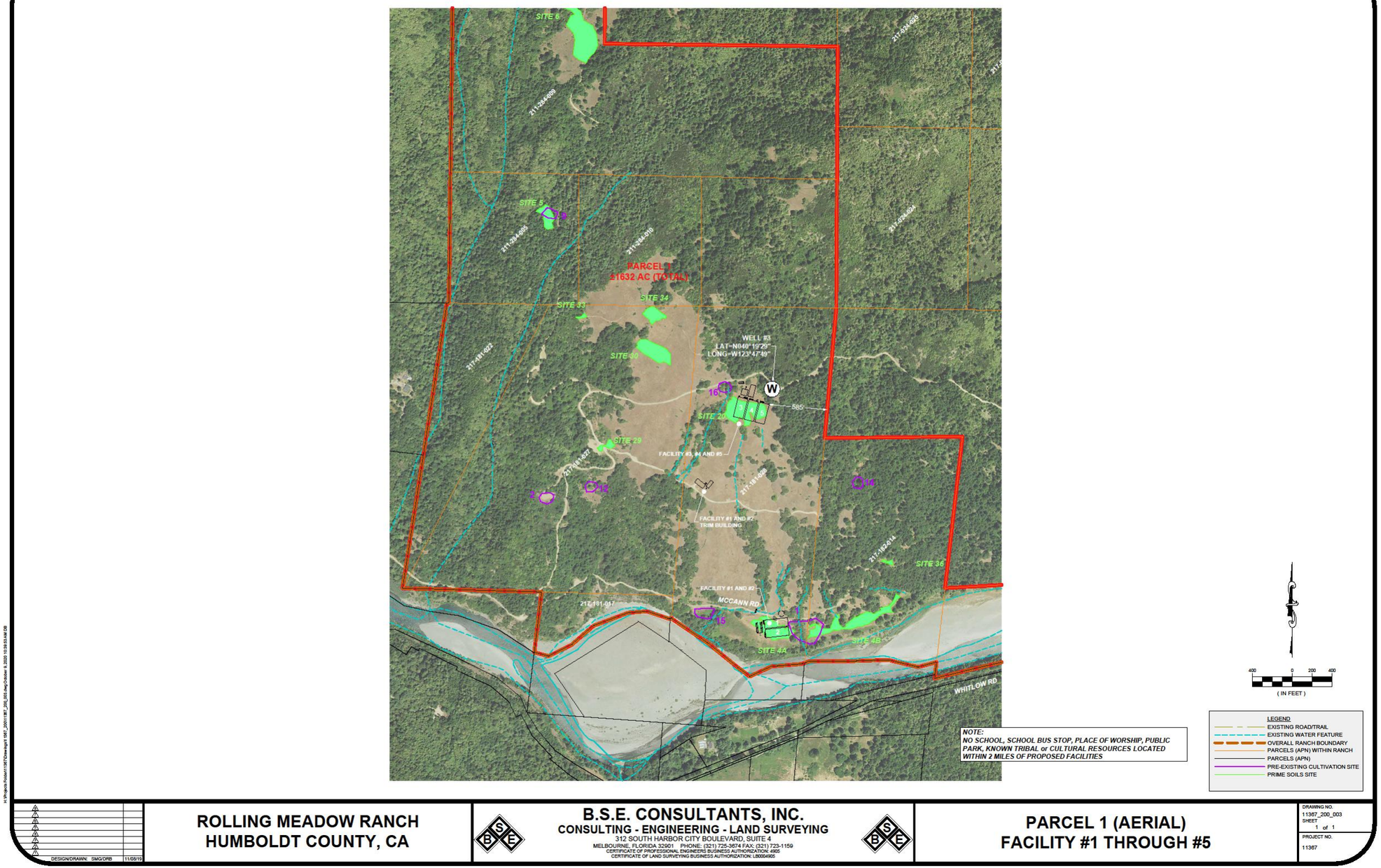


Figure 5. Parcel 1; (Aerial) Facility #1 - #5

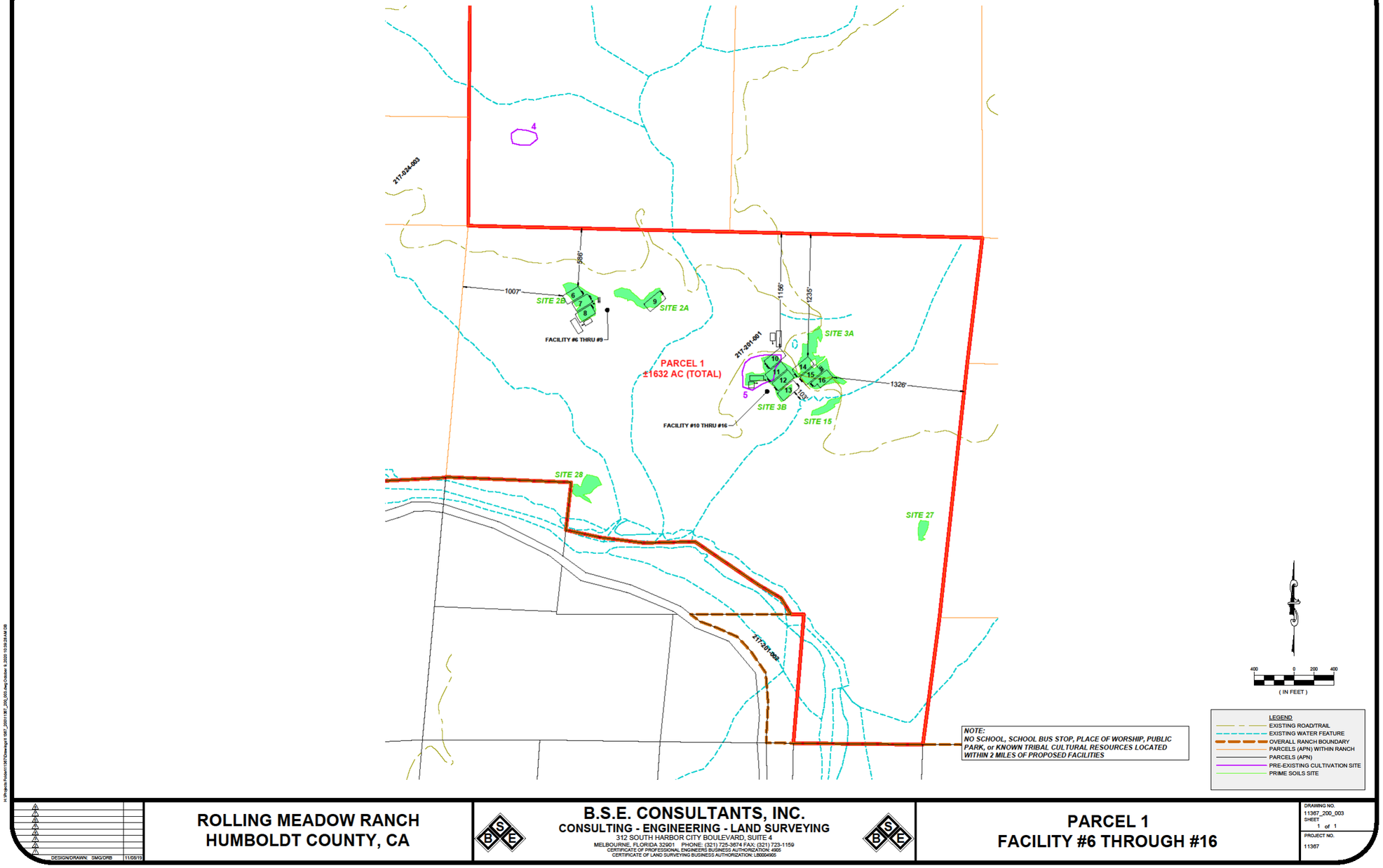


Figure 6. Parcel 1; Facility #6 - #16

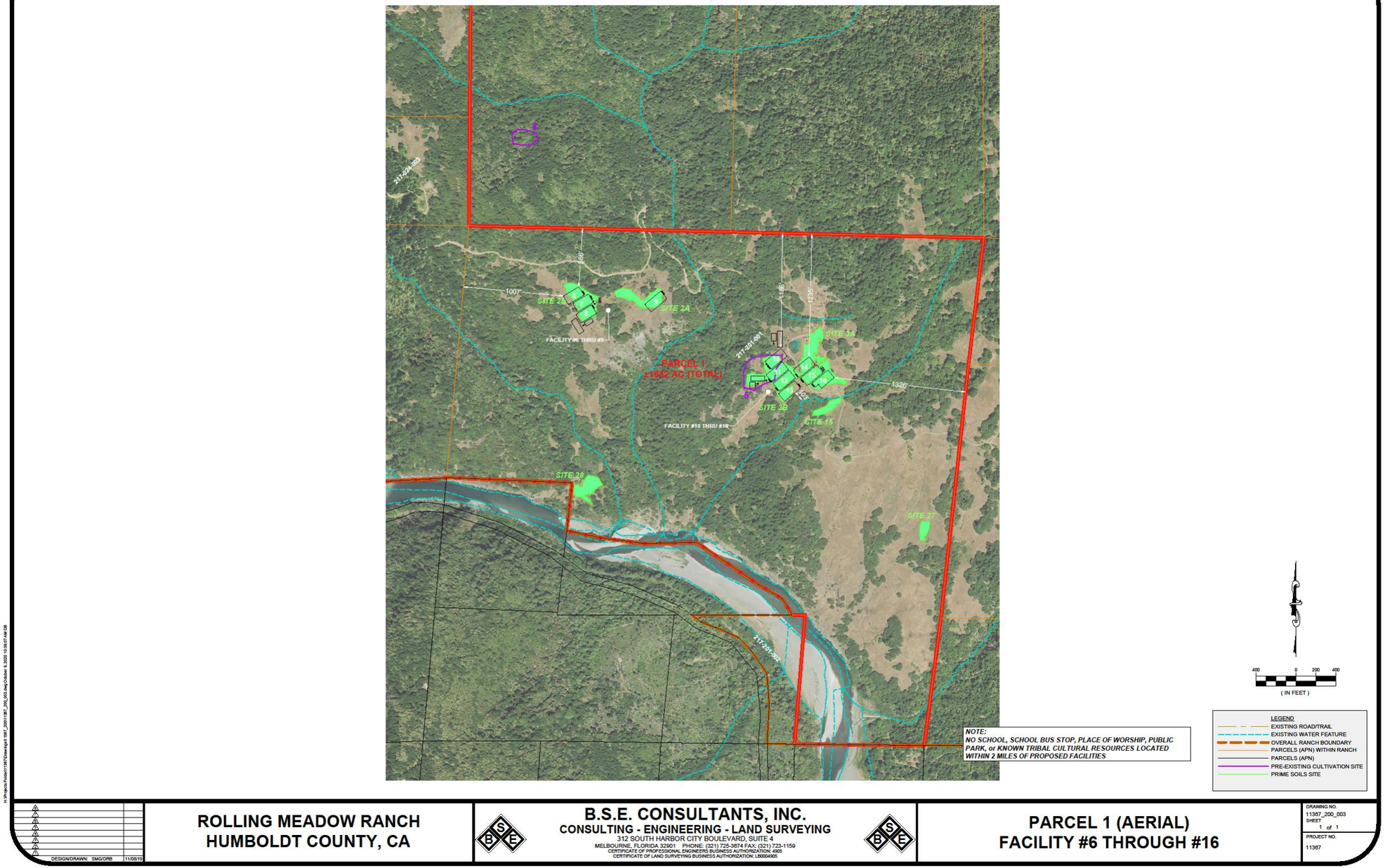
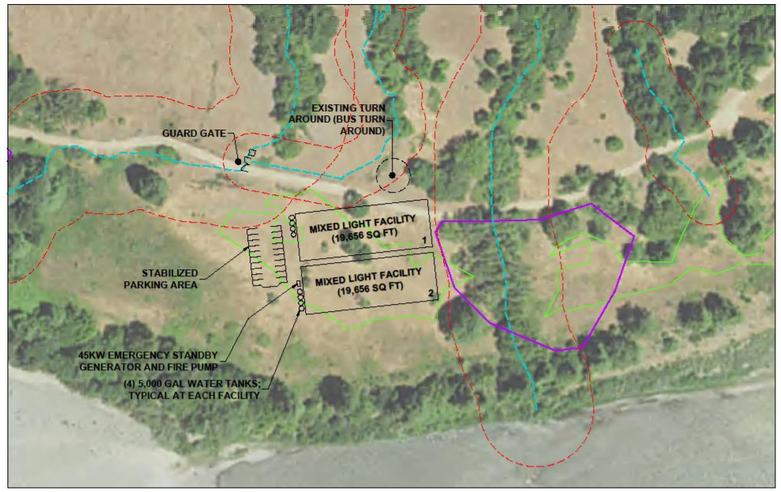
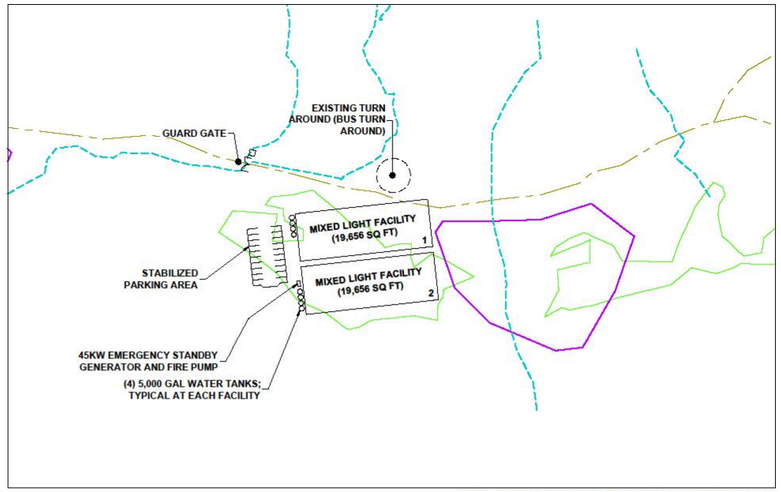
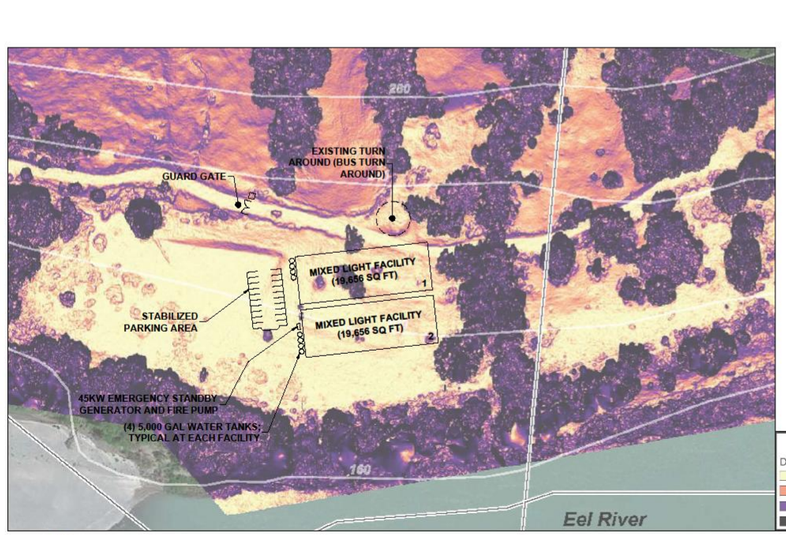


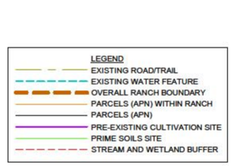
Figure 7. Parcel 1; (Aerial) Facility #6-#16

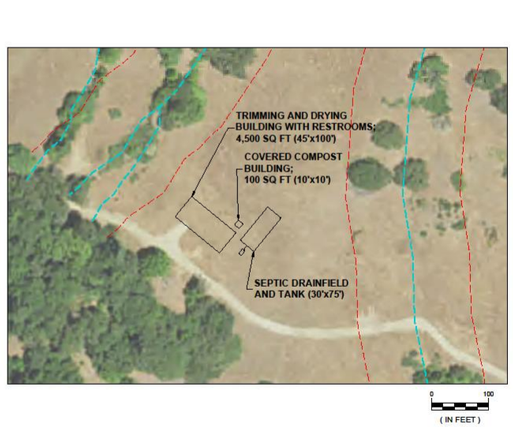




NOTE: SITE FACILITIES TO BE ENCLOSED BY PERIMETER FENCING







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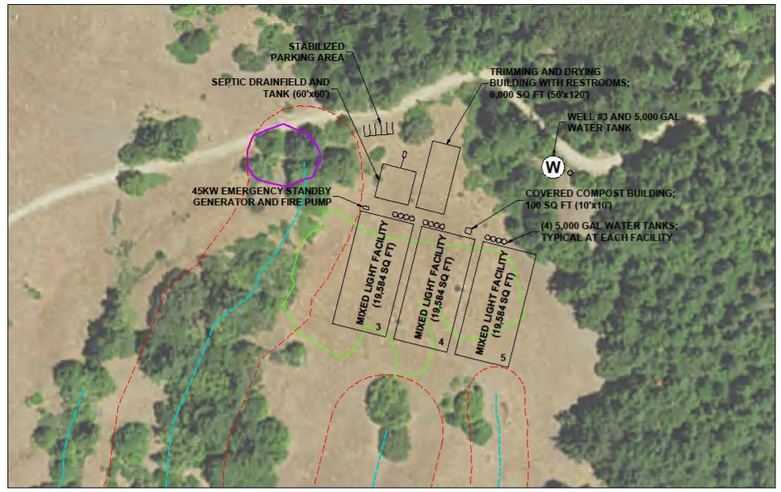
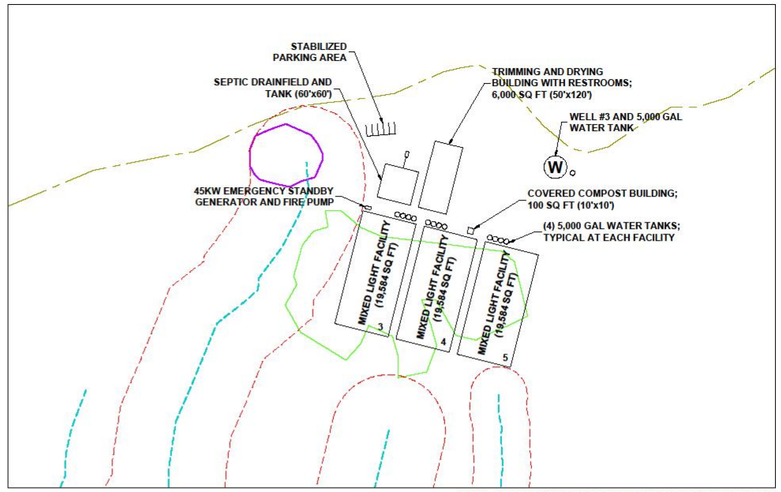
CERTIFICATE OF LAND SURVEYING BUSINESS AUTHORIZATION: LB0004905

FACILITY #1 AND #2 DETAILS

DRAWING NO. 11367_200_003
SHEET 1 of 1
PROJECT NO. 11367

Figure 8. Facility #1, #2 Details





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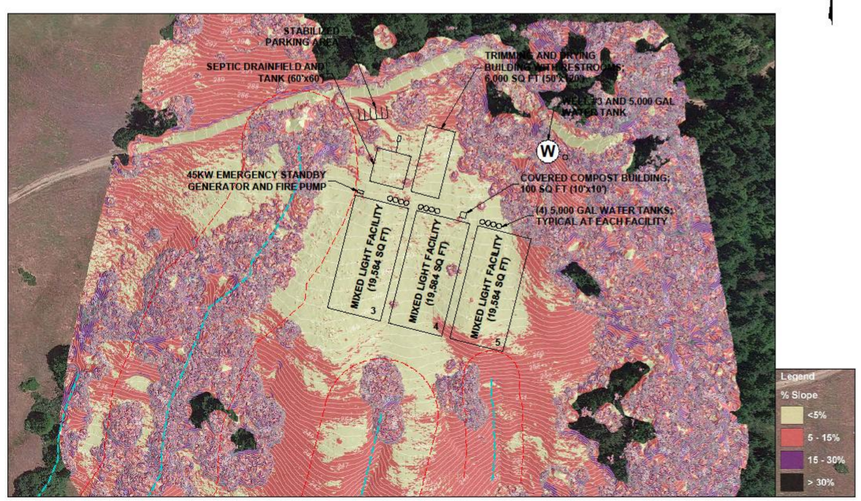

LEGEND
- EXISTING ROAD/TRAIL
- EXISTING WATER FEATURE
- OVERALL RANCH BOUNDARY
- PARCELS (APN) WITHIN RANCH
- PARCELS (APN)
- PRE-EXISTING CULTIVATION SITE
- PRIME SOILS SITE
- STREAM AND WETLAND BUFFER

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FACILITY #3, #4, AND #5 DETAILS

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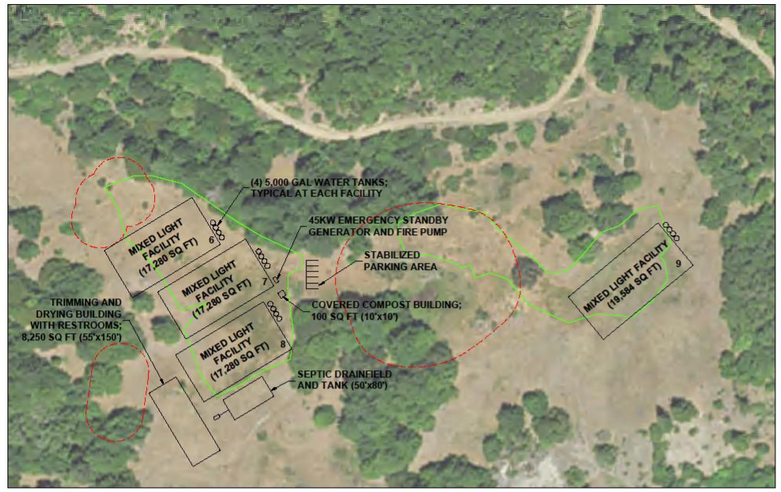
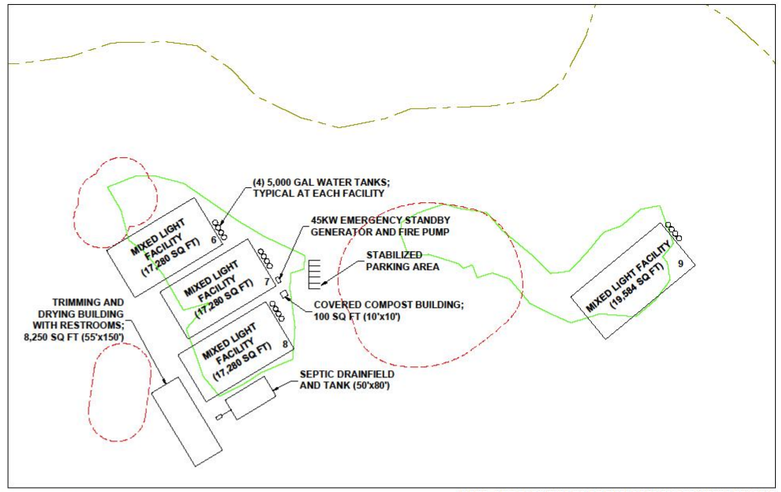
PROJECT NO. 11367

Figure 9. Facility #3, #4, #5 Details





NOTE: SITE FACILITIES TO BE ENCLOSED BY PERIMETER FENCING

LEGEND
- EXISTING ROAD/TRAIL
- EXISTING WATER FEATURE
- OVERALL RANCH BOUNDARY
- PARCELS (APN) WITHIN RANCH
- PARCELS (APN)
- PRE-EXISTING CULTIVATION SITE
- PRIME SOILS SITE
- STREAM AND WETLAND BUFFER

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FACILITY #6 THRU #9 DETAILS

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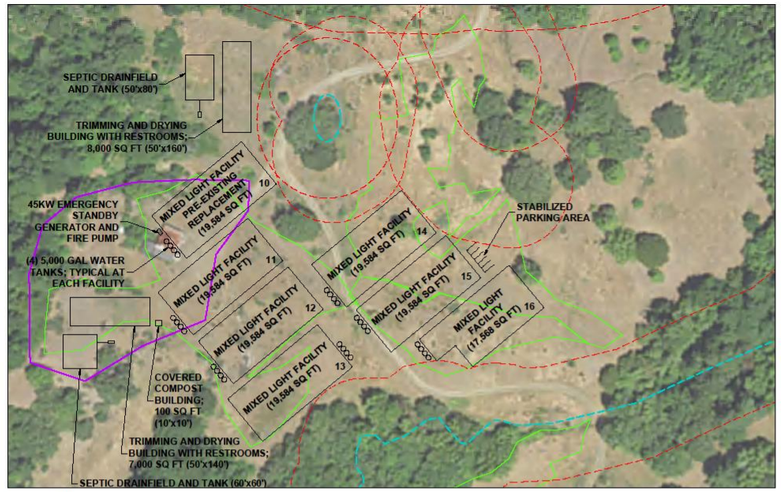
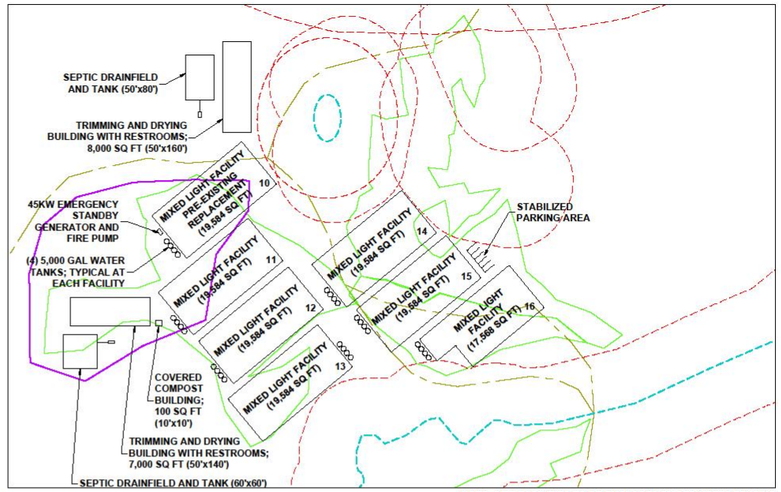
PROJECT NO. 11367

Figure 10. Facility #6- #9 Details





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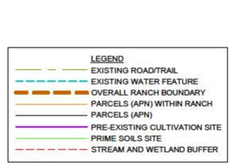

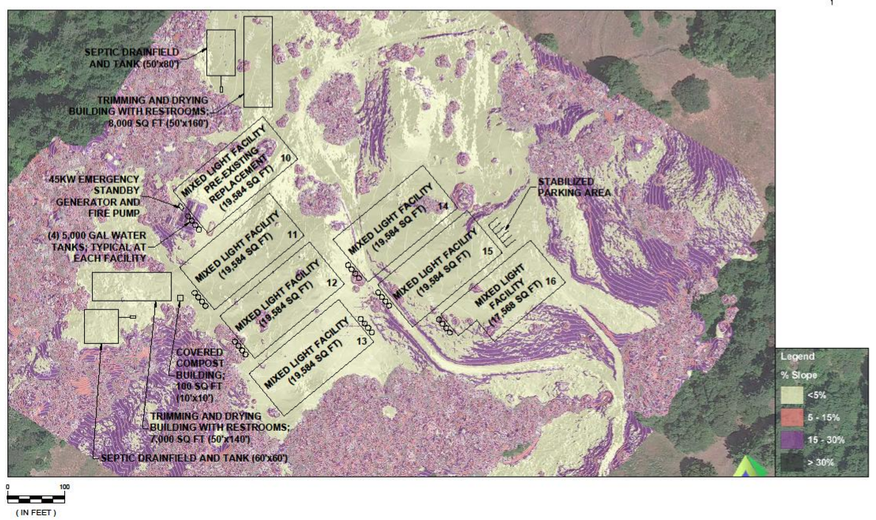

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FACILITIES #10 THRU #16 DETAILS

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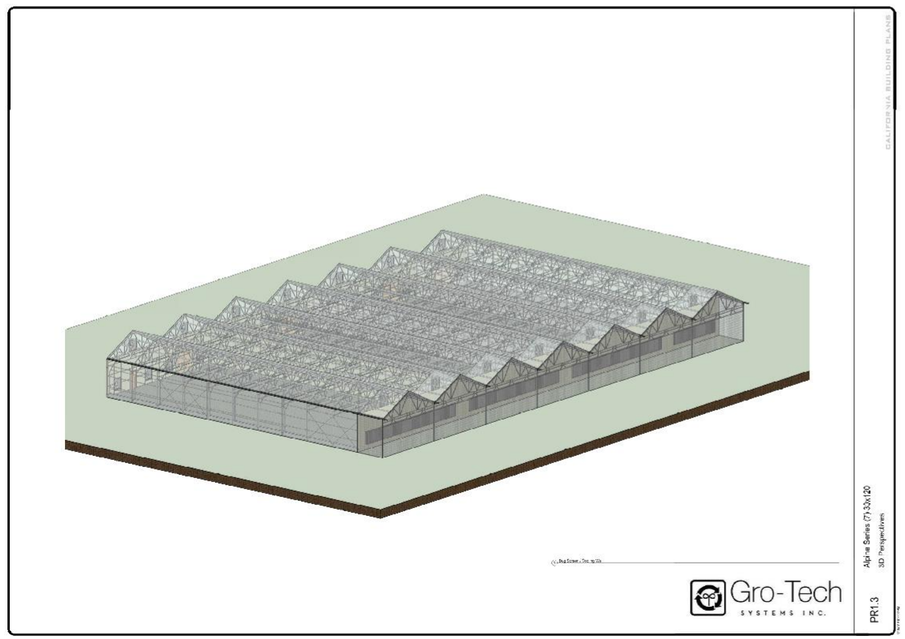
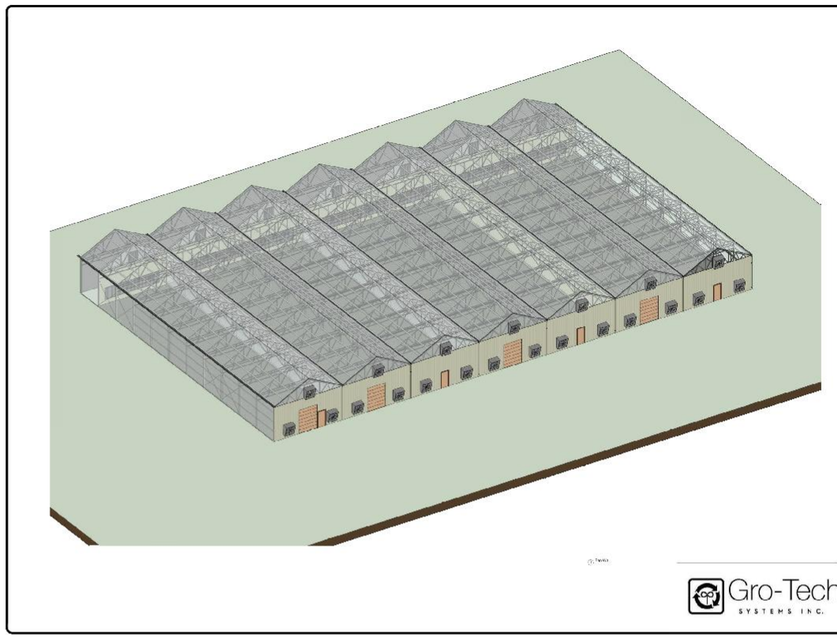
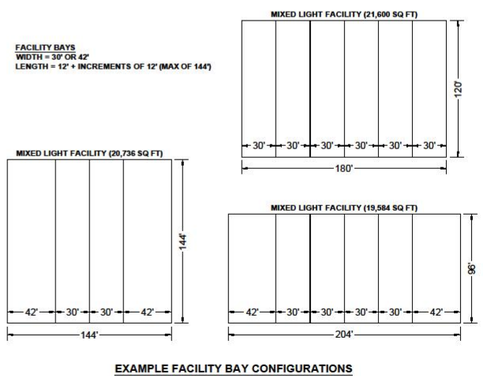
SHEET 1 of 1
PROJECT NO. 11367

Figure 11. Facility #10 Thru #16 Details







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FACILITY BUILDING DETAILS

DRAWING NO. 11367_200_003
SHEET 1 of 1
PROJECT NO. 11367

Figure 12. Facility Building Details

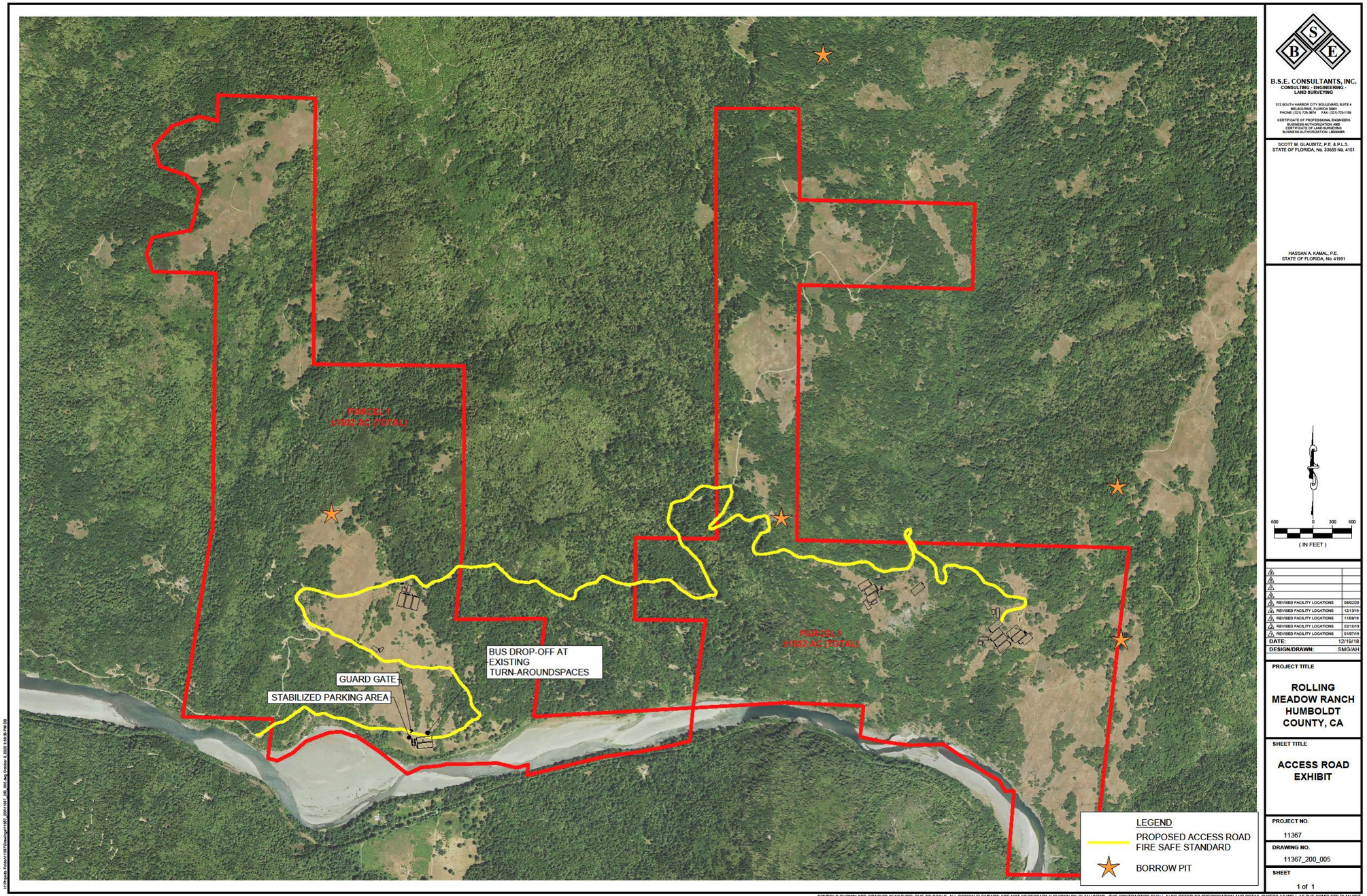

Figure 13. Road Exhibit

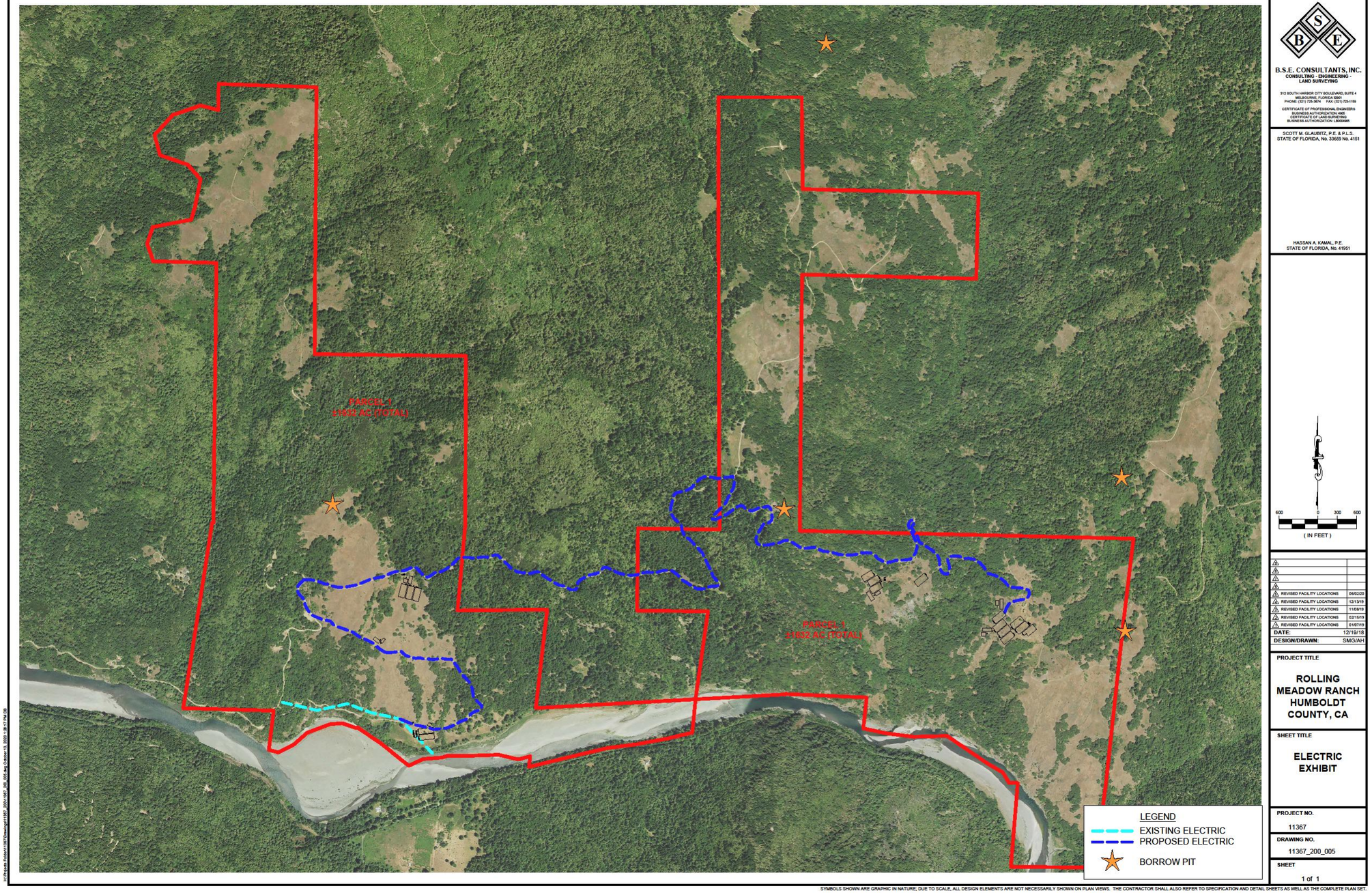

Figure 14. Electrical Exhibit

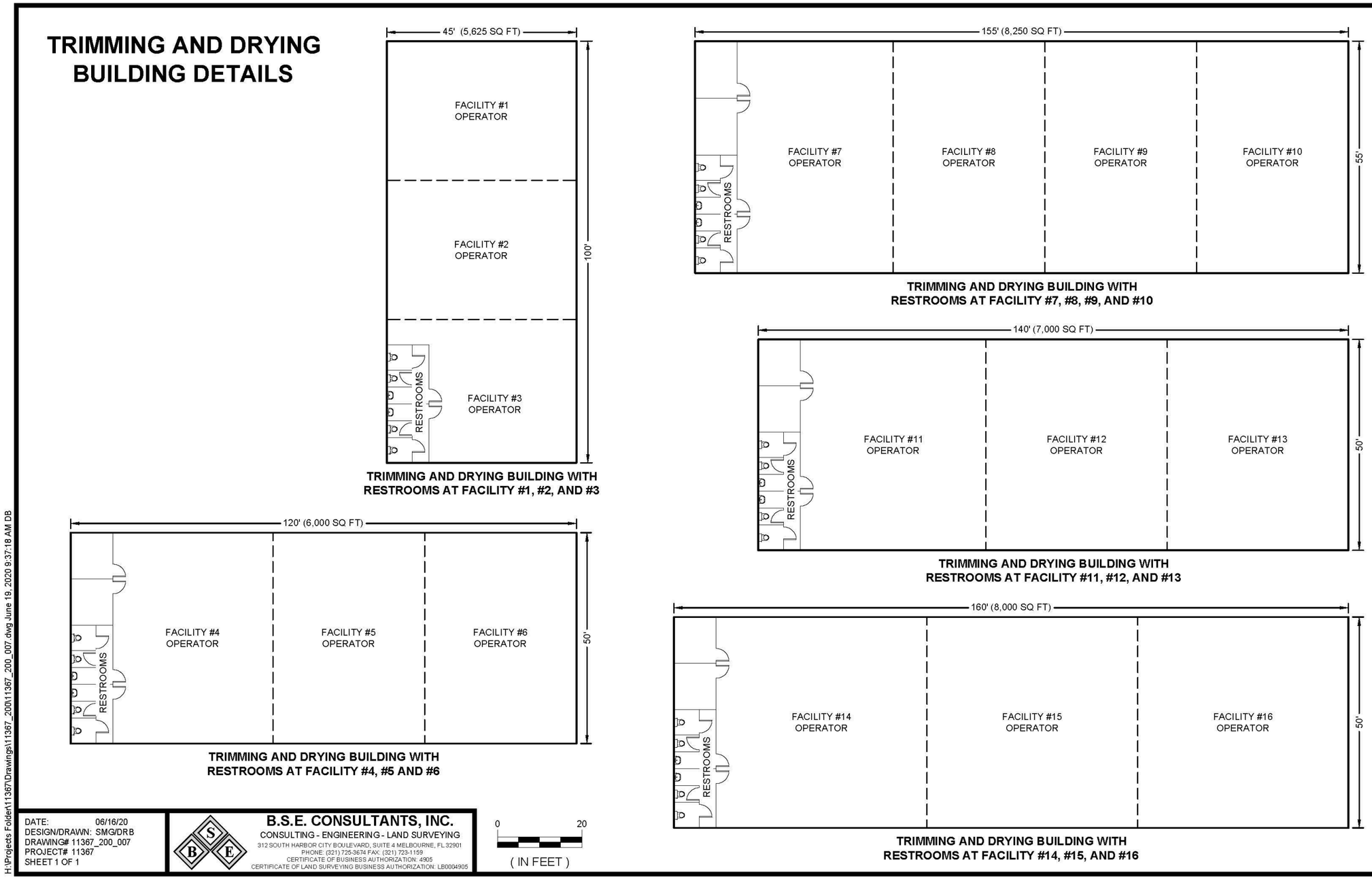

Figure 15. Proposed Layout of Processing Buildings

III. ENVIRONMENTAL SETTING AND SURROUNDING LAND USES

The project is located on the north side of the main stem of the Eel River in southeastern Humboldt County (Figure 1). There are several natural drainage courses on the Property, including Cameron & Beatty Creek as well as ephemeral drainage swales. The project is set on a 7,110-acre ranch that has been managed in the past for cattle and timber production and is currently managed for timber production. The land in and surrounding the ranch is generally forested with open meadows. It has been historically used for and is currently used for cattle, timber production, cannabis cultivation, and rural residences.

All project areas are set in meadows. Elevations within the project area range from approximately 60 to 425 m (200 to 1400 ft). Aspects are generally southern. The project area lies within a mosaic of mixed evergreen forest and coastal prairie and nonnative grassland, with inclusions of black oak woodland (Holland, 1986). Red alder forest forms the main vegetation type along and mainstem Eel. The forest is primarily composed of the *Pseudotsuga menziesii - Notholithocarpus densiflorus* Forest Alliance (S4) at upper elevations and the *Sequoia sempervirens* Forest Alliance (S3.2) at lower elevations along the eel River (CNPS 2, 2018). Tree species present but not dominant within both alliances include *Umbellularia californica*, *Acer macrophyllum*, *Arbutus menziesii*, and *Notholithocarpus densiflorus var. densiflorus*. The oak woodland inclusions are composed of the *Quercus kelloggii* Forest Alliance (S4), containing a *Quercus kelloggii-Quercus chrysolepis* association and a *Quercus kelloggii*/*Toxicodendron diversilobum*/grass association (CNPS 2, 2018). *Umbellularia californica, Acer macrophyllum, Quercus garryana* and *Aesculus californica* trees and *Baccharis pilularis, Rubus armeniacus* and *Heteromales arbutifolia* shrubs are also present within this vegetation type. These forested areas have been extensively logged by previous property owners and are largely composed of even-aged stands of second or third-growth trees.

The proposed project footprint lies almost entirely within the prairie and grassland portions of this mosaic, which are primarily composed of the *Holcus lanatus- Anthoxanthum odoratum* Herbaceous Semi-Natural Alliance (SR: NONE), areas dominated by *Dactylis glomerata*, and areas dominated by *Briza maxima-Bromus hordeaceus*. Within these larger communities were inclusions of *Elymus glaucus* stands (S3), the C*entaurea* (*solstitialis, melitensis*) Herbaceous Semi-Natural Alliance, the *Danthonia californica* Herbaceous Alliance and areas dominated by *Arrhenatherum elatius,* (S3) (CNPS 2, 2018). Common forb species present include *Brodiaea elegans, Crepis capillaris*, and *Linum bienne.* Shrubs such as *Baccharis pilularis, Rubus armeniacus, Heteromales arbutifolia* and *Toxicodendron diversilobum* are present as scattered thickets. These prairies have been heavily utilized for cattle grazing in recent decades. There is no active livestock management under the current owner, however, the areas continue to be utilized by trespassing cattle.

Potential wetland areas identified in the project areas are defined by the dominance of Obligate (OBL) and Facultative-Wetland (FACW) and Facultative (FAC) species, as listed in the United States Army Core of Engineers Western Mountains, Valleys & Coast 2016 Regional Wetland Plant List (Lichvar et al., 2016). These areas are found primarily within the open prairie and are generally dominated by *Mentha pulegium* (OBL), *Cyperus eragrostis* (FACW), *Juncus effusus* (FACW), and *Holcus lanatus* (FAC). Class II and

Class III creeks run near many of the project areas (see maps in Biological Section and plot plans in Appendix A).

The properties are currently zoned for agriculture. A cannabis farm is consistent with existing zoning, and land use plans.

IV. ENVIRONMENTAL CHECKLIST EXPLANATORY NOTES

This project includes impacts that are identified, as indicated by the checklists on the following pages, as having 'no impact,' a 'less than significant impact,' and a 'less than significant impact with mitigation incorporated.' None of the environmental factors analyzed in this document, and summarized in the checklist below, have been determined to have 'potentially significant impacts.'

☐ Aesthetics	☐ Agriculture and Forestry 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	☐ Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

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

☐ 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 mitigation measures have been identified to reduce the impacts to less-than-significant levels. 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 or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	Date
Printed Name	For

V. EVALUATION OF ENVIRONMENTAL IMPACTS

a. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each questions. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

b. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

c. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

d. "Negative Declaration: Less Than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

e. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    i. Earlier Analysis Used. Identify and state where they are available for review.
    ii. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    iii. Mitigation Measures. For effects that are "Less Than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

f. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared

or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

g. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be citied in the discussion.

h. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

i. The analysis of each issue should identify:
    i. the significance criteria or threshold used to evaluate each question; and
    ii. the mitigation measure identified, if any, to reduce the impact to less than significance.

VI. ENVIRONMENTAL CHECKLIST
AESTHETICS

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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	

Setting

The Project is located directly north of the Eel River. The Eel River has designated Wild and Scenic sections (1968 Wild and Scenic Rivers Act); the section of the Eel nearest to the project area is designated as Recreational. The main stem of the Eel River is almost entirely designated "recreational;" the first "wild" or "scenic" designation on the main stem is in Mendocino County and over 50 miles south, southeast of the project location. Additionally, the main stem of the Eel River is joined to the south by two forks whose lower sections also carry a "wild" designation, the North Fork (31 miles South of project area), and the Middle Fork (51 miles South of project area). See Figure 16 (National Wild and Scenic Rivers System).

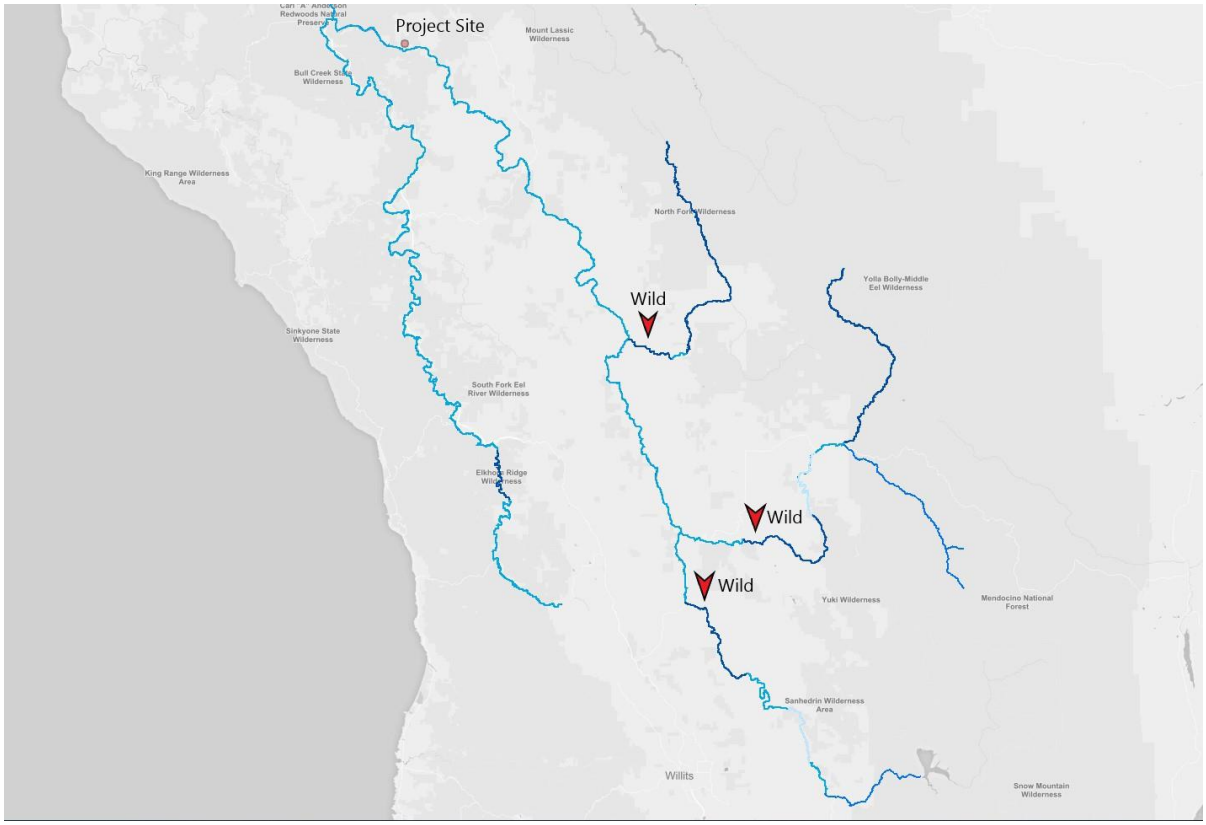

Figure 16. Designated "wild" sections of Eel River in relationship to Project Site. National Wild and Scenic Rivers System, https://www.rivers.gov/rivers/eel.php, accessed Nov 2018.

The Project vicinity is characterized by open grasslands and expansive forest. There is one barn within the project area and a network of roads. The project will impact a limited area on a ranch that has been historically utilized for logging and ranching. Tree stands are second and third growth. The open grasslands on the property are, as discussed in the Biological Section below, dominated by nonnative grasses; nonnative grass dominance has been linked to historical sheep and cattle and grazing (2007, Stromberg, M., Corbin, J., D'Antonio, C.).

The scenic view that the 7,110-acre ranch provides will remain almost entirely intact. New development in the project area will develop just under 8.5 acres and total disturbance (including areas inside fences, roads, etc.) will impact a total of approximately 20 acres, or 0.28% of the total acreage (Appendix A).

The potential viewers of the project are few. The population surrounding the project area can be generally quantified by accessing the 2010 US Census information. The 61 square miles North of the Eel River, encompassing the project area, contains 361 people. The 50 square miles South of the Eel River, encompassing the access road and surrounding communities contains 533 people. The project, therefore, has the potential to affect a maximum average of 8 people per square mile in the vicinity of the project area. Considering that the Census totals include the larger communities of Holmes, Redcrest, Fruitland and Blocksburg, the affected number of community members is potentially fewer than 8 per square mile. On the very local level, in a 1997 letter to the Humboldt County Board of Supervisors, the McCann Community self-identified as a community of only 19 full time residents (Richards, 1997). In a more recent article about

the McCann Bridge, "Danger at McCann," in the *North Coast Journal* (Walters, H; 2015), the population is named at only nine (9) full time residents.

Of the few immediate neighbors of the project that live in the river valley, the greatest number of potentially affected viewers live to the South, across the Eel River. Between these residents and the River is a tall, and dense screen of trees and vegetation.

Facilities #6 - #16 have no immediate neighbors in the river valley. The ridge opposing those sites is densely vegetated and largely uninhabited but could afford some views of the project to people living or working on the ridge. A search of aerial imagery shows the existing structures on the ridge across from Facility #6-#16 to be mostly greenhouses (Figure 17). Similarly, there are many greenhouses along the main access road from Hwy 101, Dyerville Loop Rd, and in the McCann area. Greenhouses are an established and common feature of the area.

Figure 17. Cleared forest and prevalence of hoop houses/greenhouses on slope and Fruitland ridge top across Eel River from project area. Google Images, 2019.

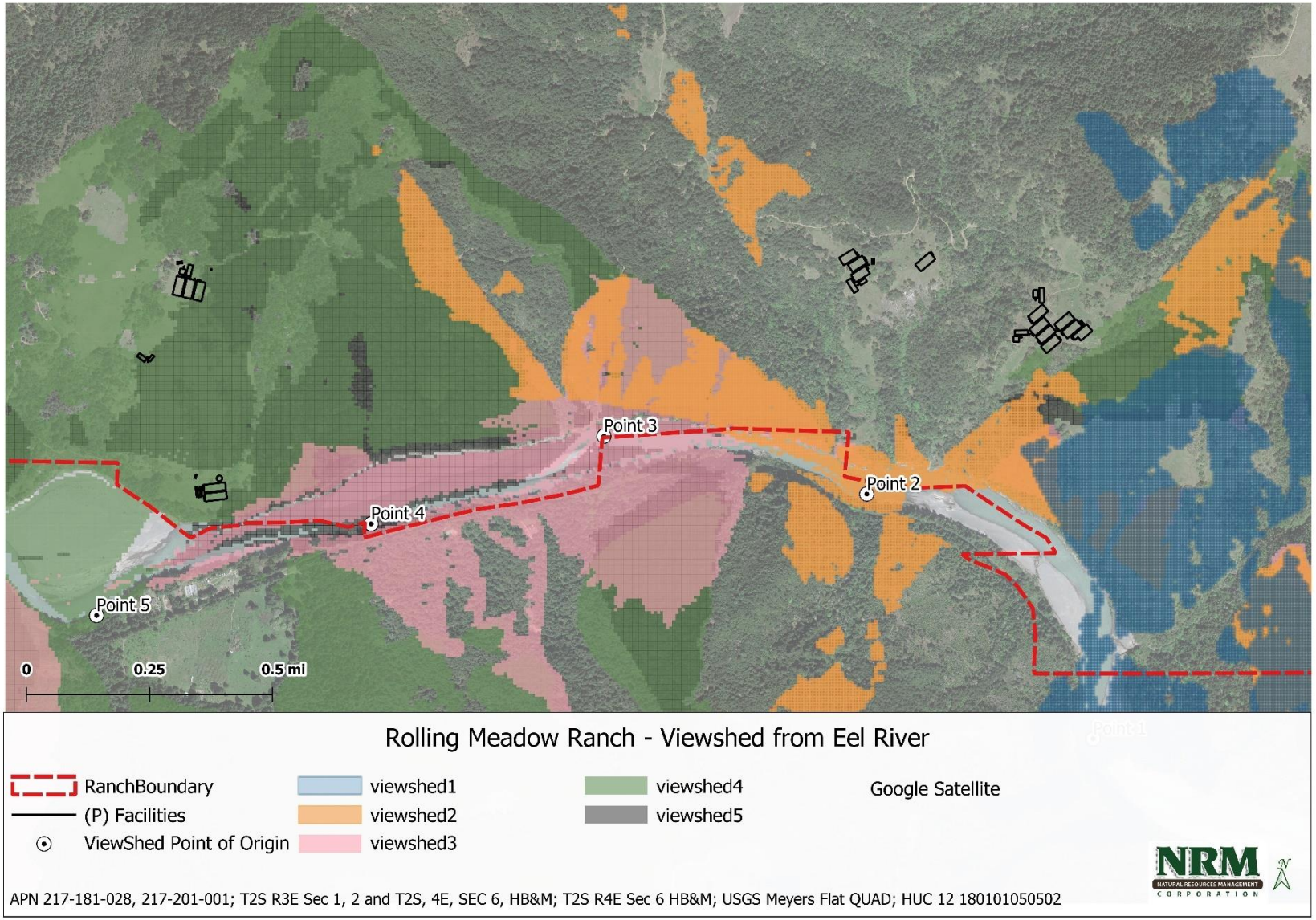

Figure 18. Viewshed from Points on Eel River; June 2020

The potential aesthetic impacts on Eel River recreators (kayakers, fisherpeople, etc.) would include some views of Facility #s 1-5. The figure above (Figure 18) is a viewshed map based on a 3D terrain analysis using 5 different potential Eel River "recreator" locations. This analysis provides the potential views that a recreator standing at the assigned points could have of the surrounding area based on terrain. The "recreator" points were assigned a value of 5-feet above the ground surface. The points are numbered 1-5 and East (upstream) to West (downstream), which follows the likely visual path of a boating recreator. From 5 locations, only two points, points 4 and 5 resulted in views of the project. And only one point, Point 4, resulted in full views of proposed project facilities (Facility #1- #5 and a processing building midslope). Therefore, the potential impact on river recreators is limited to one, in a 2,500-foot-long stretch of river.

While terrain features like ridges and valleys, are accounted for in the modeled analysis above, visual barriers in the form of trees and understory vegetation are not considered. A review of the available imagery reveals a vegetation barrier (brush and mature trees) between the Eel river and potential views of facilities that would, likely, eliminate full views of proposed Facilities #1 - #2. This conclusion is supported by additional ground truth investigation in which photographs were taken at suspected viewing points at proposed Facilities #1-5 (Viewshed Groundtruth, Appendix J). The photographs reveal that Facilities #3 - #5 will be viewable at times to recreators on the river and across the valley. Facilities #1 - #2 will be effectively blocked from view by stands of mature trees along the river's edge. Nonetheless, any peek through views from the river have the potential to impact enjoyment of Humboldt County's natural beauty and agricultural setting. While agricultural resources are an important part of the county's scenic quality, large retaining walls proposed to support facilities 1 and 2 are not typical agricultural features and therefore have potential adverse aesthetic impacts if glimpses from the river do occur. Therefore, mitigation in the form of a architectural treatment for the proposed retaining walls is appropriate to reduce any potential impacts to a less than significant level.

Some night lighting, in the form of security lighting only, will be present where currently minimal lighting and development exits. The lighting will be low wattage LED lights that produce a warm light (approx. 2700K) that will be shielded and downward pointing. The lighting will be located at exterior man-doors (not roll up doors) on greenhouses, processing buildings, and parking areas during hours of operation after sunset. The lights will be on timers; after hours of operation, the exterior lighting will be extinguished. Pathways will also be lit during hours of operation after sunset (i.e.: winter season when sun sets around 5pm). Pathways will be lit with low to the ground and downward pointing LEDs that illuminate the pathway only. This lighting will also be extinguished after hours of operation.

The blackout curtain is an integral part of the greenhouse system; it will be mechanized and, when appropriate, controlled by a timer. The curtain will be used one hour before sunset till one hour after sunrise whenever any supplemental light is used in the greenhouse. If a situation arises in which the motorized blackout curtain pulling mechanism fails, the operator will attempt to manually crank (via allen key port) the curtain into place. If this attempt fails, the lighting will be extinguished in the greenhouse until the motorized blackout curtain is repaired.

Discussion

a) Less Than Significant Impact. This project will not have a substantial adverse effect on a scenic vista.

This project is located on a large tract of private land of 7,110 acres; the project proposes to develop less than one percent of the total available Rolling Meadow Ranch acreage. In the 2017 update of the General Plan, Humboldt County describes a plan to identify and map specific scenic areas and roads; it is a stated goal of Humboldt County to protect scenic resources. While the Eel River valley is unofficially a scenic area, at the time of writing, the county has not designated or recommended scenic areas or vistas in the immediate project vicinity. The project proposes 16 greenhouses that will be spread out over acres of land and separated by ridgelines, drainages, and forest. In an area with less than 8 people per square mile, and many existing greenhouses, and with the majority of the proposed facilities generally unobservable (Facilities #1-2 and #6-16) by potential passersby in the river valley (Figure 18), the project will have a less than significant impact on scenic vistas.

b) No Impact. This project will not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Some project facilities will be visible from the Eel River; however, the nearest state and federally designated "wild" or "scenic" section of this river or its tributaries is over 30 miles away and will not be impacted by this project. The project areas will not be visible from any scenic vistas or scenic highways. There is one barn located in the project area that was determined to be of no historic significance according to the Cultural Resources Report. There are no highways in the immediate vicinity of the project. The closest highway eligible to be scenic is Highway 101; the eligible portion is from State Route 1 at Leggett to US 199 near Crescent City (CA DOT, 2017). Hwy 101 it is almost 5 miles West of the project location. This project will never be visible from any highway.

c) Less Than Significant Impact with mitigation. The project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. This project will not conflict with applicable zoning and other regulations governing scenic quality. This project will involve construction of fences, greenhouses and drying and trimming buildings in area where there are currently only roads and a barn in disrepair. The majority of the extensive ranch acreage (7,110 acres) will remain unchanged. The landscape is not pristine and has been altered by years of ranching and logging. The staging of construction equipment and materials will take place on Ranch property and will not significantly degrade the scenic nature of the area. The viewers closest to the project are located across the river from Facilities #1 and #2. Their view of the Facilities is blocked by mature tree stands. The people working or traveling on the North facing slope across the river from the project area may also have limited or full views of some project greenhouses. An Eel River Recreator, will be able to see Facilities #3 - #5 at a few points along the river (Appendix J). The greenhouses are spread out over acres of land and separated by ridgelines, drainages, and forest. Any one person, viewing from the ground, could not view the entirety of the project. An important part of Humboldt County's existing visual character is the agricultural activity that is typical throughout the rural portions of the county. Because the proposed cannabis cultivation are agricultural activities, they are consistent with the existing visual character of the area. Large retaining walls proposed to support facilities 1 and 2 are not typical agricultural features and therefore have potential adverse aesthetic impacts if glimpses from the river do occur. Therefore, mitigation in the form of a architectural treatment for the proposed retaining walls is appropriate to reduce any potential impacts to a less than significant level. See Mitigation Aesthetics- Mitigation 1 for more details.

Some exterior lighting will be present for several hours after sunset during the winter. This exterior lighting is for employee security only and will be extinguished after working hours. Because the exterior lighting will comply with International Dark Sky Standards and be temporary, and because greenhouse lighting will have automatic black out tarps, the project's proposed lighting will not significantly impact the existing visual character of the public views.

In an area with less than 8 people per square mile, and many existing greenhouses, and with most proposed facilities unobservable (Facilities #6-16) by potential passersby in the river valley (Figure 18), the project will have a less than significant impact on scenic vistas.

d) Less Than Significant Impact. This project will not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. This project will involve the construction and operation of 16 mixed light facilities for cannabis cultivation. The project will grow cannabis year-round. High powered LED lights will be used to supplement sunlight for both vegetative growth and flowering. These lights have the potential to create a substantially new source of light which would affect nighttime views in the area. Due to management protocols in the project descriptions potential impacts are less than significant. The project description calls for automated (timer operated) blackout tarps that will be used to completely cover the greenhouses when lights are used during nighttime hours (between dusk and dawn). These tarps will be manually cranked into place in case of automation failure. Exterior security and safety lighting will consist of low wattage, warm temp LED lighting (approx. 2700K) concentrated at greenhouse and processing facility entrances and exits, at parking areas, and some pathway lighting. Lights will limit backlighting, uplighting and glare (B.U.G.) with the goal to provide light for necessary employee safety and security; It will not impact the surrounding area. The International Dark Sky Association, in conjunction with the Illuminating Engineering Society produced a *Model Lighting Ordinance* (IDSA, 2011) to guide jurisdictions in regulating lighting. The MLO recommends that in undeveloped rural areas, like the Rolling Meadow Ranch, lighting "may be used for safety and convenience, but it it's not necessarily uniform or continuous. After curfew, most lighting should be extinguished or reduced as activity levels decline." The design of the project includes lighting on timers that will be extinguished after employees are off site, automated black out tarps, and shielded down lighting. By design, all lighting will conform to the standards of Lighting Zones 0 by the International Dark Sky Association.

<u>Cumulative Impact:</u>
The overall impacts to aesthetics of the region on the Eel River recreators and nearby residents will be less than significant. The operator will install professional quality greenhouses with automated blackout tarps (manual crank backup) to remove the greenhouse lights as a source of light pollution. The project will also incorporate fully shielded security lighting that will not be active overnight. The project lighting will conform to International Dark Sky standards for Zones 0 and 1 and will not have a cumulative impact on local or regional aesthetics. The building themselves can be seen by a minimal number of viewers. The distance between Sites combined with the variety of terrain features and mature tree stands mean that while parts of the facilities will be viewable from limited locations, the operation as a whole will never be observed at one time by a person on the ground. The development that is proposed is consistent with the current land use practices in the area (Figure 17) and has been the location of previous cannabis cultivation sites (Plot Plan details, Figure 2,3). The project will not have a cumulatively considerable impact on aesthetics.

Mitigation

Mitigation Measure – Aesthetics 1: Retaining walls proposed for Facilities 1 and 2 shall include an architectural treatment, such as in-wall plantings or an equivalent treatment, to soften the visual impact of the walls.

AGRICULTURE AND FOREST RESOURCES

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				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 forestland to non- forest use?			X	

Setting

The Project is located in rural Humboldt county; the project area is characterized by open grasslands and expansive forest. There are currently several old structures on the ranch property (only one building in the operations area) and a network of roads. The land has been historically used as timberland and as grazing land for cattle and sheep. The land is zoned for both timber production (Figure 20) and agricultural and has prime agriculture soils. The property is not currently beholden to a Williamson Act Contract. According to the most recent estimate by the property forester, the Ranch has over 186,000 mature trees (NRM personal communication, Holmgren, 2018).

In the past, the area now known as Rolling Meadows Ranch (Figure 1) has seen extensive logging operations. In 1997, the property owners began a 758-acre logging operation that was wrapped up in 2000. The logging took place across Townships 1S, Range 4E in sections 29, 30, 31, and 32 and T2S R4E Sections 5 and 6 (THP 1-97-234HUM). Another largescale operation of 556 acres was approved in 1999 and completed in 2006. This operation spanned Township 01S, 3E sections 24,25,36 and Township 1S, 4E, sections 19,30,31 (Figure 19 below). As recently as 2005, another 88 acres was approved for harvest on the project property (1-05-105-HUM).

The operator does intend to continue to utilize the ranch property as timberland. As all timber operations proceed, so would any proposal to harvest timber on the Rolling Meadow Ranch. With regard to the Forest Practices Rules, any Timber Harvest Plan (THP) would consider impacts on stand diversity, water quality, and carbon emissions as well as operational impact on and habitat retention for sensitive species. Legacy logging problems such as Humboldt crossings and perched fines from old log decks are often remediated as part of new THPs.

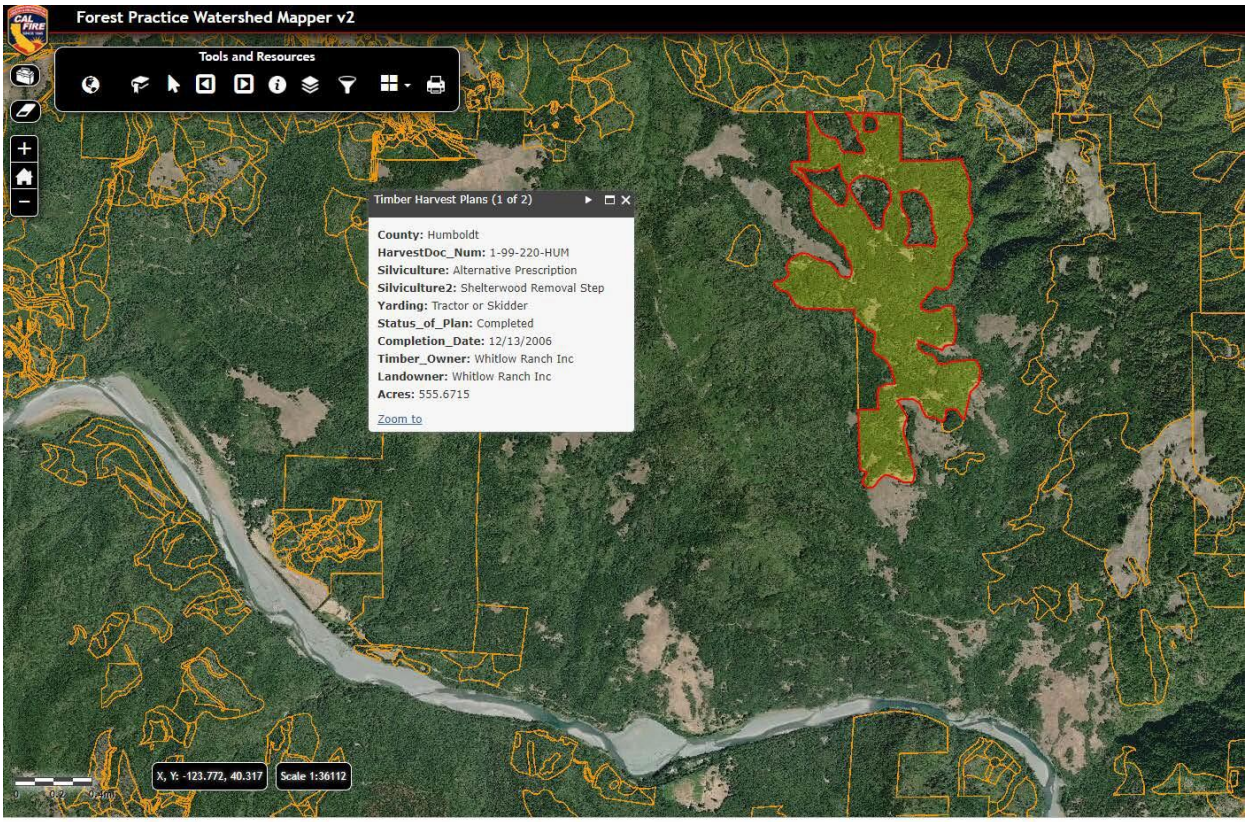

Figure 19. Map of Timber Harvest Plan: 1-99-220-HUM on Rolling Meadows Ranch - Extent of harvest, 555 acres, highlighted with red border (Cal Fire, 2019).

Figure 20. Timber Production Zone (TPZ) in yellow; Humboldt WebGIS, June 2020.

The project will erect greenhouses and processing buildings on open lands and abide by Humboldt County's zoning requirements: The parcels on which the greenhouses and support building are to be built (Assessors Parcels: 217-201-001, 217-181-028) are zoned AG, AE with portions of TPZ. That is, the parcels allow for logging, construction of non-residential buildings, labor housing, general and intensive agriculture.

According to the Humboldt County Commercial Medical Marijuana Land Use Ordinance (CMMLUO) no.2559 (1.0), Prime Agricultural Soils mean "all lands which qualify for rating as Class I or Class II in the Soil Conservation Service land use capability classifications or qualify for rating 80 through 100 in the Storie Index Rating. Additionally, where determined through site-specific fieldwork prepared by a qualified professional, soils meeting these characteristics may be recognized as prime." An independent party has identified, tested, and mapped the prime ag soils on the property. Thirty (30) prime agriculture soil locations were identified by Dirty Business Soil and Consulting Analysis in 2017. An October 2020 investigation by Dirty Business found an additional 32,200 square feet of prime agricultural soil containing the footprint of proposed Facility #16. From a total of 31 prime agricultural soil locations, Dirty Business investigations show that, in total, Parcel 1 (combining Tracks 1, 2, 3, 4) has 1,289,668 square feet of prime agricultural soil. See Appendix A, Plot Plans, for prime soil locations and Appendix F for Dirty Business prime agricultural soils reports (2017 and 2020).

In the CMMLUO (no. 2559), Humboldt County explicitly regulates cultivation amounts per parcel in terms of the amount of Prime Agricultural Soils:

> *The cultivation area shall be located on the Prime Agricultural Soils on the parcel and no more than 20% of the area of Prime Agricultural Soils on the parcel may be permitted for commercial medical marijuana cultivation.*

Twenty percent (20%) of the total prime agricultural square footage results in 257,934 square feet of usable area. The total proposed square footage for all cannabis facility space (Facilities #1-#16 combined) is 304,560 square feet (7.04 acres). The total area dedicated to cannabis cultivation (factors out areas, like pathways, that are within the greenhouse but are not planted) will be approximately 249,739 sq. ft. (5.73 acres). This complies with Humboldt County's CCLUO no. 2559 as the total area of prime agricultural soil that will be used for cannabis cultivation will be less than 20% of the total prime agricultural soil available on Parcel 1.

The proposed greenhouses will not have hardened floor surfaces. Soil for cultivation will be imported one time and contained in the greenhouses with a continual amendment process. The project will not result in soil erosion or loss of topsoil. Any topsoil removed for grading will be conserved onsite and used as fill on the property per the specifications of the grading.

A maximum of 24 trees will be removed as a result of this project. The following list (Table 1) describes the project facilities and the expected number, size, and species of trees to be removed. In this section, when accounting for tree removal, per the State Water Board Order (WQ-2019-001-DWQ, Appendix A, Section 2, #33 and #35) all riparian area trees and Oak trees over four (4) inches diameter at breast height (dbh) are included as "trees." In non-riparian areas, "trees" are defined as having a dbh of 12 inches or greater. The smaller saplings and seedlings less than 12 inches dbh are considered less valuable when restocking or evaluating timber stands in northern CA (CalFire, 2020). Trees with less than 12-inch dbh are not a part of a mature forest canopy and their removal would not significantly impact forest resources. Doug fir trees are included list, although this species is often associated with meadow encroachment and the active removal of these trees is facilitated by the state of California (AB 1958; Sept, 2016, the Oak Woodlands Exemption). Excluded from the table below (Table 1) is the single tree of a domestic apple variety that is in the footprint of Facility #13 and three domestic apple tree species in the footprint of Facility #1.

Table 1. Trees Impacted by Proposed Project Development – Facility Construction

Facility #	**# of Trees to be Removed**	**Species of Tree(s) to be Removed**	**Estimated Size of Tree(s) to be Removed** (dbh)
2	2	Big Leaf Maple	20 in
7	1	California Bay	14 in
15	1	California Bay	36 in
Total # of Trees to be Removed = 4			

The project will improve crossings on the internal ranch roads. Natural Resource Management Corp. has completed a summary evaluation of watercourse crossings at the Rolling Meadows Ranch (Appendix K) in which all watercourse crossings along roads within the Ranch used for access to proposed cultivation sites were surveyed. This included 2 entrance points from the end of McCann road, and access from Alderpoint Road. Crossings on the Rolling Meadows Ranch roads that do not access proposed cultivation sites were not inspected. A total of 45 crossings (including two existing bridges) were identified. It was determined that 34 of the 45 crossings were in need of culvert installation, replacement or other repair. Including trees that measure over 4 in dbh, as defined above, the crossing analysis identified between one (1) and ten (10) riparian area trees that will be removed as a result of the 34 crossing improvements. In Table 2, below, the crossing number (corresponding to crossing numbers in Appendix K) and the type and size of the impacted trees are detailed.

Table 2. Trees Impacted by Proposed Project Development – Stream Crossing Improvements

Crossing #	**Minimum # of trees removed (species, size (dbh))**	**Maximum # of trees removed (species, size (dbh))**
2	0	1 Doug Fir (12 inch)
4	1 Doug Fir (5 inch)	0
29	0	1 White Oak (14 inch) 3 Bay Laurel (4-5 inch)
31	0	1 Red Alder (16 inch) 1 Doug Fir (12) 1 Bigleaf Maple (12 inch)
44	0	1 Madrone (11 inch)
Max # of Trees to be Removed = 10		

The project will improve ranch roads to ensure safe access for emergency vehicles, employees, and water quality. In addition to culvert improvements described above (Table 2), Northpoint Consulting identified areas on internal ranch roads that will require improvements (see Road Construction in Project Description and *Access Assessment for Compliance with Humboldt County Code Section 3112-12 - Fire Safe Regulations* Appendix C); these are labeled as Road Points. NRM reviewed the recommended improvement at the Road Points (RPs) identified and an NRM botanist assessed the areas for potential impacts to native vegetation (Assessment of Road Improvement and Maintenance Activities Impacts to Botanical Resources, NRM, Oct 2020; Appendix I). A total of 10 trees will be directly impacted by the road improvements. In Table 3 below, impacts to trees at individual RPs are summarized. As described above, all riparian area trees and oak trees above 4 inches dbh are considered in the tally while trees outside the riparian zone are included at 12 dbh and above. The three white oaks that will need to be removed at RP10 are growing in the road prism on the edge of the drive track.

Table 3. Trees Impacted by Proposed Project Development – Road Improvements

Road Point #	**Estimated # of Riparian area trees or Oaks removed (species, size (dbh))**	**Estimated # of non-riparian trees removed (species, size (dbh))**
RP 6	-	1 Doug Fir (30 inch) 1 Doug Fir (17 inch)
RP 7	-	1 Doug Fir (20 inch) 2 Doug Fir (approx. 15 inch)
RP 8	-	1 Doug Fir (30 inch)
RP 9	-	1 Madrone (25 inch)
RP 10	3 White Oak (15-20 inch)	-
RP 11-12	-	-
RP 12	All trees previously recorded: Table 2, Crossing # 29	
Estimated Number of Trees to be Removed = 10		

Discussion

e) No Impact. The project will not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. The project is zoned for Agriculture, which allows agriculture and associated infrastructure. Cultivation of cannabis is an agricultural activity; no farmland will be converted to a non-agricultural use.

f) No Impact. The project will not conflict with existing zoning for agricultural use, or a Williamson Act contract. No APNs on the legal parcel #1, nor any of the larger Rolling Meadow Ranch ownership, is associated with a Williamson Act contract. The project is located on land that is zoned AE, agricultural exclusive and allows for general and intensive agricultural practices.

g) No Impact. The project will not 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 will take place on parcels that are zoned as both TPZ/ AE (Figure 20 for TPZ delineation). The development of project facilities and processing buildings will be in open agricultural grasslands with low slopes (less

than 15%) and mapped by Dirty Business as prime agricultural soils. No rezoning will be required. See Dirty Business soil reports (Appendix F) and Plot Plans (Appendix A) for building locations and prime agricultural soils delineations.

h) Less Than Significant Impact with Mitigation. The implementation of the project will result in the loss of a maximum of 24 trees out of over 186,000 but will not result in the loss of forest land or the conversion of forest land to non-forest use with mitigation incorporated. Facilities will mostly be constructed in open grassland and only four (4) trees will be removed as a result of Facility construction. The majority of tree removal, 27 trees, will result from improvements to existing ranch roads to ensure long term water quality and transportation safety. To mitigate the loss of these 24 trees, the project will replant the trees onsite from local stock with a ratio of three new trees per every one tree removed and incorporate monitoring for replanting success. The trees removed from the open meadow areas and other non riparian areas will be replanted in or adjacent to existing groves in similar environments on the ranch. All trees removed a result of stream crossing upgrades will be replanted in the same riparian corridor (benefitting the impacted stream), but away from the roadbed. This will ensure longevity for the trees in case of future road maintenance. See Mitigation Agriculture and Forestry Resources- Mitigation 1 for more details.

i) Less Than Significant Impact. This project will not 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 forestland to non-forest use. The land will not see operational impacts from cannabis outside of the project footprint (greenhouses, processing buildings and compost areas, roads, etc.). The electrical lines will be buried in the existing road prism and will terminate onsite at Facilities #10-#16.

The project will locate one ancillary processing buildings with concrete floors on soil that was identified as Prime Ag soil by the consulting firm, Dirty Business. The processing building, located immediately west of Facility #11, will cover approximately 7,000 sq. ft. of prime ag soil. The 7,000 sq. ft. of concrete area is less than 0.5% of available prime ag soils on the parcel and is not a significant impact.

Cumulative Impact

This project brings year-round, legal agricultural employment to an area that currently sees intermittent logging projects, ranching, and illegal cannabis cultivation. The project is aligned with Humboldt County's zoning regulations. This agricultural employment will make permanent improvements to the roads that will provide enhanced watershed, soil and air quality protection. This project will preserve 99.5% of all the identified prime ag soils by building greenhouses without hardened floors and by balancing all cut and fill on the project. The project will remove trees (24 maximum, 20 as a result of road safety and water quality improvements), but will not result in a conversion of timberland to non-forest uses. Any new proposals for THPs on the ranch property will undergo a thorough analysis per the protocols of the Forest Practices Rules; new THP on the property are not expected to have a significant cumulative effect on forest resources or on forest resources. This project will not have a significant cumulative impact on Agricultural and Forest Resources.

Mitigation

Mitigation Measure – Agriculture and Forest Resources 1: Revegetation and Monitoring adapted from the 2019 State Water Board Order WQ 2019-0001-DWQ; Attachment A, Section 2, number 33-35. This is a Proposed Native Trees – Replanting and Monitoring Plan; the final Replanting Plan will be approved by Humboldt County Planning and Building Department (HCP&BD) prior to implementation.

NATIVE TREES - Replanting and Monitoring Plan:

1. The cultivator will plant three native trees for every one native tree damaged or removed.
    a. The project will plant up to 72 trees.
        i. The trees removed from meadows and other non-riparian locations will be replanted on the ranch in a similar environment to that from which they were removed:
        (6) California Bay trees (*Umbellularia californica*)
        (6) Big Leaf Maple Trees (*Acer macrophyllum*)
        (3) Madrone (*Arbutus menziesii)*
        (9) White Oak (*Quercus alba*)
        (18) Doug fir (*Pseudotsuga menziesii*),

        ii. The trees that are removed as a result of stream crossing improvements will be replanted along the same riparian corridor from which they were removed, but not within or immediately adjacent to the roadbed:
        (9) Doug fir (*Pseudotsuga menziesii*)
        (3) White Oak (*Quercus alba*)
        (3) Red Alder (Alnus rubra)
        (3) Madrone (*Arbutus menziesii*)
        (3) Big Leafed Maple (*Acer macrophyllum*)
        (9) Bay Laurel (*Laurus nobilis*).

    b. Trees will be planted in groves in order to maximize wildlife benefits and will be derived from local stock.
    c. Trees will be planted 10-foot on center.

2. Growth and success of planted saplings will be monitored by a qualified professional for two (2) years.
    a. After two (2) years, an 85% survival rate is required.
    b. If success rate is less than 85%, the planting and monitoring steps will be repeated.

3. The project proponent shall maintain a copy of the **Native Trees Replanting and Monitoring Plan** and monitoring results onsite; HCP&BD will confirm implementation and monitoring results will be submitted annually (by December 31) to HCP&BD and made available, upon request, to additional Responsible Agencies under CEQA.

AIR QUALITY

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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 adversely affecting a substantial number of people?				X

Setting

The project site is located in Humboldt County, which lies within the North Coast Air Basin (NCAB) and is managed by the North Coast Unified Air Quality Management District (NCAQMD). 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 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 storm events occurring during winter months.

The only standard currently listed as non-attainment in the North Coast Air Basin is the state standard for particulate matter, PM-10. The NCAB, along with most of the rest of California, does not meet the ambient levels the state sets for PM-10 (the federal PM-10 standard is three times the level set by California).

During certain times of the year, NCAB is non-attainment for the state standard for particulate matter (PM-10), mainly in the area surrounding Humboldt Bay. Currently, the NCAB is non- attainment only for a few days per year. The draft attainment plan for PM-10 in the NCAB was completed in 1995. No final attainment plan currently exists for the NCAB. The attainment goals for lowering PM-10 in the NCAB were designed for Crescent City, Weaverville, and Eureka. The nearest major town to the project, (Fortuna) is located in the Eel River Valley, and PM-10 generated by this site would be detected best by the monitoring station located in Eureka. Based on the estimates generated for the 1995 draft attainment plan, Eureka needs a 49% reduction.

Existing project dust control designs included at the end of this section shall help to reach the attainment goals for PM-10 established in the 1995 draft attainment plan (NCUAQMD website).

While the percentage of days in the year the state standard has been exceeded has been decreasing over the past few years, the standard is still exceeded on several days every year, usually in the winter months when wood stoves are predominantly used for providing heat to residences. This project proposes no wood burning sources and will not be incinerating waste. Vegetative waste will be composted on site and solid waste will be hauled to the transfer station in Redway or Fortuna. Therefore, the most likely PM-10 contributors and overall impacts to air quality will be from fugitive dust and emissions from machinery and vehicle use.

Discussion

a-b) Less than Significant. The project does not include any element where discharges from the facilities will conflict with existing plans, violate any air quality standard or contribute substantially to an existing or projected air quality violation. The North Coast Air Basin in which the project is located has been deemed to be in "non-attainment" for PM10 (particulate matter 10 micrometers in size). Construction activities will result in temporary minor emissions of diesel and gasoline engine combustion products from construction. Particulate emissions from construction equipment have a potential to contribute to the regional non-attainment status, a potentially significant impact. This potential will be reduced to less-than-significant levels by compliance with the North Coast Unified Air Quality Management District's 'Air Quality Control Rule 104 – Prohibitions' (personal communication, Jason Davis, 11/21/17). The applicant does not believe that fugitive dust would have any impact of the air basin due to the short distance dust travels. Project design features will ensure safe driving circumstances and control dust; these include rocking the roads with clean road rock (and spraying with water during construction with a frequency determined by meteorological conditions), implementation of a Ranch wide speed limit of 15 mph and elimination of employee traffic during the dry months with the use of the electric bus (McCann Road access, available in the dry months, will have employee parking and a bus turn around).

Construction Phase:

Two categories of air pollutants could result from the construction phase of this project: emissions, including odors from vehicles and fugitive dust.

- Emissions

The Construction component of the project includes short term, specific goal-oriented transportation trips that will generate greenhouse gases. These trips are project specific and not reoccurring. These are the delivery and return of equipment and the delivery of project specific materials in order to achieve the installation of the septic systems and underground electrical, the grading of greenhouse and processing building flats. The total Estimated Carbon dioxide emissions for the vehicle use during the construction phase of the project is **21.8 metric tons**. These emissions are singular and short term (Table 15).

Emissions from passenger vehicles moving construction employees to the site (5 onsite each day), and equipment brought onto the site for use in construction (backhoe, bulldozer, excavator, dump truck, water truck, etc.) will be burning fuel. The amount of fuel burned will vary. Two of the most common factors (according to several internet sources) that influence fuel use during equipment operation are the experience of the operator and the task and corresponding engine load. An example of a low engine load task is moving loose dirt compared to a high engine load task of excavating rock.

To reduce fuel consumption and emissions, the equipment will not allow engines to idle and operators will have experience with the specific task demanded. Fuel use will be limited to active work times. These work times will occur intermittently throughout the first phase of construction (8-12 weeks of earth work). No heavy equipment will be used during the finishing phases (building of buildings and greenhouses, electrical, plumbing, etc.). There use will be temporary or sporadic and will not have a significant effect on air quality.

- Fugitive dust

The other pollutant of concern is fugitive dust. In compliance with the North Coast Unified Air Quality Management District (NCUAQMD) Rule 104, Section C, the project will use water trucks to spray road and land surfaces as they are graded and after grading as needed to control for fugitive dust. The roads will be sprayed between one and three times a day depending on meteorological conditions (i.e.: fog, rain, high temperatures, etc.). Stockpiles will be sprayed 15 minutes before anticipated use and covered when not in use and if conditions are windy. The water trucks will also spray any grading sites, dry spoils piles and gravel piles during the grading stage that may contribute fugitive dust. All trucks carrying materials (gravel) onto or through the project site will be covered or sprayed with water to avoid materials becoming airborne. The roads will be rocked with clean road rock to further reduce airborne particulate. The project will protect sites from wind erosion on windy days by selecting protected work sites or limiting work. Compliance with the NCUAQMD Rule and observation of Construction BMPs reduces the risk of fugitive dust pollution to Less than Significant.

Operational Phase:

Two types of pollutants could result from activities associated with the day to day operation of the project; One is emissions and the second is fugitive dust (PM10).

- Emissions

The vehicle emissions during the operational phase include daily trips to and from the site by employees as well as the less frequent transportation of supplies to the site and delivery of product out of the area. The largest component of these trips would be by the 30 employees (22 on site per day) traveling daily to and from the workplace. Once employees reach the site, they will be transported around the property on an electric bus. The largest potential sources for employees are the communities on the Hwy 101 corridor: Fortuna, Garberville, Redcrest, etc. In most situations, the bulk of the commute would be on Hwy 101 and the emissions from these vehicles, negligible compared to the many vehicles on Hwy 101. For example, if a person in Garberville traveled to work at the project location, the distance on Hwy 101 would be 25 miles with only 7 miles on the smaller access roads (Google. Nov2018). The distance on Hwy 101 is 88% of the total distance traveled. According to the 2016 Traffic Volumes on California State Highways report by Cal Trans, the Annual average daily traffic (which is the total traffic volume for the year divided by 365 days) for the section of 101 nearest the Dyerville Loop access road is an average of 7400 cars a day (Back and Ahead directional totals averaged, counted at JCT. RTE.254 South). Therefore, the project would account for less than one half percent (0.3%) of the total traffic volume. When compared to the amount of traffic that already occurs on Hwy 101, emissions from vehicles associated with the project will not be significant. See *Greenhouse Gas* section for more detail regarding fuel burning emissions.

Each processing building will have a 45-kilowatt, Generac propane emergency generator that will only be used in fire emergencies to run water pumps for fire suppression. To keep the generators ready for operation

in case of an emergency, the generators will perform a periodic "exercise." In the "exercise mode," as described in the generator specification sheet (Appendix H), the amount of fuel burned over one year would be only 1.5 gallons. If there is no fire, and the generators only run in exercise mode (as described in the Project Description), then each generator will only burn 1.5 gallons a year; that is 7.5 gallons a year for all four generators. For perspective, a typical gas grill comes with a 20lb tank, which is about 4.7 gallons of propane.

Propane generators with engines less than 162 horsepower are not regulated by the NCUAQMD because, in general, the emissions from propane combustion generators are not deemed significant. As a precaution, the NCUAQMD requested that the operator apply for a permit for operation. The permit allowed the NCUAQMD to evaluate the potential emissions from these generators in the context of their projected uses. The NCUAQMD's review concluded (May 2019) that "an air quality permit is not required" for the emergency standby propane generators. The NCUAQMD application and response is available in Appendix H.

- Fugitive Dust

During project operations, the greatest potential source is dust is from vehicle traffic on unpaved roads. The county attributes almost 60 percent of the county's PM-10 numbers to traffic on unpaved roads and by association, to the illegal cannabis industry (Humboldt County General Plan, Draft EIR, 2017; 3.2-7). This project was the site of previous cannabis cultivation (mapped on Plot Plan, Appendix A) and, therefore, experienced seasonal (not winter) contributions to PM10 in the form of fugitive dust produced by truck travel on ranch roads at a time when the ranch roads were not rocked and when no speed limits were observed.

The main access roads (most miles traveled on) to the project are Alderpoint Road and Dyerville Loop Road. These roads are paved and will not contribute fugitive dust. A secondary access road off of the Dyerville Loop Rd is McCann Road; McCann Rd. travels north across the river and then east where the county portion ends on Rolling Meadow Ranch property. The McCann Rd. is a county-maintained road, 2.6 miles long, that consists of a concrete bridge across the river, a connected gravel bar section, and an older semi-paved section on the north bank of the Eel. From the end of the county road, the project has approximately five (5) miles of ranch roads (from the McCann Road access to Facilities #10-16) that have been rocked and will be brought up to Fire Safe Standards. From Alderpoint Road, the length traveled on interior project roads and easements to the nearest Facility (Facility #16) is 8 miles; the length of the interior roads traveled to the furthest Facility (Facility #1) is approximately 12.3 miles. The Alderpoint Rd. access will be brought up to firesafe standards and additional rocked will be added in some sections (See Appendix C, Road Evaluation). The anticipated use of the Alderpoint access will be as an alternate route only used during the wet season, therefore, eliminating the prospect of fugitive dust as a concern for the Alderpoint access.

According to the U.S. Department of Transportation (DOT), successful strategies to mitigate PM emissions from unpaved road dust are divided in three categories:

- Vehicle restrictions to limit the speed, weight, or number of vehicles
- Surface improvement, such as paving or adding gravel to the surface
- Surface treatment, such as watering or chemical treatment

This project, as designed, applies U.S. DOT strategies.

- All vehicles will be limited to a speed of 15mph on ranch roads. Slower speeds decrease the upward velocity of particulate.
- The project will limit the number of vehicles traveling the road. Employees will park at the entrance to the site (see Figure 13 for parking area location) and be transported to their daily work stations on the project's electric bus. In general, only the electric bus and the supply/delivery box truck will travel the full extent of the ranch roads.
- By rocking the Ranch roads with clean road rock, the project limits the amount of fine particulate (percentage of silt) that can be ejected into the air.

Additionally, the project, by virtue of its location, benefits from the forest canopy's documented ability to trap and reduce airborne PM10. In 2001, an expert panel for the EPA concluded that "in forest situations, with large roughness heights and surface areas, deposition will be much faster, greatly reducing (or eliminating) the fraction of PM that is transported" (Countess, R. et al, 2001).

These project designs, in conjunction with the passive PM collection from the forests that surround most of the ranch roads, will ensure that the PM10 generated by the project will not exceed baseline PM10. The project design is expected to reduce PM10 fugitive dust compared to baseline.

c) Less than Significant. The project will not expose sensitive receptors to substantial pollutant concentrations. The project site is rural. The sensitive receptors in the vicinity of the project site include species of concern and rural residences. Discussion about potential species of concern and air quality are in the Biological section. The United States Environmental Protection Agency (EPA) (1995) has determined that at an average wind speed of 10 m.p.h. most dust (30 to 100 microns in size) generally settles out of the atmosphere within 300 feet of the source, with larger particles traveling less distance and smaller particles traveling a longer distance. The nearest greenhouse is Facility #2 which is approximately 900-feet away from the nearest residence. Due to the limited grading and hauling activity in the vicinity of the project boundary, the rapid dissipation of the dust, the project BMPs to eliminate construction generated fugitive dust (water spraying, low speed limits) and project generated fugitive dust (rocked roads, low speed limits, bus transportation in lieu of employee vehicles) and the low density of residences and recreationists, impacts are less than significant.

d) No Impact. The project will not result in other emissions, such as those leading to odors, that will adversely affect a substantial number of people.

Construction: The odors from fuel burning construction equipment is known to adversely affect some sensitive receptors. The equipment will include a backhoe, excavator bulldozer, a compaction roller, concrete trucks, a water truck, dump trucks, and power tools. A small gasoline powered generator may be supplied by the contractor as a temporary means of providing power to power tools. The nearest residential developments are to the South, approximately 900-feet across the Eel River from Facility #2.

The United States Environmental Protection Agency (EPA) (AP42, Ch13, 3.2-2, 1995) has determined that at an average wind speed of 10 m.p.h. most larger particles (30 to 100 μm in size) generally settles out of

the atmosphere within 300 feet of the source, with larger particles traveling less distance and smaller particles traveling a longer distance. The unburned particles of diesel fuel, the diesel PM are those most associated with the construction vehicle fuel odor are composed of larger particles that would behave as described above. Because the closest neighbor is approximately 900-feet away and because the nature of the earthwork for this project is short term (8-12 weeks total) and temporary, the odor of the diesel fuel burring equipment would not have a significant impact on sensitive receptors.

Operational: The odor generated by the production and processing of cannabis in greenhouses and processing buildings will be present year-round as the project proposes flowering and harvesting year-round. However, the project is surrounded by vacant timber and agricultural land. The closest residence to the project is a significant distance away (approximately 900 feet from Facility #2 across the Eel river and through a stand of mature trees). Due to its isolation, the odors created by the project will not adversely affect a substantial number of people.

Cumulative Impact

During certain times of the year the NCAB is non-attainment for the state standard for particulate matter (PM-10), mainly in the area surrounding Humboldt Bay. While the percentage of days in the year the state standard has been exceeded has been decreasing over the past few years, the standard is still exceeded on several days every year, usually in the winter months when wood stoves are predominantly used for providing heat to residences.

Particulate matter generated by this project when considering the size of the Ranch and the limited scope of operations, its distance from the general public and adjacent residences, as well as the safe driving strategies incorporated, the proposed operations, when considered cumulatively, would not comprise a significant addition to the current impacts.

Mitigation None Proposed.

BIOLOGICAL RESOURCES

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game 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:

There are five separate project areas, all located on the north side of the main stem Eel River within a mosaic of redwood forest, mixed evergreen forest and coastal prairie and nonnative grassland, with inclusions of black oak woodland (Holland, 1986). Red alder forest forms the main vegetation type along and mainstem Eel. The forest is primarily composed of the *Pseudotsuga menziesii - Notholithocarpus densiflorus* Forest Alliance (S4) at upper elevations and the *Sequoia sempervirens* Forest Alliance (S3.2) at lower elevations (CNPS 2, 2018). Tree species present but not dominant within both alliances include *Umbellularia californica*, *Acer macrophyllum*, *Arbutus menziesii*, and *Notholithocarpus densiflorus var. densiflorus*. The oak woodland inclusions are composed of the *Quercus kelloggii* Forest Alliance (S4), containing a *Quercus kelloggii-Quercus chrysolepis* association and a *Quercus kelloggii*/*Toxicodendron*

diversilobum/grass association (CNPS 2, 2018). *Umbellularia californica, Acer macrophyllum, Quercus garryana* and *Aesculus californica* trees and *Baccharis pilularis, Rubus armeniacus* and *Heteromales arbutifolia* shrubs are also present within this vegetation type. These forested areas have been extensively logged by previous property owners and are largely composed of even-aged stands of second or third-growth trees.

The proposed project footprint lies almost entirely within the prairie and grassland portions of this mosaic, which are primarily composed of the *Holcus lanatus- Anthoxanthum odoratum* Herbaceous Semi-Natural Alliance (SR: NONE), areas dominated by *Dactylis glomerata*, and areas dominated by *Briza maxima-Bromus hordeaceus*. Within these larger communities were inclusions of *Elymus glaucus* stands (S3), the C*entaurea* (*solstitialis, melitensis*) Herbaceous Semi-Natural Alliance, the *Danthonia californica* Herbaceous Alliance and areas dominated by *Arrhenatherum elatius*, (S3) (CNPS 2, 2018). Common forb species present include *Brodiaea elegans*, *Crepis capillaris*, and *Linum bienne.* Shrubs such as *Baccharis pilularis*, *Rubus armeniacus*, *Heteromales arbutifolia* and *Toxicodendron diversilobum* are present as scattered thickets. These prairies have been heavily utilized for cattle grazing in recent decades. There is no active livestock management under the current owner, however the areas continue to be utilized by trespassing cattle.

Potential wetland areas identified in the project areas are defined by the dominance of Obligate (OBL) and Facultative-Wetland (FACW) and Facultative (FAC) species, as listed in the United States Army Core of Engineers Western Mountains, Valleys & Coast 2016 Regional Wetland Plant List (Lichvar et al., 2016). These areas are found primarily within the open prairie and are generally dominated by *Mentha pulegium* (OBL), *Cyperus eragrostis* (FACW), *Juncus effusus* (FACW), and *Holcus lanatus* (FAC).

Streams were identified and mapped during a site visit preceding the survey dates, according to the United States Army Core of Engineers *A Guide to Ordinary HighWater Mark (OHWM)Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States* (Mercel et al., 2014).

There is currently one barn on the property and a network of roads that are used for timber harvest and management. The barn, located in the footprint of Facility #10, will be removed. In order to construct greenhouses Facilities, a total of three (3) mature native trees will need to be removed. Further details and mitigation for this tree removal can be found in the Agriculture and Forest Resource section.

Facility # 1, and #2 are located adjacent to the Eel River at approximately 200 feet in elevation. This part of the river has little riparian vegetation, characterized by a narrow strip of willow on sand and gravel substrate with a few large cottonwoods that slopes gently uphill, immediately transitioning to an almost equal mix of redwood, big-leaf maple, witch hazel and bay. Facility #3,#4, #5 are located approximately 1.2 miles northwest of Facility #1-#2 at an approximate elevation of 1400 feet.

Facility #6-#16 are located approximately 1.8 miles due east of Facility #1-#5 at an elevation of approximately 615 feet, with a ridge separating the other sites. The eastern most area is the only project area that currently has a structure on it, an old barn in the footprint of Facility #10 that shows evidence of use by multiple bat species. This area also supports a seasonal pond used by native amphibians.

Discussion

Discussion – Effect on Sensitive Vegetation

The project calls for the construction of new infrastructure including greenhouses, buildings, parking areas, and road work. Possible sensitive plants species that could occur in the project vicinity are listed in Table 2 below. The project footprint will be in open meadows. The footprint is not within any riparian areas (Figures 40-43). A portion of Facility # 9 will be built partially on wetlands (Figures 42 and 44)

The current inventories of the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Plants of California* (CNPS 1, 2018), and the CDFW California Natural Diversity Database (CNDDB, 2018) were consulted to determine which special status plant species may occur within the project area and to compile a target species list. A nine-Quad query of CNDDB and CNPS *Inventory* records resulted in 39 listed vascular and nonvascular plant species and one Sensitive Natural Community. This list was used to create a target species and communities list (Table 4 and 5). This list includes species listed, candidates for listing, or proposed for listing under the ESA, CESA and the California Native Plant Protection Act. These scoping strategies are consistent with the California Department of Fish and Wildlife protocols (CDFW, 2018) and the California Environmental Quality Act (State of California, 2001).

Table 4. Target Species List: CNPS Rare Plant Rank (CNPR) 1-4 Plants Known to Occur in the 9-quad Area Surrounding Project.

Scientific Name	**Common Name**	**CRPR***	**Bloom Period**	**Habitat**	**Micro Habitat**	**Elevation Low (m)**	**Elevation High (m)**
Astragalus agnicidus	Humboldt County milk-vetch	1B.1	Apr-Sep	Broadleafed upland forest, North Coast coniferous forest	openings, disturbed areas, sometimes roadsides	120	800
Carex arcta	northern clustered sedge	2B.2	Jun-Sep	Bogs and fens, North Coast coniferous forest (mesic)		60	1400
Castilleja ambigua var. ambigua	johnny-nip	4.2	Mar-Aug	Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps, Valley and foothill grassland, Vernal pools margins		0	435
Coptis laciniata	Oregon goldthread	4.2	(Feb) Mar - May (Sep -Nov)	Meadows and seeps, North Coast coniferous forest (streambank)	Mesic	0	1000

Cypripedium fasciculatum	clustered lady's-slipper	4.2	Mar-Aug	Lower montane coniferous forest, North Coast coniferous forest	usually serpentinite seeps and streambanks	100	2435
Epilobium septentrionale	Humboldt County fuchsia	4.3	Jul-Sep	Broadleafed upland forest, North Coast coniferous forest	sandy or rocky	45	1800
Erigeron biolettii	streamside daisy	3	Jun-Oct	Broadleafed upland forest, Cismontane woodland, North Coast coniferous forest		28	1100
Erigeron robustior	robust daisy	4.3	Jun-Jul	Lower montane coniferous forest	Meadows and seeps	199	609
Erythronium oregonum	giant fawn lily	2B.2	Mar-Jun(Jul)	Cismontane woodland, Meadows and seeps	sometimes serpentinite, rocky, openings	100	1150
Erythronium revolutum	coast fawn lily	2B.2	Mar-Jul(Aug)	Bogs and fens, Broadleafed upland forest, North Coast coniferous forest	Mesic, streambanks	0	1600
Fritillaria purdyi	Purdy's fritillary	4.3	Mar-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest		174	2255
Gilia capitata ssp. Pacifica	Pacific gilia	1B.2	Apr-Aug	Coastal bluff scrub, Chaparral (openings), Coastal prairie, Valley and foothill grassland		5	1665
Hemizonia congesta ssp. tracyi	Tracy's tarplant	4.3	May-Oct	Coastal prairie, Lower montane coniferous forest, North Coast coniferous forest		118	1199

Howellia aquatilis	water howellia	2B.2	Jun	Marshes and swamps (freshwater)		1083	1289
Kopsiopsis hookeri	small groundcone	2B.3	Apr-Aug	North Coast coniferous forest		90	885
Lathyrus glandulosus	sticky pea	4.3	Apr-Jun	Cismontane woodland		300	800
Leptosiphon acicularis	bristly leptosiphon	4.2	Apr-Jun	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland		55	1499
Leptosiphon latisectus	broad-lobed leptosiphon	4.3	Apr-Jun	Broadleafed upland forest, Cismontane woodland		169	1499
Lilium kelloggii	Kellogg's lily	4.3	May-Aug	Lower montane coniferous forest, North Coast coniferous forest	Openings, roadsides	3	1300
Lilium rubescens	redwood lily	4.2	Apr- Aug (Sep)	Broadleafed upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest	Sometimes serpentinite, sometimes roadsides	30	1910
Lilium washingtonianum ssp. purpurascens	purple-flowered Washington lily	4.3	Jun-Aug	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest		68	2749
Listera cordata	heart-leaved twayblade	4.2	Feb-Jul	Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest		5	1370

Lycopodium clavatum	running-pine	4.1	Jun-Aug(Sep)	Lower montane coniferous forest (mesic), Marshes and swamps, North Coast coniferous forest (mesic)	often edges, openings, and roadsides	45	1225
Lycopus uniflorus	northern bugleweed	4.3	Jul-Sep	Bogs and fens, Marshes and swamps		4	1999
Meesia triquetra	three-ranked hump moss	4.2	Jul	Subalpine coniferous forest, Upper montane coniferous forest (mesic)	Bogs and fens, Meadows and seeps,	1299	2953
Mitellastra caulescens	leafy- stemmed mitrewort	4.2	(Mar) Apr- Oct	Broadleafed upland forest, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest	mesic, sometimes roadsides	5	1700
Montia howellii	Howell's montia	2B.2	(Feb) Mar -May	Meadows and seeps, North Coast coniferous forest, Vernal pools	vernally mesic, sometimes roadsides	0	835

Navarretia leucocephala ssp. bakeri	Baker's navarretia	1B.1	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools	vernally mesic	4	1740
Packera bolanderi var. bolanderi	seacoast ragwort	2B.2	(Jan- Apr) May- Jul (Aug)	Coastal scrub, North Coast coniferous forest	Sometimes roadsides	30	650
Piperia candida	white- flowered rein orchid	1B.2	(Mar) May -Sep	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest	sometimes serpentinite	30	1310
Pityopus californicus	California pinefoot	4.2	(Mar-Apr) May- Aug	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous	mesic	15	2225
Pleuropogon refractus	nodding semaphore grass	4.2	(Mar) Apr- Aug	Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest, Riparian forest	mesic	0	1600

Ribes roezlii var. amictum	hoary gooseberry	4.3	Mar-Apr	Broadleafed upland forest, Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest		119	2300
Sanicula tracyi	Tracy's sanicle	4.2	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest	openings	100	1585
Sidalcea malachroides	maple- leaved checkerbloom	4.2	(Mar) Apr- Aug	Broadleafed upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland	often in disturbed areas	0	730
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	1B.2	May-Aug	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest	often roadcuts	15	880
Tracyina rostrata	beaked tracyina	1B.2	May-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland		90	790
Usnea longissima	Methuselah's beard lichen	4.2		Broadleafed upland forest, North Coast coniferous forest	On tree branches; usually on old growth hardwoods and conifers	50	1460

Wyethia longicaulis	Humboldt County wyethia	4.3	May-Jul	Broadleafed upland forest, Coastal prairie, Lower montane coniferous forest	sometimes roadsides	750	1525

*Listing codes are as follows: CRPR 1B = rare, threatened, or endangered in CA and elsewhere; CRPR 2B = rare, threatened, or endangered in CA, but more common elsewhere; CRPR 3 = plants about which more information is needed; a review list; CRPR 4 = of limited distribution or infrequent throughout a broader area in California. Ranks at each level also include a threat rank and are determined as follows: 0.1-Seriously threatened in California; 0.2-Moderately threatened in California; 0.3-Not very threatened in California (CNPS 1, 2018).

Table 5. Target Sensitive Natural Communities List: Communities Known to Occur in the 9-quad Area Surrounding Project.

Community Name	**State Rank**	**Legacy CNDDB**	**Alliance Name (Sawyer and Keeler- Wolf, 2009)**
Upland Douglas -fir forest (Holland, 1986)	S3.1	Yes	*Pseudotsuga menziesii* Forest Alliance

*Listing codes are as follows: S1: Fewer than 6 viable occurrences worldwide/ statewide, and/ or up to 518 hectares; S2: 6-20 viable occurrences worldwide/ statewide, and/ or more than 518-2,590 hectares; S3: 21-100 viable occurrences worldwide/ statewide, and/or more than 2,590-12,950 hectares; S4: Greater than 100 viable occurrences worldwide/ statewide, and/or more than 12,950 hectares; S5: Demonstrably secure because of its worldwide/ statewide abundance. Additional Threat Ranks: 0.1=Very threatened; 0.2=Threatened; 0.3= No current threat known.

In general plant species, if present, could be affected directly through removal, or indirectly though habitat modification and degradation. In order to determine presence of special status species botanical surveys were conducted at the site.

Surveys were conducted according to the CDFW *Protocols* (CDFW, 2018) on May 28 and July 3, 2018. Through the permitting process changes to the project lay out were made in late 2019. As a result, Facilities #6-#9 now located in an area that was not included in the 2018 surveys. In May /June 2020 the site of Facility #9 was visited multiple times by the botanist during the wetland delineation process. No rare plants were found in that area. On April 9, 2019 an NRM botanist did visit the area where Facilities #6-#9 are proposed. The purpose of that visit was to look for wetland areas and the timing of the visit was two early in the season for many of the possible special status species so this visit cannot be considered a protocol level survey. It should be noted though that no sensitive species were encountered during this visit. A late season survey was done on these areas, Facilities #6-#9, on May 9, June 16, 25, 2020. A full early season survey has not been completed on Facilities #6-#9. The full botany reports can be found in Appendix I. No

rare, endangered, or CNPS list 1, 2, 3 or 4 plants were found during the surveys during the 2018 surveys. Pacific Gilia (*Gilia capitata ssp. Pacifica* CRPR 1B.2) and Tracy's tarplant (*Hemizonia congesta ssp. tracy*i CRPR 4.3) were found during the 2020 surveys. The overall survey results are summarized in Table 6. Weather patterns and climate conditions in the months prior to the surveys were average, and conditions should have been suitable for growth and flowering of most species for which habitat was present. The early survey was potentially too late in the season to detect Howell's Montia (*Montia howellii*) but only marginal habitat was found on site.

Table 6a Summary of Findings for Special Status Plant Species

Scientific Name	Common Name	CRPR	GRank	SRank	CESA	FESA	Blooming Period	Habitat	Elevation Low (ft)	Elevation High (ft)	Habitat Present in Study Area?	Species Detected?
Astragalus agnicidus	Humboldt County milk-vetch	1B.1	G2	S2	CE	None	Apr-Sep	Broadleafed upland forest, North Coast coniferous forest	390	2625	Yes-Habitat present along roadsides	No
Carex arcta	northern clustered sedge	2B.2	G5	S1	None	None	Jun-Sep	Bogs and fens, North Coast coniferous forest (mesic)	195	4595	No	No
Castilleja ambigua var. ambigua	johnny-nip	4.2	G4T4	S3S4	None	None	Mar-Aug	Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps, Valley and foothill grassland, Vernal pools margins	0	1425	No	No
Coptis laciniata	Oregon goldthread	4.2	G4?	S3?	None	None	(Feb)Mar - May(Sep-Nov)	Meadows and seeps, North Coast coniferous forest (streambanks)	0	3280	Marginal - possible along roadsides, and forest edge	No
Cypripedium fasciculatum	clustered lady's-slipper	4.2	G4	S4	None	None	Mar-Aug	Lower montane coniferous forest, North Coast	325	7990	No	No

								coniferous forest				
Epilobium septentrionale	Humboldt County fuchsia	4.3	G4	S4	None	None	Jul-Sep	Broadleafed upland forest, North Coast coniferous forest	145	5905	No	No
Erigeron biolettii	streamside daisy	3	G3?	S3?	None	None	Jun-Oct	Broadleafed upland forest, Cismontane woodland, North Coast coniferous forest	95	3610	Marginal - possible along roadsides	No
Erigeron robustior	robust daisy	4.3	G3	S3	None	None	Jun-Jul	Lower montane coniferous forest, Meadows and seeps	655	2000	Marginal - possible along roadsides, in prairie edges	No
Erythronium oregonum	giant fawn lily	2B.2	G4G5	S2	None	None	Mar-Jun(Jul)	Cismontane woodland, Meadows and seeps	325	3775	Marginal - possible along roadsides, and forest edge	No
Erythronium revolutum	coast fawn lily	2B.2	G4G5	S3	None	None	Mar-Jul(Aug)	Bogs and fens, Broadleafed upland forest, North Coast coniferous forest	0	5250	Marginal - possible along roadsides, and forest edge	No

Fritillaria purdyi	Purdy's fritillary	4.3	G4	S4	None	None	Mar-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest	570	7400	No- Project area is open prairie on sedimentary soils	No
Gilia capitata ssp. pacifica	Pacific gilia	1B.2	G5T3	S2	None	None	Apr-Aug	Coastal bluff scrub, Chaparral (openings), Coastal prairie, Valley and foothill grassland	15	5465	Yes- Habitat present along roadsides, in open prairie and forest edge	Yes
Hemizonia congesta ssp. tracyi	Tracy's tarplant	4.3	G5T4	S4	None	None	May-Oct	Coastal prairie, Lower montane coniferous forest, North Coast coniferous forest	390	3935	Yes- habitat present along roadsides, in open prairie and forest edge	Yes
Howellia aquatilis	water howellia	2B.2	G3	S2	None	FT	Jun	Marshes and swamps (freshwater)	3555	4230	No - project area lower elevation than usually found, no perennial wetland in Study Area	No

Kopsiopsis hookeri	small groundcone	2B.3	G4?	S1S2	None	None	Apr-Aug	North Coast coniferous forest	295	2905	No-project area in open prairie	No
Lathyrus glandulosus	sticky pea	4.3	G3	S3	None	None	Apr-Jun	Cismontane woodland	980	2625	Yes-Possible along roadsides	No
Leptosiphon acicularis	bristly leptosiphon	4.2	G4?	S4?	None	None	Apr-Jul	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland	180	4920	Yes-habitat present along roadsides, in open prairie and forest edge	No
Leptosiphon latisectus	broad-lobed leptosiphon	4.3	G4	S4	None	None	Apr-Jun	Broadleafed upland forest, Cismontane woodland	555	4920	Yes-habitat present along roadside in open prairie and forest edge	No
Lilium kelloggii	Kellogg's lily	4.3	G3	S3	None	None	May-Aug	Lower montane coniferous forest, North Coast coniferous forest	5	4265	Yes-habitat present along roadsides, and forest edge	No
Lilium rubescens	redwood lily	4.2	G3	S3	None	None	Apr-Aug(Sep)	Broadleafed upland forest, Chaparral,	95	6265	Yes-habitat present	No

								Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest			along roadsides, and forest edge	
Lilium washingtonianum ssp. purpurascens	purple-flowered Washington lily	4.3	G4T4	S3S4	None	None	Jun-Aug	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest	225	9020	Yes- habitat present along roadsides, and forest edge	No
Listera cordata	heart-leaved twayblade	4.2	G5	S4	None	None	Feb-Jul	Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest	15	4495	Marginal - possible along roadsides, and forest edge	No
Lycopodium clavatum	running-pine	4.1	G5	S3	None	None	Jun-Aug(Sep)	Lower montane coniferous forest (mesic), Marshes and swamps, North Coast coniferous forest (mesic)	145	4020	Yes- possible along roadsides, and forest edge	No
Lycopus uniflorus	northern bugleweed	4.3	G5	S4	None	None	Jul-Sep	Bogs and fens, Marshes and swamps	15	6560	No- No perennial wetland	No

											in Study Area	
Meesia triquetra	three-ranked hump moss	4.2	G5	S4	None	None	Jul	Bogs and fens, Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest (mesic)	4265	9690	No- usually found at much higher elevations	No
Mitellastra caulescens	leafy-stemmed mitrewort	4.2	G5	S4	None	None	(Mar)Apr-Oct	Broadleafed upland forest, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest	15	5575	Marginal - possible along roadsides near creek crossings	No
Montia howellii	Howell's montia	2B.2	G3G4	S2	None	None	(Jan-Feb) Mar-May	Meadows and seeps, North Coast coniferous forest, Vernal pools	0	2740	Yes- Possible in road cuts and old graded areas with low vegetative cover	No

Navarretia leucocephala ssp. bakeri	Baker's navarretia	1B.1	G4T2	S2	None	None	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools	15	5710	Marginal - technically possible is vernally wet areas but very unlikely	No
Packera bolanderi var. bolanderi	seacoast ragwort	2B.2	G4T4	S2S3	None	None	(Jan-Apr) May-Jul(Aug)	Coastal scrub, North Coast coniferous forest	95	2135	Marginal - possible along roadsides in forested areas	No
Piperia candida	white-flowered rein orchid	1B.2	G3	S3	None	None	(Mar)May-Sep	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest	95	4300	Marginal - possible along roadsides in forested areas	No
Pityopus californicus	California pinefoot	4.2	G4G5	S4	None	None	(Mar-Apr) May-Aug	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest	45	7300	Marginal - possible along roadsides in forested areas	No

Pleuropogon refractus	nodding semaphore grass	4.2	G4	S4	None	None	(Mar)Apr-Aug	Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest, Riparian forest	0	5250	Marginal - possible along roadsides in forested areas or in wetter portions of prairies	No
Ribes roezlii var. amictum	hoary gooseberry	4.3	G5T4	S4	None	None	Mar-Apr	Broadleafed upland forest, Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest	390	7545	Yes-possible in shrub thickets within prairies, forest edge, along roads	No
Sanicula tracyi	Tracy's sanicle	4.2	G4	S4	None	None	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest	325	5200	Yes-possible along roadsides and in prairies	No
Sidalcea malachroides	maple-leaved checkerbloom	4.2	G3	S3	None	None	(Mar)Apr-Aug	Broadleafed upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest,	0	2395	Yes-possible along roadsides and in prairies	No

								Riparian woodland				
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	1B.2	G5T2	S2	None	None	(Apr)May-Aug	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest	45	2885	Yes-possible along roadsides and in prairies	No
Tracyina rostrata	beaked tracyina	1B.2	G2	S2	None	None	May-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland	295	2590	Yes-possible in prairies	No
Usnea longissima	Methuselah's beard lichen	4.2	G4	S4	None	None		Broadleafed upland forest, North Coast coniferous forest	160	4790	Marginal - possible in forests along roads	No
Wyethia longicaulis	Humboldt County wyethia	4.3	G4	S4	None	None	May-Jul	Broadleafed upland forest, Coastal prairie, Lower montane coniferous forest	2460	5005	Yes-possible along roadsides and in prairies	No

*Listing codes are as follows (CNPS 2020a):California Rare Plant Rank (CRPR) 1B = rare, threatened, or endangered in CA and elsewhere; 2B = rare, threatened, or endangered in CA, but more common elsewhere; 3 = plants about which more information is needed; a review list; 4 = of limited distribution or infrequent throughout a broader area in California. Ranks at each level also include a threat rank and are determined as follows: 0.1-Seriously threatened in California; 0.2-Moderately threatened in California; 0.3-Not very threatened in California. Global Ranking (GRank) - The global rank (G-rank) is a reflection of the overall condition of an element throughout its global range: G1 = Less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres; G2 = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres; G3 = 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres; G4 = Apparently secure; this rank is clearly lower than G3 but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat; G5 = Population or stand demonstrably secure to ineradicable due to being commonly found in the world. State Rank (SRank) The state rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank: S1: Fewer than 6 viable occurrences worldwide/ statewide, and/ or up to 518 hectares; S2: 6-20 viable occurrences worldwide/ statewide, and/ or more than 518-2,590 hectares; S3: 21-100 viable occurrences worldwide/ statewide, and/or more than 2,590-12,950 hectares; S4: Greater than 100 viable occurrences worldwide/ statewide, and/or more than 12,950 hectares; S5: Demonstrably secure because of its worldwide/ statewide abundance. Additional Threat Ranks: 0.1=Very threatened; 0.2=Threatened; 0.3= No current threat known. CESA: California Endangered Species Act: CR: state-listed (NPPA) RARE; CE = state-listed ENDANGERED; FESA: Federal Endangered Species Act: FE = federally listed ENDANGERED

Table 6b. Summary table of special status species identified during surveys. Map ID# corresponds with Figures 27-30

Map ID #	Date Mapped	Scientific Name	Common Name	CNPS Rank	Total Individuals	% Vegetative	% Flowering	% Fruiting	Location	Habitat Description	Datum	Coordinates
1	6/16/2020	Gilia capitata ssp. pacifica	Pacific gilia	1B.2	45	0	30	70	In edge of recently rocked private ranch road, outside of driven tread.	Recently spread gravel along road through coastal prairie and mixed evergreen forest. Associates	NAD83	40.31907261, -123.80261845
2	6/16/2020	Gilia capitata ssp. pacifica	Pacific gilia	1B.2	50	0	30	70	In edge of recently rocked private ranch road, outside of driven tread.	Road through coastal prairie and mixed evergreen forest. Associates include Toxicodendron diversilobum, Rubus leucodermis, Crepis capillaris, Hypocharis radicata, Prunella vulgaris	NAD83	40.32560968, -123.79540107
3	6/16/2020	Gilia capitata ssp. pacifica	Pacific gilia	1B.2	14	0	30	70	In edge of recently rocked private ranch road, outside of driven tread.	Road through coastal prairie and mixed evergreen forest. Associates include Toxicodendron diversilobum, Rubus leucodermis, Crepis capillaris, Hypocharis radicata, Prunella vulgaris	NAD83	40.32657276, -123.77083294
7	6/16/2020	Hemizonia congesta ssp. tracyi	Tracys tarplant	4.3	50	0	100	0	Dispersed through a natural terrace,	Coastal prairie, associates Stipa pulchra, Centaurea solstitialis, Holcus	NAD83	40.32538160, -123.77232505

									proposed Cannabis development site	lanatus, Linum bienne		
4	6/16/2020	Gilia capitata ssp. pacifica	Pacific gilia	1B.2	1000	0	30	70	In edge of recently rocked private ranch road, outside of driven tread.	Road through coastal prairie and mixed evergreen forest. Associates include Rubus armeniacus, Rubus leucodermis, Crepis capillaris,centaurea solstitialis, Plantago lanceolata	NAD83	40.32803881, -123.77886268
5	6/16/2020	Gilia capitata ssp. pacifica	Pacific gilia	1B.2	15	0	30	70	Within rock quarry (borrow pit) and surrounding area, including upslope of road	Road through coastal prairie and mixed evergreen forest. Associates include Toxicodendron diversilobum, Rubus leucodermis, Crepis capillaris, Hypocharis radicata, Prunella vulgaris	NAD83	40.32786887, -123.77977860
6	6/25/2020	Gilia capitata ssp. pacifica	Pacific gilia	1B.2	20	0	30	70	Recently rocked dirt road acccesing proposed Canabis development site	Road through coastal prairie and mixed evergreen forest. Associates include Toxicodendron diversilobum, Rubus leucodermis, Crepis capillaris, Hypocharis	NAD83	40.32482640, -123.79928031

										radicata, Prunella vulgaris		
8	6/25/2020	Hemizonia congesta ssp. tracyi	Tracys tarplant	4.3	300	0	100	0	Along treeline of edge of proposed Cannabis development site	Coastal prairie, associates Stipa pulchra, Centaurea solstitialis, Holcus lanatus, Linum bienne	NAD83	40.32526812, -123.77008958

Table 6c. Vegetation description and associated effects corresponding to Road Work Points. Full report of road work areas and vegetative impacts can be Found in Appendix C and I).

RP	Current description	Construction Activity	Vegetation description	Effects to native vegetation			
				***Gilia capitata* ssp. *pacifica* (CRPR 1B.2, S2)**	**Seedlings/saplings**	**Trees, non-riparian or oak**	**Riparian trees and oaks**
RP 2	16' prism existing with 2 turnouts N&S of section	Brush clearing on either side of roadway	Patch of invasive weeds dominated by Himalayan blackberry and scotch broom	None	None	None	None
RP 3	existing landing	Brush clearing on existing turnout	Weed patch dominated by scotch broom, with some native species present including coyote brush and rush	None	None	None	None
RP 4	13' road prism; 50% and 80% slopes	widen by cutting into bank on north side of roadway.	Cutslope dominated by invasive grasses and some native shrubs including coyote brush and toyon.	None	Tan oak-1	None	None
RP 5	existing landing, culvert	Blade and level existing turnout.	Flat dominated by yellow starthistle	Map ID#1, estimated 900 square feet of population impacted	white oak -26 & bay-laurel-6	None	None
RP 6	Steep roadway	Realign road and install turnout. 3 fir trees to be removed.	Forested area with high cover of invasive blackberry	None	white oak- 5 & bay-laurel- 1	Douglas fir-1 ind, ~30 in dbh & 1 ind, ~17 in dbh	None
RP 7	cut slope road causing visibility restrictions + sharp turn	Remove knob located on inside of turn. 1 small oak to be removed. Realign road (to edge of tree line) and install turnout. 4 Fir trees to be removed.	Small area covered in non-native grasses, sword fern, and bracken fern	None	Douglas fir- 9 & white oak -6 & Madrone-1 & bay-laurel-5	Douglas fir- 1 ind. ~20 in dbh, 1 ind. ~8 in dbh // 2-ind, <15 in dbh	None
RP 8	uphill turn causing visibility restrictions.	Widening of roadway on west side of road. 2 trees to be removed.	Forested area dominated by a mix of native and non-native shrubs including native species California blackberry, white-capped raspberry, Sierra gooseberry, & pink honeysuckle, all growing in competition with Himalayan blackberry	None	bay-laurel-1	One douglas fir, approximately 10 in dbh, and a second that is approximately 30 in dbh.	Removal of the 2nd Douglas fir will need to be done carefully as to not impact large white oak (dbh >30) Growing near it

RP	Current description	Construction Activity	Vegetation description	Effects to native vegetation			
				***Gilia capitata* ssp. *pacifica* (CRPR 1B.2, S2)**	**Seedlings/saplings**	**Trees, non-riparian or oak**	**Riparian trees and oaks**
RP 9	narrow roadway	Install large turnout on west side of roadway. 1 madrone and 2 tree to be removed.	Semi-vegetated dominated by Himalayan blackberry with some western lady fern also present.	None	Douglas fir- 1 & white oak -15 & Madrone-2 & bay-laurel-4	One Madrone, approximately 25 in dbh	None
RP 10	sharp turn, narrow roadway. stream crossing	Widen existing roadway on east & south side of roadway. 3(+1) dead oak trees to be removed.	Initial 50-ft of road is comprised of a non-native, invasive grasses after which point it transitions into a forest with coyoto bush, Sierra gooseberry, and Rose (Rosa sp) while disturbed areas are mostlu unvegetated with low cover of rush and hedge nettle	None	None	None	Three 15-20 in dbh white oaks
RP 11 to RP 12	Narrow Roadway	Widen road 2 ft by cutting into existing 2'-5' cutbank on north side of roadway.	Disturbed area is currently dominated by non-native, invasive grasses	None	Madrone-6 & Douglas fir-1	None	None
RP 12	Pinch point. 10' roadway width	Follow NRMs recommendation for culvert replacement and widen road to a minimum of 12' width, or install turnouts on either side of pinch point. (pt 29 in NRM report)	Invasive perennial grassland with low cover of bay-laurel and white oak	None	None	None	Three 4 to 5" bay-laurel (3' from outlet) & 14" white oak both were previously described in NRM culvert replacement report as point 29.
RP 12 to RP 13	Narrow Roadway	Widen road 2 ft by cutting into existing 1'-7' cutbank on north side of roadway.	Disturbed area is currently dominated by non-native, invasive grasses. Low point on the road and side slope has dominant cover by Cyperis. Coyote brush is also present in low numbers	None	None	None	None
RP 15 to RP 16	Narrow Road	Widen road 2 ft by cutting into existing 2'-6' cutbank on north side of roadway.	Disturbed area is currently dominated by non-native, invasive grasses with the occassional coyote brush that may be effected	None	white oak-6	None	None

RP	Current description	Construction Activity	Vegetation description	Effects to native vegetation			
				***Gilia capitata* ssp. *pacifica* (CRPR 1B.2, S2)**	**Seedlings/saplings**	**Trees, non-riparian or oak**	**Riparian trees and oaks**
RP 20	existing landing	Blade and level existing turnout.	Native blackberry, rush, and swordfern are present and intermingling with Himalyan blackberry and an assortment of non-native grasses	Map ID#2, estimated 370 square feet of population impacted	Big-leaf maple- 2	None	None
RP 22	existing landing slight slope to SE	Blade and level existing turnout.	Flat is currently dominated by a large patch of California blackberry and white-capped raspberry with other shrubs including rose (Rosa sp.) and Sierra gooseberry	Map ID#2, estimated 1750 square feet of population impacted	Douglas fir- 1 & tan oak-2	None	None
RP 24	existing landing adjacent to 13' road road surface	Blade and level existing turnout.	Most of flat is a weed patch dominated by yellow starthistle and common velvetgrass	Map ID#2, estimated 1430 square feet of population impacted	Big-leaf maple- 5 & Douglas fir- 4 & bay-laurel- 2 & Tan oak-4	None	None
RP 29	15' wide road w/ 20' existing landing around corner w/ 1' inboard ditch	Blade and level out side turn to edge of tree line.	Sparsely vegetated road segment dominated by ferns, rushes, and some evergreen huckleberry.	None	Big-leaf maple-10 & Madrone-2 & Douglas fir-9 & bay-laurel-1 & Tan-oak-1	None	None
RP 30	17' wide road with 1' ditch and turnout	Blade and level existing turnout.	Sparsely vegetated road segment dominated by yellow starthistle and pennyroyal	Map ID#2, estimated 3700 square feet of population impacted. Borders population	None	None	None

*seedlings/saplings are defined as individuals <1.37 m tall and/or <4" dbh and trees are defined as individuals >1.37 m tall and /or >4" dbh.

Special Status Species

Pacific gilia

Gilia capitata ssp. pacifica is an annual member of the vascular plant family Polemoniaceae. It is known from Humboldt, Mendocino, Del Norte, and Sonoma Counties in California (CNPS 2020a). It also occurs in Oregon (CNPS 2020a). The CNDDB database contains 83 recorded occurrences (CNPS 2020a).

Gilia capitata ssp. pacifica has the California Rare Plant Rank of 1B.2. Plant species with a California Rare Plant Rank of 1B are considered by the CNPS Inventory of Rare and Endangered Plants to be "rare throughout their range" (CNPS 2020a). The Threat Rank of 0.2 indicates that this species is "Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat) (CNPS 2020a). Plants with a CRPR of 2B meet the definition of rare or endangered under CEQA Guidelines section 15380 subdivisions (b) and (d) (CDFW 2018d). *Gilia capitata ssp. pacifica* is given a State Rank of S2, "Imperiled." (CNPS 2020a)

Gilia capitata ssp. pacifica is primarily distinguished from other *Gilia capitata* subspecies by its violet-colored calyx sinus membranes. Other distinguishing traits include the width of the petals (1-2 mm) and that the fruits are more or less included within the calyx (Baldwin et. al 2012). The population reported here exhibited an interesting characteristic. An estimated 50 percent of individuals investigated **did not** exhibit the characteristic violet color in the calyx membranes. These colorless-membraned individuals were fully intermingled with violet-membraned individuals. They also matched the other *G. capitata ssp. pacifica* traits listed above. We do not offer any hypothesis here as to what this means for the genetics or taxonomy of this population.

During field surveys in June of 2020, we found small populations of Pacific gilia distributed along some portions of the gravel access roads, and a large population with an estimated between 1,000 individuals growing in a rock quarry (borrow pit) beside the road (Map ID #4, Figures 27 and 30). A small number of individuals (approximately 20) were found on the access road to the Facility #3-# 5 development sites. The roadside populations were almost entirely restricted to the road edges, outside the driven road tread.
These findings are interesting, because some of the same areas were surveyed in 2018, yet no Pacific gilia were found. This could have been due to a mismatch of plant phenology and survey timing, but both the early and late season surveys should have captured some portion of the vegetative, bloom or fruiting period of that species. The proposed development areas were each checked for Pacific gilia during June 2020 surveys once our first detection was made. Communication with the property owner revealed that all areas where we found Pacific gilia were rocked in late summer of 2019 with gravel extracted from the rock quarry where the biggest population was found.

Given that the distribution of Pacific gilia over the Study Area was restricted to regions of access road which had been rocked in 2019, and that the largest population was found in the quarry supplying that rock, we conclude that roadwork in 2020 utilizing gravel from the quarry likely resulted in distributing Pacific gilia to its current extent over the Study Area.

Pacific gilia: Potential Impacts

Pacific gilia is an annual plant, growing each year from the seed set of the previous year or a seed bank from previous years. It is frequently found in portions of prairies and roadsides where soils are thin and rocky, in prairies and along roadsides, away from competition from dense vegetation.

Given Pacific gilia's status (CRPR1B.2, S2), any potential impacts to any population should be considered for significance.

We do not expect that normal use of the access road would reduce the populations along the roadsides, as the plants were mostly found outside the driven road tread. We would not expect them to expand into the road tread under normal use, but they could expand along the edge habitat as years go on. Use of the road will prevent encroachment by other vegetation, potentially keeping habitat open for the Pacific gilia.

The project does propose to blade and level existing turnouts in five areas where Pacific gilia populations were found, a total 0f 8,150 sqft will be impacted (see *Assessment of road improvement and maintenance activities impacts to botanical resources,* Appendix I) . Road grading, rocking or other maintenance could impact these occurrences. This would be especially likely if maintenance and improvements occurred during the portion of the growing season before seed set (before August). However, if road improvement activities took place after seed set (in August), as was the case in 2019, this activity could maintain or even further expand the populations, resulting in negligible or no impacts. Furthermore, general best practices, like seeding and laying down straw following maintenance activities, could result in too much competition during the spring, and limit the response of these populations to the disturbance.

Use of the rock quarry where the largest population is found could have similar impacts. However, if these activities took place after seed set (in August), as they did in 2019, they could potentially help maintain or even further expand the Pacific gilia populations, resulting in negligible or no impacts. If rock continues to be removed from that location over the long term, it could eventually result in the total removal of the Pacific gilia seed bank, a significant impact. However, a moderate level of use could potentially benefit the population by keeping exposed soil habitat open and spreading the seeds to new locations.

It is unlikely that the small extent of the population within the Facility #3-#5 footprint (20 individuals out of over 1,000) would survive the development proposed there. However, this portion of the overall population in the area is insignificant and would not cause significant impacts.

In conclusion, the potential for significant impacts is largely dependent on the timing of scheduled road maintenance and timing, frequency, and extent of use of rock from the quarry.

Determination

To avoid the potential for significant impacts to the Pacific Gilia populations, improvements to- and maintenance of, the road shall occur after August 15th and before October 15th, in areas where Pacific gilia is was found (Table 6b-c, Figures 27-31). Erosion control seed mix will not be used in these areas and instead weed-free straw will be laid over areas of bare dirt to precent winter erosion. This straw will be removed by May of the following year. In addition, these areas will also be assessed by a qualified botanist for a period of five (5) years, following project implementation. These findings will be incorporated into a larger monitoring report of all proposed activities (facilities developments, etc.), which will be submitted

to CDFW annually. Monitoring results will be used in an adaptive management process aimed at maintaining the Pacific gilia population.

All extraction of rock from the rock quarry (Map ID #4, Figures 27 and 30) shall occur after August 15th and before October 15th and occur no more frequently than every two (2) years (i.e. allowing two years between extraction events). Additionally, monitoring will occur every two (2) years following any rock extraction, within a period of ten (10) years following project implementation. Monitoring shall entail annual inventory and mapping of the extent of the Pacific gilia population on roads accessing project areas and within the rock quarry area. A monitoring report shall be submitted to CDFW annually within the above described monitoring period. Monitoring results shall be used in an adaptive management process aimed at maintaining the Pacific gilia population. For instance, if it appears that rock extraction is negatively impacting the population, a different plan shall be developed and implemented.

Tracy's tarplant

*Hemizonia congesta ssp. tracy*i is an annual member of the plant family Asteraceae. It is known from Humboldt, Mendocino, and Trinity counties, and is a California endemic (CNPS 2020a). CNDDB does not report the number of known occurrences, but the Calflora database reports 96 records, with the occurrence reported here falling near the center of its distribution (Calflora 2020). However, most of these records are from before 1990.

*Hemizonia congesta ssp. tracy*i has the California Rare Plant Rank (California Rare Plant Rank) of 4.3. Plant species with a California Rare Plant Rank of 4 are considered by the CNPS Inventory of Rare and Endangered Plants to be "of limited distribution or infrequent throughout a broader area in California" (CNPS 2019a). The Threat Rank of 0.3 indicates that this species is "-not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)" (CNPS 2019a). Plants with a CRPR of 4 sometimes meet the definition of rare or endangered under CEQA Guidelines section 15380 subdivisions (b) and (d), and "Impacts to CRPR 4 plants may warrant consideration under CEQA if cumulative impacts to such plants are significant enough to affect their overall rarity" (CDFW 2018d). *Hemizonia congesta ssp. tracy*i is given a State Rank of S4: "Apparently secure within California" (CNPS 2020a).

Tracy's tarplant is distinguished from other *Hemizonia congesta* subspecies by the "heads generally terminating elongate side branches of flowering stems or ± sessile in tight groups; ray white or yellow, purple-veined abaxially or not" and "Leaves generally puberulent or minutely bristly or strigose and nonglandular, distal rarely long-soft-hairy and glandular; ray white, not purple-veined abaxially except NCo; heads in panicle-like cluster" (Baldwin et.al 2012).

We found one population of approximately 350 hundred individuals within and around the Facility #6,-#9 site. Plants were found scattered and in patches along the existing access roads, and across the grassy terraces proposed for grading. However, the densest sub-population was located slightly downslope from the proposed Facility 9 project footprint, against the tree line (Map Point 8, See figures 27-30). We estimated approximately 50 plants scattered throughout the site, and an additional approximately 300 in the lower area (Map Point 8, figure 30) against the tree line.

Determination

Tracy's tarplant is an annual plant, growing each year from the seed set of the previous year or a seed bank from previous years.

The proposed development would impact much of the area where we found Tracy's tarplant to occur. However, local impacts to this population are difficult to predict without a grading plan indicating the full extent of the project disturbance footprint. According to the available proposed project layout, most of the dense patch by the tree line would be avoided.

While avoidance is generally recommended for CRPR 4 plants, strict mitigation is only required if the taxa *does* meet the definition of rare or endangered under CEQA Guidelines section 15380 subdivisions (b) and (d). A 2020 Technical memorandum published by the CNPS Rare Plant Program (CNPS 2020c) offers guidance on determining whether a CRPR taxa does or does not meet that definition. This population is at the center of the species' known distribution in California (Calflora 2020) and is therefore not within a peripheral portion of the known range, and the substrate on which it is found is not an unusual one. However, most of the records from CCH and the Calflora database are quite old, most being from before 1990 and many from before 1950. It is therefore difficult to know whether this species is still widely distributed within its range or is in decline. It is therefore difficult to say whether it meets the definition of rare or endangered.

Furthermore, while find no direct evidence that potential impacts (to this population) from project activity would affect the overall rarity or distribution of this CRPR 4.3 species, we also have no strong evidence that they would not.

Therefore, we recommend that the densest portion of the Tracy's tarplant population, the patch largely outside the project footprint (Map Point 8, Figure 30, Table 6b) , be protected during construction by the placement of construction fencing at the periphery, to keep equipment operators out of the area.

Sensitive Natural Communities
Pseudotsuga menziesii - Notholithocarpus densiflorus Forest Alliance (S4) and the *Sequoia sempervirens* Forest Alliance (S3.2) are found in the vicinity of the project area. The proposed construction footprint does not directly impact these communities. See tree removal discussion in Agricultural resources section, individual trees will be removed but no areas of forest will be cleared. Stands of *Danthonia californica* Prairie (S3, Alliance Code 41.050.00) and the *Elymus glaucus* association (S3 association code 41.640.01) were identified within several of the project sites. Each of these stands were smaller than the conventional minimum mapping unit of 1 acre and cannot therefore be conventionally mapped as a Natural Community and submitted to VegCAMP (CDFW 2, 2018). However, the size and location of these stands was included within the survey maps (Figures 23-26).

Determination: The project will affect a total of 0.97 acres of *Danthonia californica* Prairie (S3, Alliance Code 41.050.00) and the 0.89 acres *Elymus glaucus* association (S3 association code 41.640.01) in several locations (Figures 22-25). To mitigate for this loss 0.97 acres *Danthonia californica* prairie and 0.89 acres of *Elymus glaucus* association that are moderately to heavily invaded by non-natives will located on the property. These areas will then be restored to high quality stands by removal of nonnatives and planting of

Danthonia californica and *Elymus glaucus* plugs and seed. Details of restoration methods are described in **MM-Bio-5** in the mitigation section below. The entire mitigation Plan can be found in Appendix L.

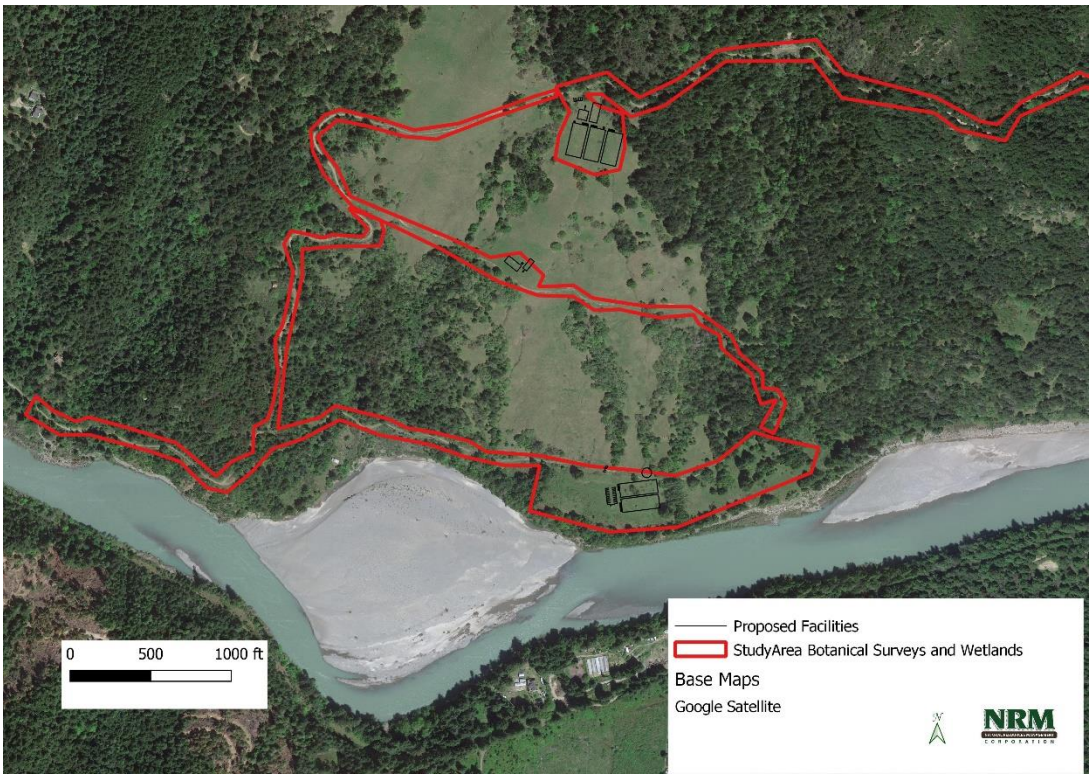

Figure 21 Study Area for Botanical Surveys and Wetlands

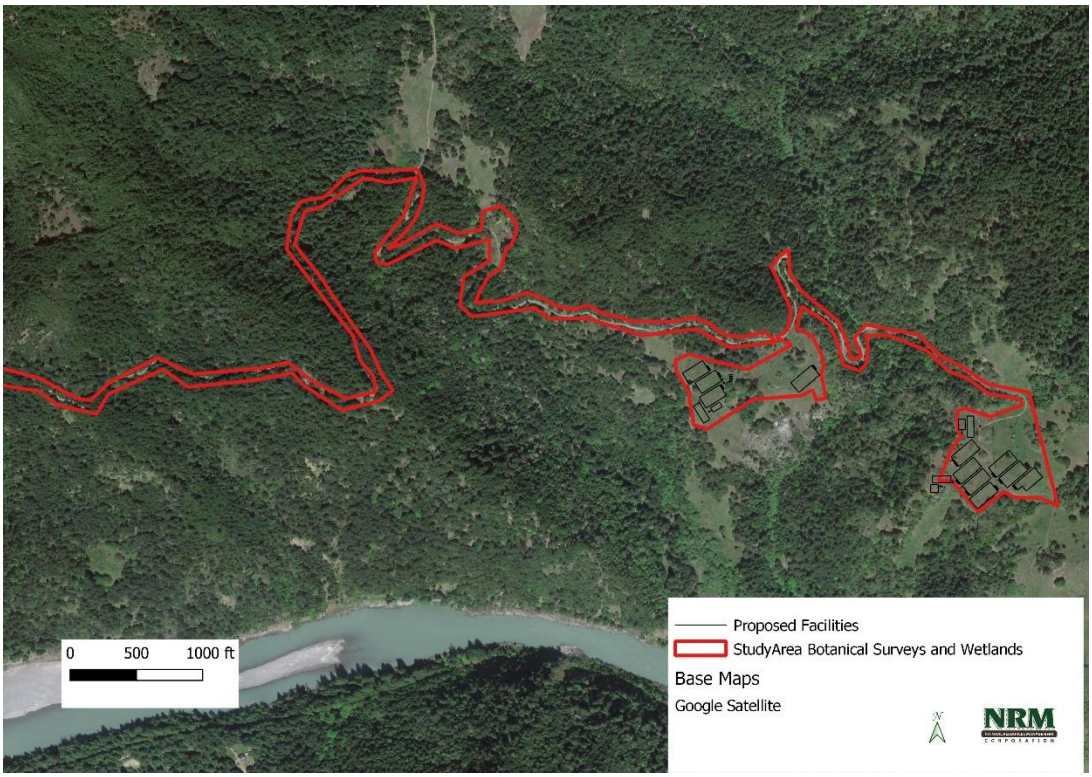

Figure 22. Study Area for Botanical Surveys and Wetlands

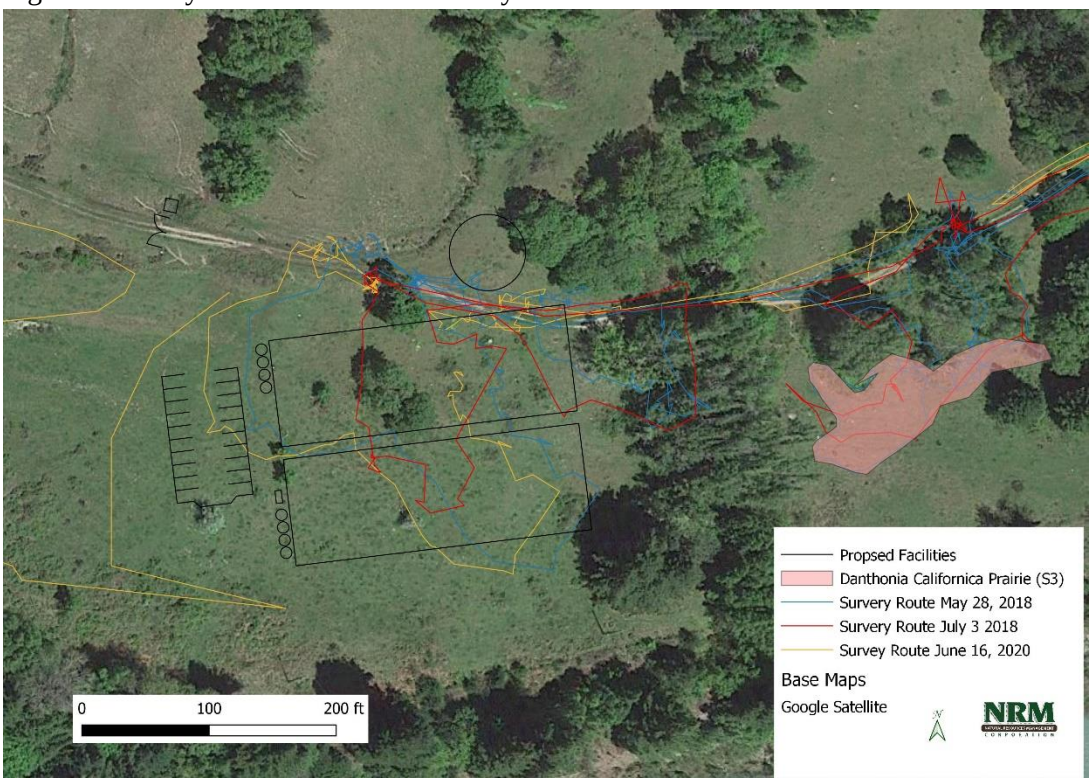

Figure 23. Survey Routes and Special Status Community Locations, Facilities #1-#2

Figure 24 Survey Routes and Special Status Community Locations, Facilities #3- #5.

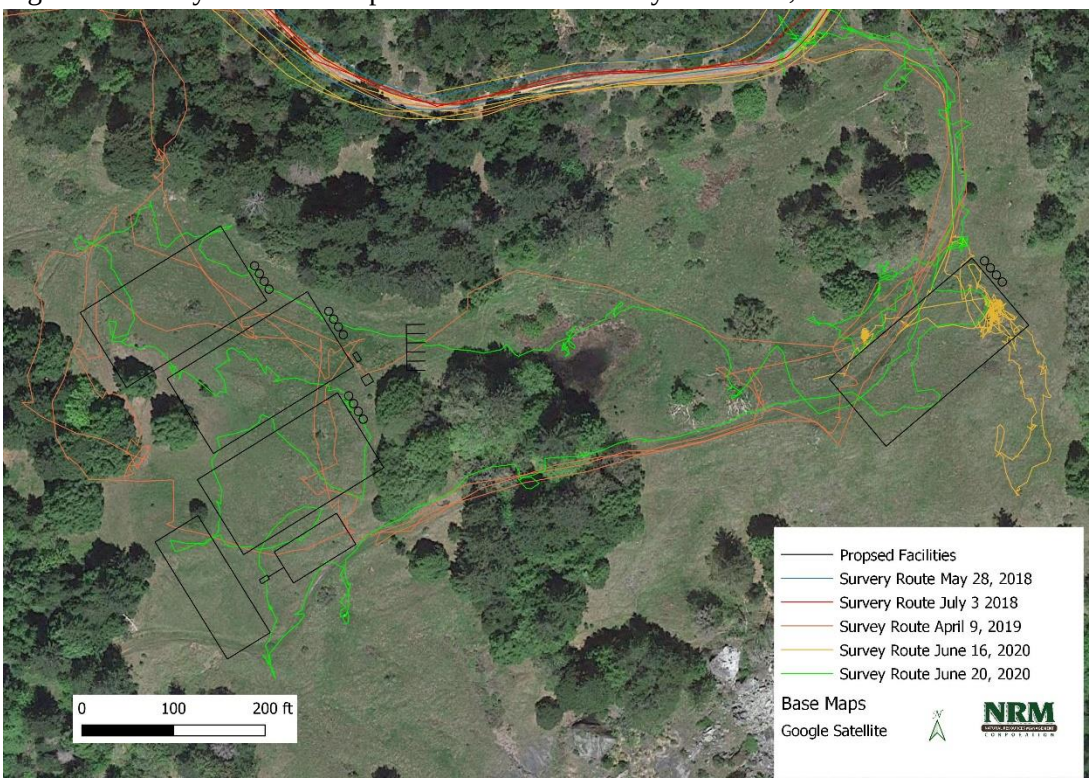

Figure 25. Survey Routes and Special Status Community Locations, Facilities #6-#9.

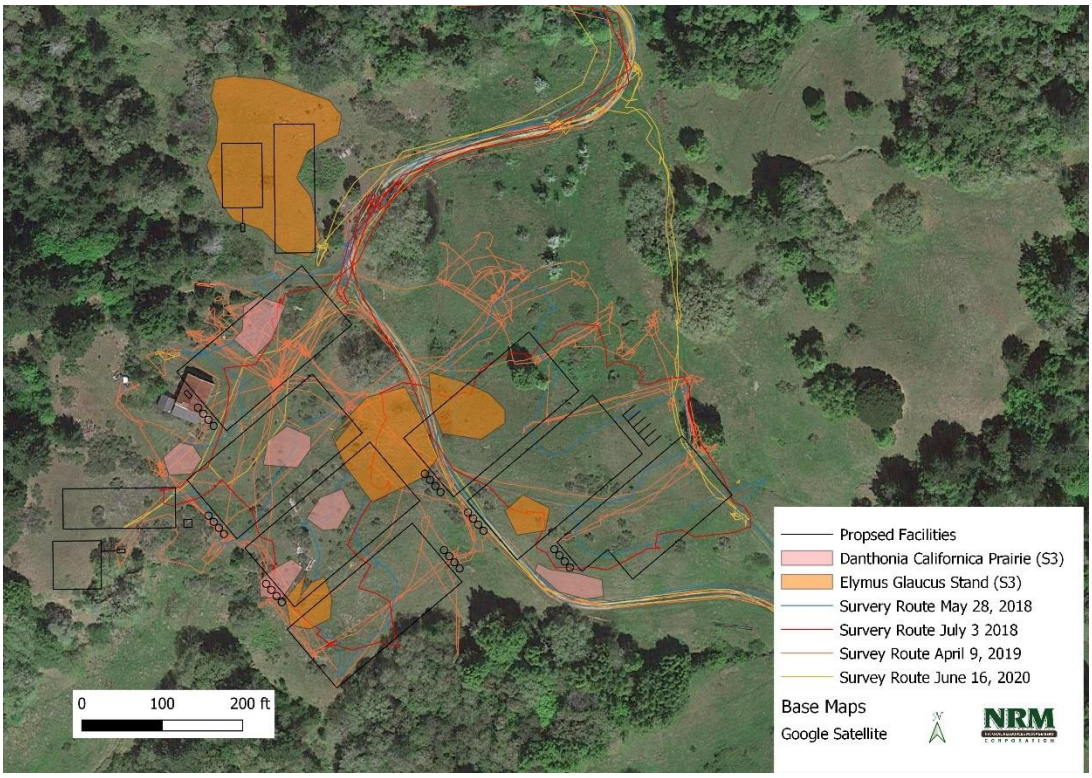

Figure 26. Survey Routes and Special Status Community Locations, Facilities #10- #16

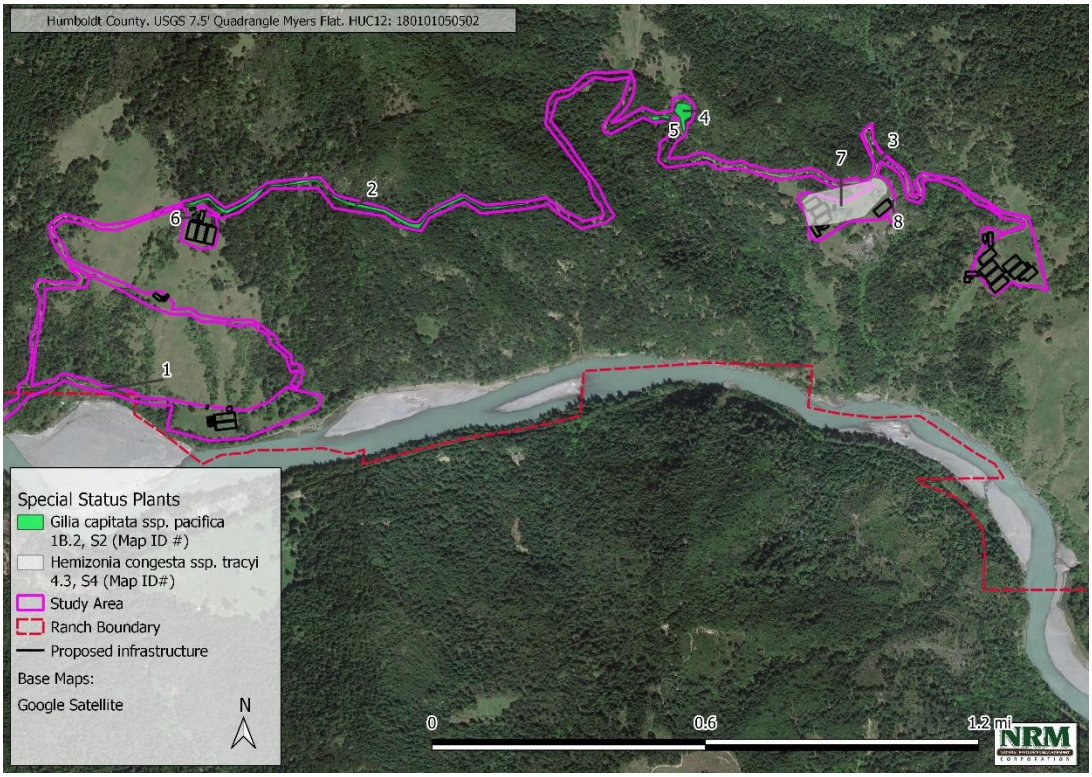

Figure 27. Gilia Capitata and Hermizona Locations.

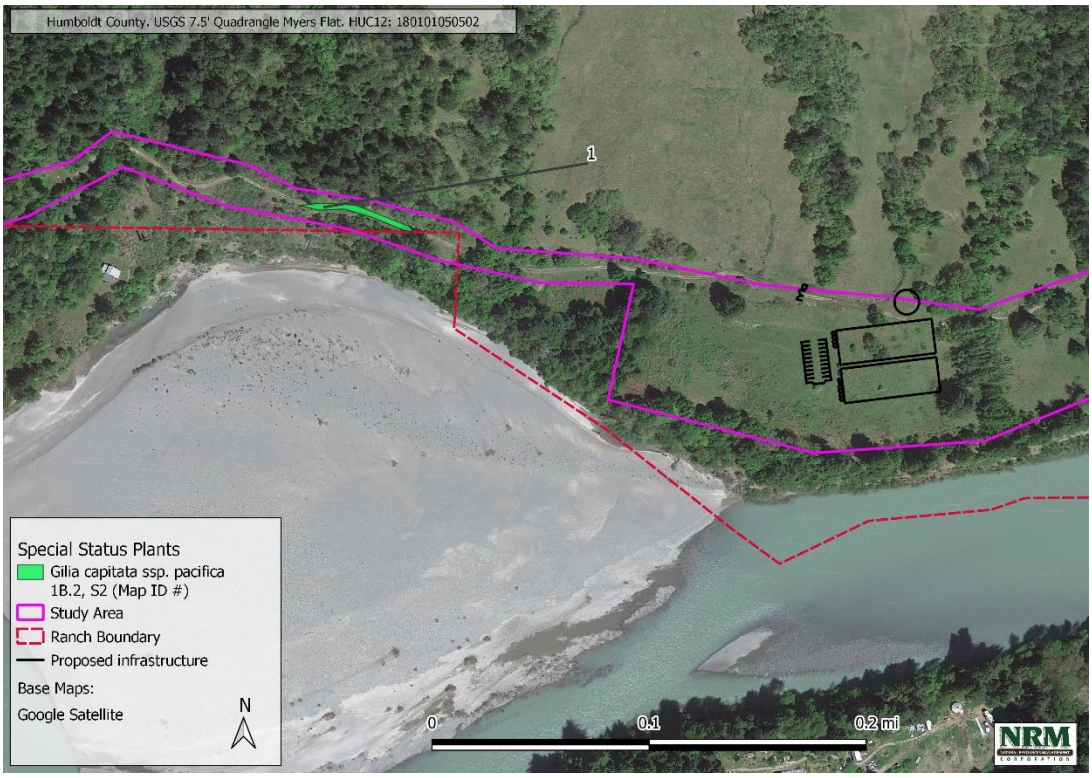

Figure 28. Gilia Capitata and Hermizona Locations.

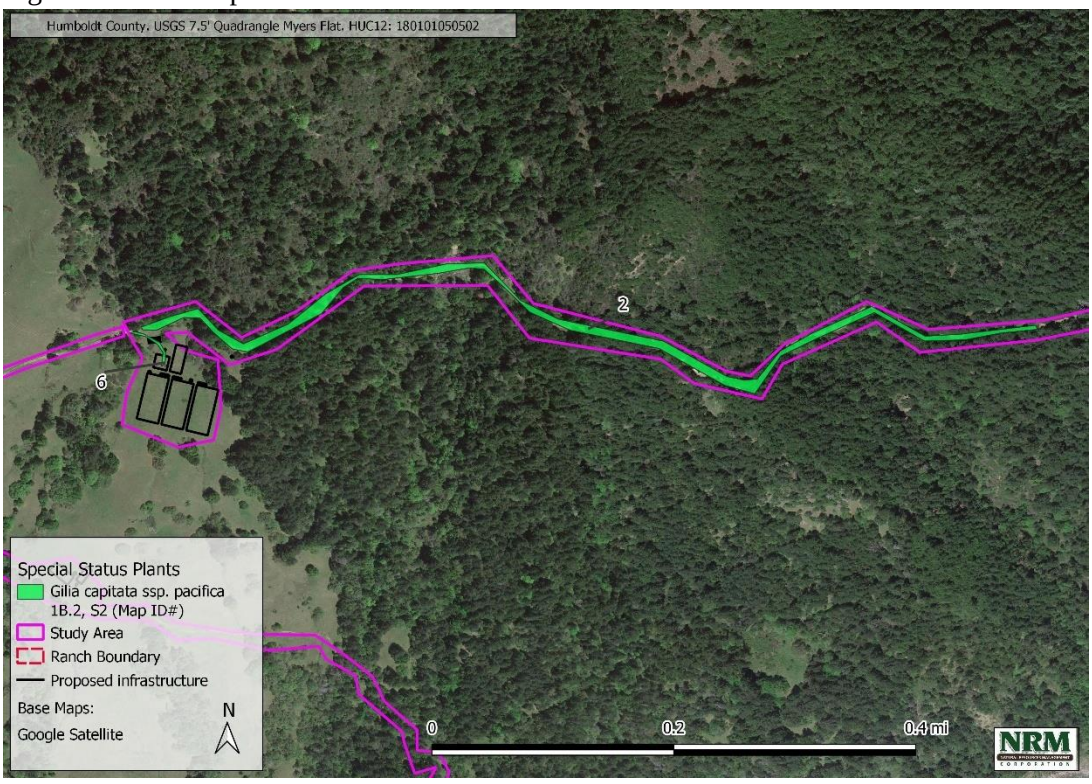

Figure 29. Gilia Capitata and Hermizona Locations

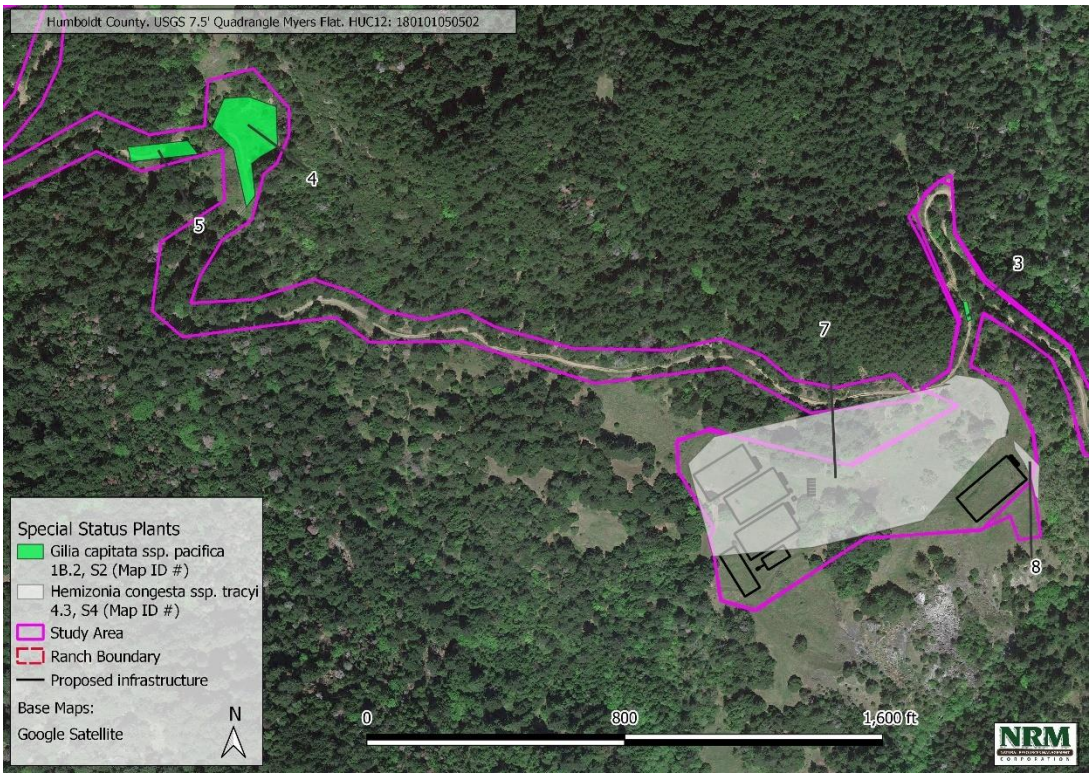

Figure 30. Gilia Capitata and Hermizona Locations

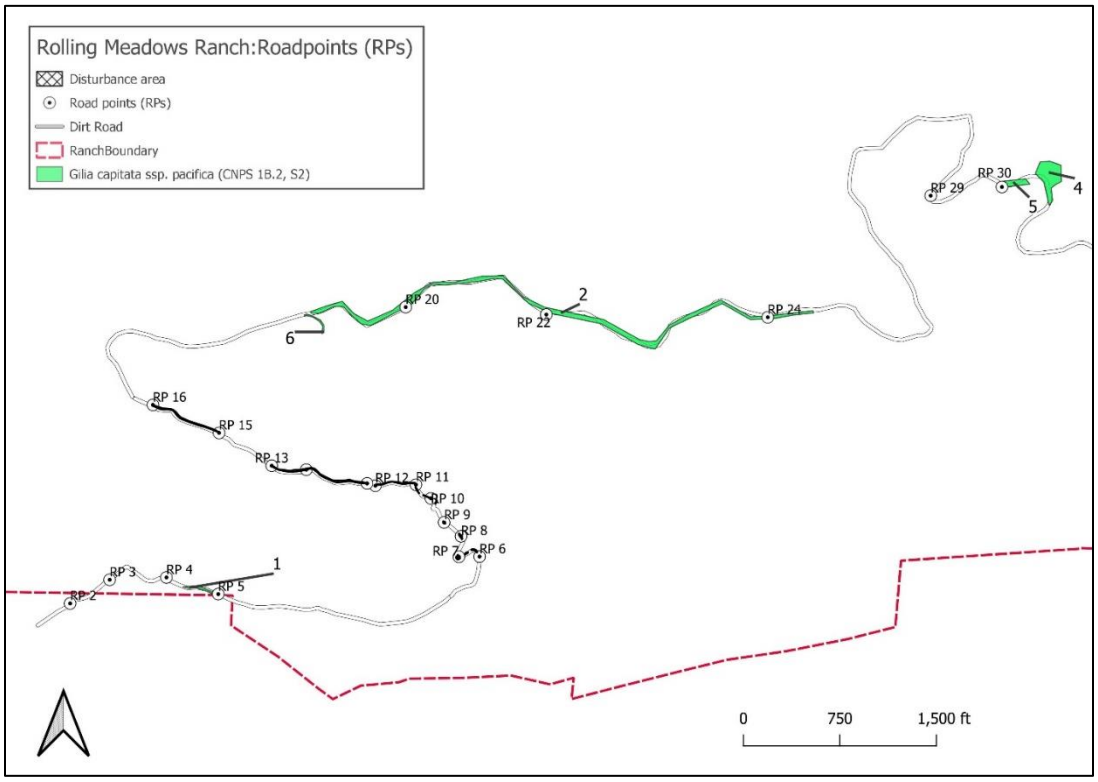

Figure 31. Area of Pacific Gilia population impacted by proposed road work. (Impacts at RP5, 20,22,24,30)

Discussion – Effect on Sensitive Wildlife:

Prior to initiating field surveys, a query of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Data Base (CNDDB 'RareFind,' 2018) for wildlife species occurrences within a nine-quad topographical map area of the parcels was conducted. Additional scoping was conducted in 2020 utilizing the CNDDB 'Quickview' tool. This provided a comprehensive target species list from which to determine habitat, presence, or sign of species, as well as any known locations for special status species in the general area (Table 7), including northern spotted owl (NSO) Activity Centers.

Table 7. Potential special status wildlife species in the general (9-quad) area of Rolling Meadow Ranch, Humboldt County, California

Common Name	**Scientific Name**	**Federal / State Listing**
Cooper's hawk	*Accipiter cooperii*	Watch List
sharp-shinned hawk	*Accipiter striatus*	Watch List
American peregrine falcon	*Falco peregrinus anatum*	Fully Protected
golden eagle	*Aquila chrysaetos*	Fully Protected
osprey	*Pandion haliaetus*	Watch List
marbled murrelet	*Brachyramphus marmoratus*	Federal Threatened, State Endangered
northern spotted owl	*Strix occidentalis caurina*	Federal and State Threatened
little willow flycatcher	*Epidonax traillii brewsteri*	State Endangered
bank swallow	*Riparia riparia*	State Threatened
grasshopper sparrow	*Ammodramus savannarum*	State Special Concern (SSC)
Bryant's savannah sparrow	*Passerculus sandwichensis alaudinus*	SSC
Bald Eagle	*Haliaeetus leucocephalus*	Delisted/ Endangered
Great blue heron	*Ardea herodias*	None
yellow-breasted chat	*Icteria virens*	SSC
yellow warbler	*Setophaga petechia*	SSC
flammulated owl	*Psiloscops flammeolus*	None
Humboldt marten	*Martes caurina humboldtensis*	State Candidate Endangered, SSC
fisher – West Coast DPS	*Pekania pennanti*	State Threatened, SSC
Sonoma tree vole	*Arborimus pomo*	SSC
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC
western red bat	*Lasiurus blossevillii*	SSC
North American porcupine	*Erethizon dorsatum*	None
American badger	*Taxidea taxus*	SSC
silver-haired bat	*Lasionycteris noctivagans*	None
hoary bat	*Lasiurus cinereus*	None
long-legged myotis	*Myotis volans*	None
Yuma myotis	*Myotis yumanensis*	None
Ten Mile Shoulderband	*Noyo intersessa*	None
California floater	*Anodonta californiensis*	None

Oregon floater	*Anodonta oregonensis*	None
western ridged mussel	*Gonidea angulata*	None
western pond turtle	*Emys marmota*	SSC
red-bellied newt	*Taricha rivularis*	SSC
southern torrent salamander	*Rhyacotriton variegatus*	SSC
Pacific tailed frog	*Ascaphus truei*	SSC
northern red-legged frog	*Rana aurora*	SSC
foothill yellow-legged frog	*Rana boylii*	State Candidate Threatened, SSC
obscure bumble bee	*Bombus caliginosus*	None
western bumble bee	*Bombus occidentalis*	State Candidate Endangered
Wawona riffle beetle	*Atractelmis wawona*	None
western bumble bee	*Bombus occidentalis*	State Candidate Endangered
coast cutthroat trout	*Oncorhynchus clarkii clarkii*	SSC
chinook salmon	*Oncorhynchus tshawytscha*	Federal Threatened
coho salmon	*Oncorhynchus kisutch*	Federal and State Threatened
steelhead trout	*Oncorhynchus mykiss irideus*	State Threatened
green sturgeon	*Acipenser medirostris*	Federal Threatened
Pacific lamprey	*Entosphenus tridentatus*	SSC

On October 16th, 2017 NRM wildlife biologists Michelle McKenzie and Alicia Heitzman conducted a site visit to survey the project areas for all terrestrial species present. The survey was conducted for approximately 3.5 hours on a warm (70ºF/20ºC), mostly sunny afternoon. During the survey the area traversed was scanned for wildlife signs (tracks, scat, burrows, nests) and assessed for potential wildlife habitat. No special status species were found. Further details can be found in the revised Biological Report (McKenzie, 2018).

The ranch itself is 7,110 acres and is a mix of forested areas and open meadows. This project will impact at most 20 acres (or 0.28 percent of the total ranch area). The remaining 99.72 percent of the ranch will continue to be managed for timber production, as it has in the past.

The project has two phases. The first is the construction phase when flats for the greenhouses, buildings and infrastructure will be established. During this phase power lines installed, and the greenhouses and processing buildings constructed. The second phase will be ongoing project operations. The project will operate year - round and will do three to four cycles per year, and employees will be onsite year-round.

Table 8. Results of wildlife assessment. Species that have special status and habitat in the greater project vicinity

Common Name	**Listing Status**	**General Habitat Description**	**Presence of Suitable Habitat w/in Site?**
BIRDS			

Cooper's hawk	WL	Dense stands of live oak, riparian deciduous, or other forest habitats near water used most frequently for nesting; hunts in woodlands, chiefly of open, interrupted or marginal type	yes
sharp-shinned hawk	None	Breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Nests in dense, even-aged, single- layered forest canopy of conifers, which are cool, moist, well shaded, with little ground- cover, near water.	yes
American peregrine falcon	FP	Breeds near water in woodland, forest, and coastal habitats. Riparian areas important year-round. Requires cliffs, ledges for cover and breeding.	yes
golden eagle	FP	Rolling foothills, mountain areas, sage-juniper flats, and desert	yes
osprey	WL	Ocean shore, bays, freshwater lakes, and larger streams	yes
marbled murrelet	FT, SE	Partial to coastlines with stands of mature redwood and Douglas-fir for nesting/roosting. In breeding season, may be seen regularly 6-8 km (4-5 mi) inland in dense, mature forests	no
northern spotted owl	T	Old-growth forests or mixed stands of old- growth and mature trees; occasionally in younger forests with patches of big trees	yes
little willow flycatcher	SE	Most often occurs in broad open river valleys or large mountain meadows with lush growth of shrubby willows; requires dense willow thickets for nesting	no
bank swallow	ST	Found primarily in riparian and other lowland habitats; restricted to lacustrine, riparian, and coastal areas with vertical banks, bluffs, cliffs to dig nest holes	yes
grasshopper sparrow	SSC	Primarily a summer resident breeding in short to middle-height, moderately open grasslands with scattered shrubs for perching and singing	yes

Bryant's savannah sparrow	SSC	An endemic, year-round species that breeds in coastal marshes and grasslands up to approximately 3000 ft; may breed up to 25 miles inland	yes
Bald eagle	FP	, this species requires large bodies of water, or free flowing rivers with abundant fish, and adjacent snags or other perches. Will pursue waterfowl; occasionally hunt flooded fields for rodents; scavenges on dead fish, mammals. Nests are usually located near a permanent water source.	yes
yellow-breasted chat	SSC	Similar to little willow flycatcher, this species requires thickets of willow and other dense brush near watercourses for cover, reproduction, feeding. Only found by water in riparian areas. There is no suitable habitat within the sites for this species	no
yellow warbler	SSC	This species is typically found in riparian deciduous habitats in summer (willow, cottonwoods, alder) and other small tree/shrub typical of low, open-canopy riparian woodlands. Unlike willow flycatcher, can also be found in open conifer forests with low, dense shrub component.	no
MAMMALS			
Sonoma tree vole	SSC	North coast fog belt from Oregon border to Sonoma County; in Douglas-fir, redwood & montane hardwood-conifer forests	no
Humboldt marten	CE	Only in the coastal redwood zone from the Oregon border south to Sonoma County	yes
fisher	CT	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure	yes
American badger	SSC	This species requires friable soils in herbaceous, shrub and open stages of most habitats, especially grasslands. Distinct burrows easily identified, in summer; badgers may dig new dens each night and frequently reuse old burrows.	yes
Townsend's big- eared bat	SSC	Throughout California in a wide variety of habitats; most common in mesic sites Typically found in caves, mines, manmade structures	yes

western red bat	SSC	Roosts in trees on edge of habitat in forests and woodlands, sea level up to mixed conifer forests; feeds over grasslands and open forest	no
HERPETOFAUNA			
western pond turtle	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 feet elevation	yes
Pacific tailed frog	SSC	Montane hardwood-conifer, redwood, Douglas fir and ponderosa pine habitats	no
northern red- legged frog	SSC	Humid forests, woodlands, grasslands, and stream sides in northwestern California, usually near dense riparian cover. Highly aquatic, little movement from streams/pond	yes
foothill yellow- legged frog	CT	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats; rarely encountered far from rocky streams	yes
red-bellied newt	SSC	Primarily inhabits redwood forests but also mixed conifer; requires rapid streams for breeding and larval development	yes
southern torrent salamander	SSC	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood- conifer habitats. Requires cold, well shaded permanent water; stays within splash zone	yes
FISH			
chinook salmon	FT	Native anadromous fish in decline on west coast. Spawn in streams and rivers then move to ocean as adults; status applies to rivers and streams south of Klamath river to Russian river	no
coho salmon	FT, ST	Native anadromous fish in decline on west coast. Spawn in streams and rivers then move to ocean as adults; status applies to rivers and streams from Humboldt county to Oregon border	no
steelhead trout	FT	Hatch in gravel bottom of fast flowing streams and rivers; adults migrate to marine environments to mate and can spawn multiple times	no
coast cutthroat trout	SSC	This species requires cold clear water with deep holding holes in summer. Prefer estuaries, lagoons, and small low-gradient coastal streams. In southern edge of range, largest known population in Smith River, also occupy Mad River and Lower Klamath	no

green sturgeon	FT	Native anadromous fish occurs in Klamath and Sacramento rivers; may no longer exist in Eel River or S. Fork Trinity, historic spawning grounds	no
Pacific lamprey	SSC	Native anadromous fish in decline on west coast. Spawn in streams and rivers then move to ocean as adults for up to 40 months	no
INSECTS			
Western bumble bee	CE	Nests of this species are primarily found in underground cavities such as old squirrel or other animal nests and in open meadows with flora resources on west-southwest slopes bordered by trees	yes

Construction Phase

During the construction phase, flats for the greenhouse, buildings and infrastructure will be built, powerlines installed, and the greenhouses and processing buildings constructed. Potential impacts to wildlife species could come from habitat removal, and construction related noise and activity.

Approximately 16 acres will be directly impacted by the project footprint. Once the project is complete, the project will no longer be available as habitat. The majority (99.72%) of the 7,110-acre ranch will not be directly impacted. The majority of the ranch will remain habitat.

It will take approximately 8-12 weeks to complete the proposed grading for the for the greenhouses, processing buildings, power and access improvements. Additional construction (greenhouse erection, plumbing, wiring, etc.) will take place over time as power becomes available and greenhouses are phased in. Equipment used during the construction phase will include, backhoe, excavator, bulldozer, dump truck, water truck, and power tools. The noise from the use of the construction equipment could impact habitat surrounding the project footprints. Noise from construction equipment is shown in Table 9 below. Construction equipment noise will decrease to less than 61 dBA at 1000 feet away. The impacts will be temporary in nature and will end when construction is complete.

Table 9. Sound Levels for heavy equipment

Sound Source	**Receptor**	**Level (dBA)**	**50ft**	**100 ft**	**400 ft**	**1000ft**	**2000ft**	**4000ft**
	Dist. (ft)							
Loader Operation	20	84	≈76 dBA	70	58	≈50	≈44	≈38
Loader Idling	20	72	≈66 dBA	60	48	≈42	≈36	≈30
Backhoe	50	80	80 dBA	74	62	≈56	≈46	≈43
Excavator Operation	50	85	85 dBA	79	67	≈61	≈55	≈49
Dump Truck	50	84	84 dBA	78	66	≈60	≈54	≈48

Source: Federal highway administration Construction Noise Handbook. Accessed 12/10/18 https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook09.cfm

Ongoing Project Operations

This project will operate year-round with access via McCann Road and Alderpoint Road; it will do three to four cycles per year, and approximately 22 employees a day will be onsite year-round. Impacts on wildlife species during the ongoing operations phase could potentially come from the noise and activity of project operations and the ongoing human presence at the site.

Light

These will be mixed light facilities. Greenhouses will be professionally built, steel framed structures with ridged corrugated poly carbonate siding. These will be equipped with air ventilation systems, and automatic blackout tarp systems. The curtain will be used one hour before sunset till one hour after sunrise whenever any supplemental light is used in the greenhouse. No light will be allowed to leak during nighttime hours. If the motorized blackout curtain pulling mechanism fails, the operator will attempt to manually crank (via allen key port) the curtain into place. If this attempt fails, the lighting will not be active in the greenhouse until the motorized blackout curtain is repaired. All greenhouses will be powered by commercial electric service from the grid. Security lighting will be placed around all the processing buildings. Lighting will be shielded and pointed downwards into the building sites. It will not be directed into habitat adjacent to the project sites. Based on the project design there should be no impacts to wildlife species from lights used for project operations as it will minimize B.U.G (backlight, uplight, glare) and adhere to the International Dark Sky Association recommendations for Zones 0 and 1.

Noise

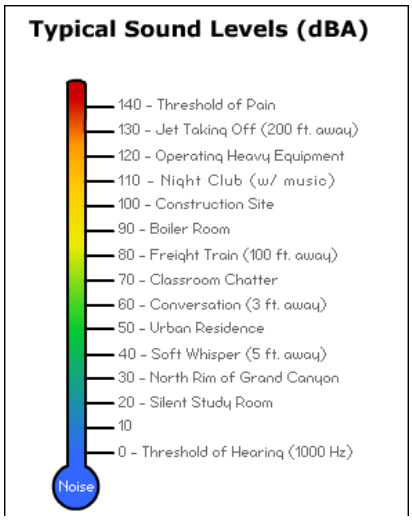

Figure 32. Typical sound levels; retrieved 4/19 from OSHA.gov

Noise from ongoing project operations will come from the general occupation of the project areas. All work will take place inside the greenhouses or the processing buildings. It is generally agreed that conversation and background music in an office is around 60 dBA (Figure 32). The work taking place inside of the greenhouses and processing buildings will diminish the approximate 60 dBA from employees speaking etc. Apart from employees and the electric bus, the project will have only two other predictable sources of sound: greenhouse fans for ventilation and the exercise cycle of the emergency generators.

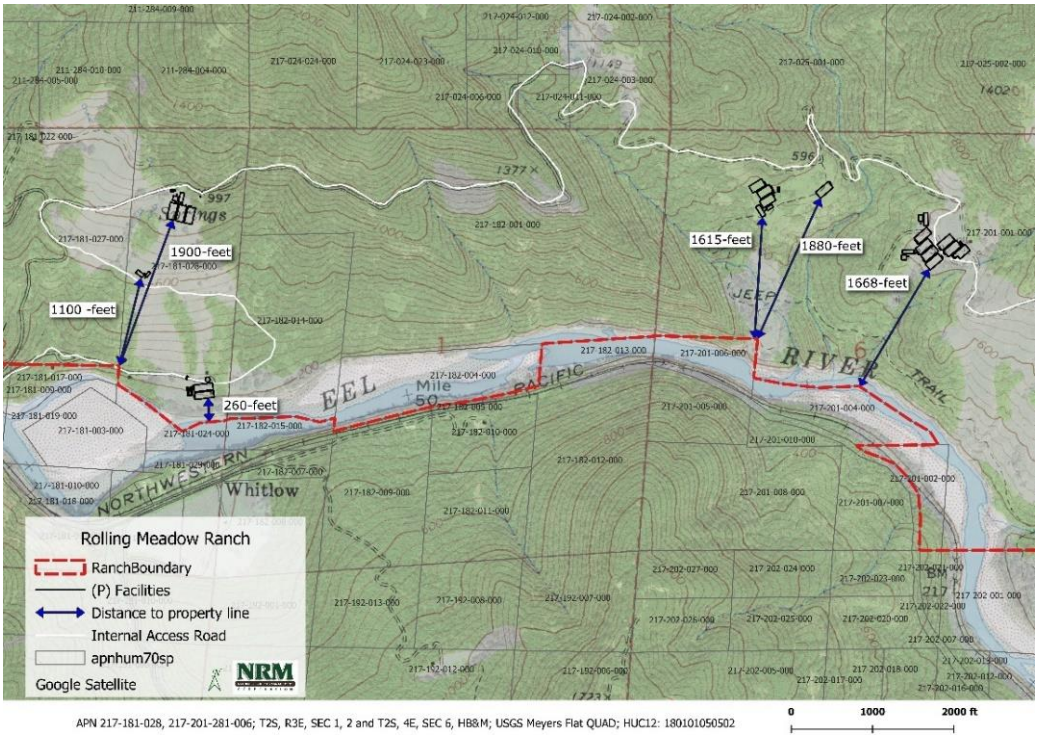

Figure 33. Project facilities and distances to the nearest property line

To understand the potential impacts of the noise from the fans and the emergency generators on sensitive receptors (including neighbors and wildlife) the location of the source is required. The greenhouses will be located in open meadows on a large property where the property boundary is, at its closest point, 260-feet away.

Generators

The emergency standby generators on the project will be 45KW Generac propane generators. The generators will only be used for fire suppression, in an emergency if the PG&E grid power is lost. They will only be used to run fire suppression water pumps. These generators are designed to attenuate noise and are rated at 73 dBA at 23ft when operating at a normal load. The fire emergencies that may occur on the project are, impossible to predict and therefore, the frequency and length of time that the generators will operate at full power is not calculatable. What can be defined, however, is the noise that the generators will make when operating for fire suppression. During a fire, the noise that the generators would produce is outlined in Table 8 below. The general method for calculating noise from a point source, like the generator, is to decrease the noise level by 6 dBA (decibels, a measure of perceived noise) every doubling of the distance from the source. The emergency generator for facilities #1 -2 will be located on the west side of Facility #2. At 184-feet and before reaching the property line, the generator, while running at full power, will produce 55-dBA (Table 10).

Outside of a fire emergency, the generators will be inoperative except when engaged in the maintenance cycle. According to the manufacture, in order to maintain readiness, the generators will automatically turn on and run for five minutes every two weeks. This "exercise cycle" runs the generator at a lower RPM. As a result, it has a lower decibel output (61 dBA at 23-feet during the "exercise cycle"). To maintain emergency readiness, each generator would run for a five minute interval 26 times a year, for a yearly total

of 130 minutes (2 hours, 10 minutes) a year. At 46 feet away from the facilities the sound will be 55dB and last for only five minutes (Table 10). Such low intensity noise, so infrequently, should have no impact on surrounding habitat.

Table 10. Generac 45kW LP Protector Generator: Noise estimates

Generac Protector 45kW LP generator Exercise Mode	feet	23	46	92	184	368	736	1472	2944
	decibels	61	55	49	43	37	31	25	19
Generac Protector 45kW LP generator Normal load **(only during fire suppression)**	feet	23	46	92	184	368	736	1472	2,944
	decibels	73	67	61	55	49	43	37	31

Fans

The greenhouses on the project, like most greenhouses, will require environmental controls for managing interior conditions and product performance. Fans are the primary source of air exchange in the greenhouses and have the most potential to impact total project noise. According to the engineers at Grow-Tech Systems Inc (the project's greenhouse supplier), each greenhouse bay will require two (2) QuietAire 56" fans with 1.5HP motors on the bay end walls and one (1) QuietAire 30" fan with a1/2 HP motor at the gable. To create greenhouses to the sizes demanded by the project (19,584, 17,568, 17,280, and 17424 sq. ft.), Grow-Tech Systems has put together specialized greenhouse 'sets' composed of multiple greenhouse bays. The greenhouses will have six (6) bays of varying widths and require twelve (12) large fans (endwall primary exhaust fans) and six (6) gable fans. The endwall fans at Facilities #1 and #2 will be on the North side each greenhouse. The endwall fan locations can be seen in Figure 34, and Appendix D).

As per the communication from CRS Supply Group (Appendix D) the fans at the set distances in the greenhouse plans (Figure 34) will not interact with one another in a cumulative manner. Additionally, each fan would act as its own point source. The noise from each individual fan would therefore be analyzed alone (Table 11). The noise produced by a single fan operating at 100% speed will produce an overall sound level of 53dBA at 10-feet from the fan. By 20 feet from the fan noise levels will drop to 47dB. As sound generally decreases by 6 decibels every doubling of the distance from a point source.

Table 11. Greenhouse exhaust fan dBA analysis -one (1) fan as point source

QuietAire 56" @100% speed	feet	10	20	40	80	160	320	640	1280
	decibels	53	47	41	35	29	23	17	11

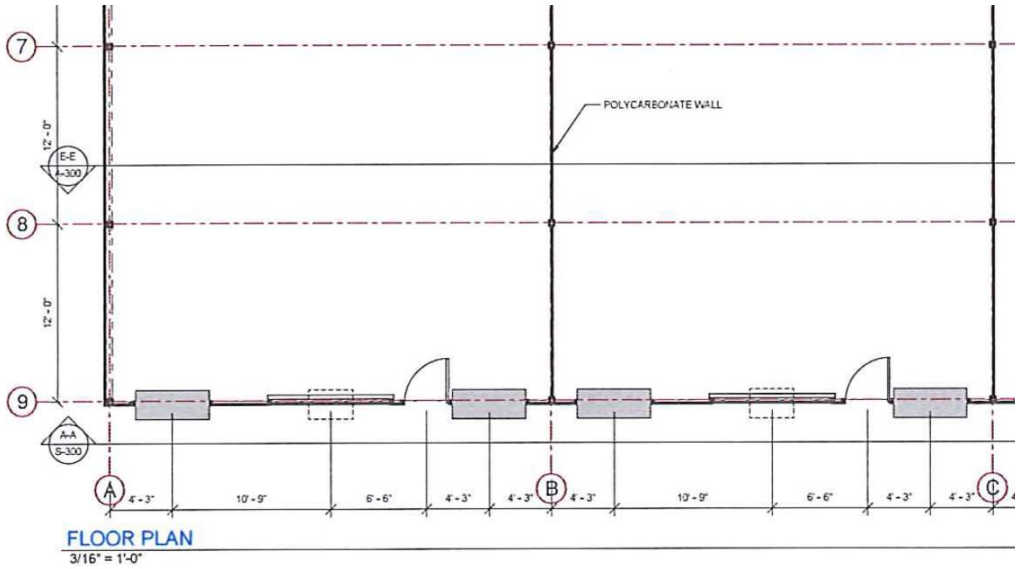

Figure 34. Fan locations, figure from Gro-Tech Floor Plan

Figures 35 through 38 below show a 20 foot buffer around each fan wall. Outside of the buffered area the noise from the fans should be less than 47dB.

The most recent Humboldt County Ordinance governing the cultivation, processing, manufacturing, distribution, testing, and sale of cannabis is the Commercial Cannabis Land Use Ordinance, CCLUO no. 2599 (known as Ordinance 2.0) sets a threshold for when noise will significantly impact forested habitats. This ordinance has updated performance standards for noise at cultivation sites and prohibits noise from cultivation and related activities from increasing the ambient noise level at the property line by more than 3 decibels (55.4.12.6: Noise Standards). This limitation is based on the understanding that the human ear can begin to detect sound level increases of 3 decibels. It includes the following: To protect special status avian forest species, the county has included additional noise limitations

(55.4.12.6 -b):
Where located within one (1) mile of mapped habitat for Marbled Murrelet or Spotted Owls where timberland is present, maximum noise exposure from the combination of background cultivation related noise may not exceed 50 decibels measured at a distance of 100 feet from the noise source or the edge of habitat, whichever is closer. Where ambient noise levels, without including cultivation related noise, exceed 50 decibels within 100 feet from the cultivation related noise source or the edge of habitat, cultivation-related noise sources may exceed 50 decibels provided no increase over ambient noise levels would result.

Figure 35. 20-foot buffer around fan walls: Facilities #1 and #2

Figure 36. 20-foot buffer around fan walls: Facilities #3- #5

Figure 37. 20-foot buffer around fan walls: Facilities #6- #9

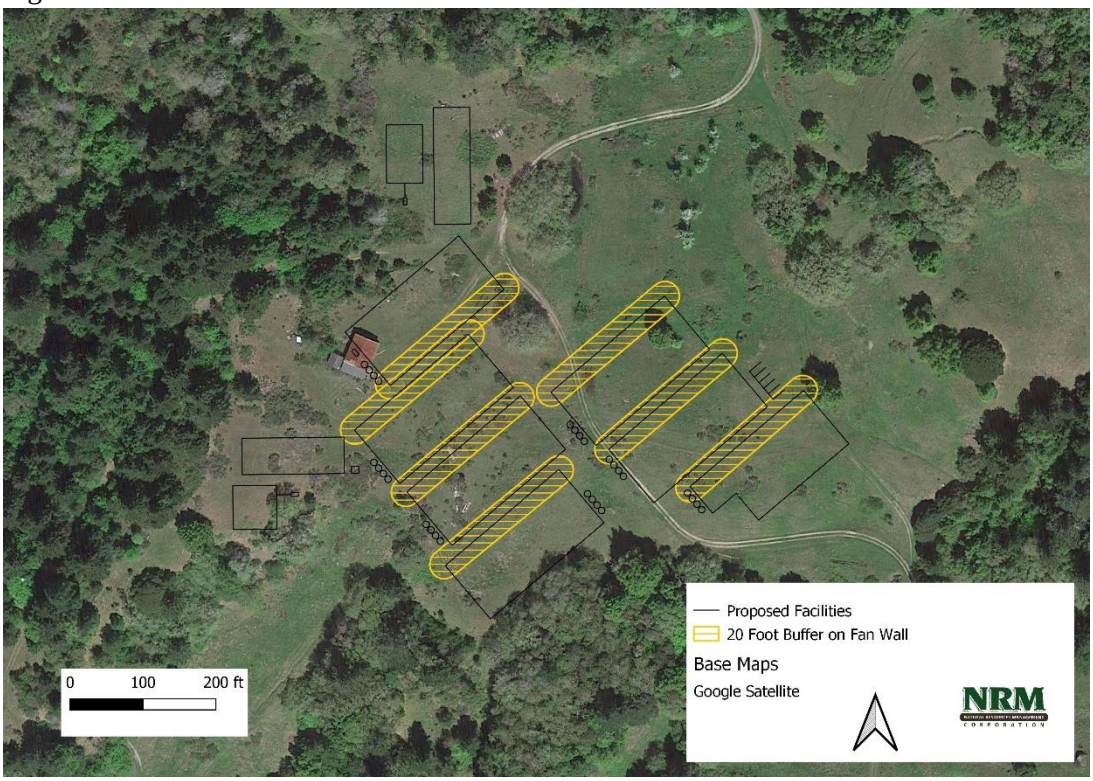

Figure 38. 20-foot buffer around fan wall Facilities #10-#16

Northern Spotted Owl (NSO)

Regulatory Status: The northern spotted owl is a Federal and State Threatened species.

Habitat Requirements and Natural History: This species is an uncommon, permanent resident that resides in dense, old-growth, multi-layered mixed conifer, redwood and Douglas-fir habitats and breeds early March through June, with young independent and dispersing by September/October

Potential for Occurrence within the Project Area: No northern spotted owls or barred owls (*Strix varia*) were detected during surveys conducted by Holmgren Forestry, March 27 through June 29, 2018. In 2019 a single male was detected during nighttime calling early in the season, but no NOS were located during the two follow up surveys. NSO response was located over 2500 feet form the nearest project area and did not come from the direction of the project areas (Appendix G). No NSO were detected during 2020 surveys. Habitat on the parcels was described by Holmgren as uneven aged redwood, Douglas-fir, Oregon white oak, California black oak, tan oak, madrone and maple, with canopy cover spanning from zero to 100 percent in nesting/roosting, foraging, and nonhabitat (grasslands). Survey results for NSO are found in Appendix G.

The projects potential to impact NSO through disturbance only as no habitat is being removed. The project footprints are located within meadows so no NSO habitat will be directly removed by the project. Noise disturbance both from the construction and the on-going operations phase could impact NSO *if* they are present in the vicinity. Noise could also make potential habitat in the vicinity of the project unusable. The Rolling Meadows Ranch location is in the transition between the redwood (coastal) and interior zones. We feel that the type of habitat, as a mosaic of forest and open meadows, shares more similarities to an interior habitat than costal habitat. The survey protocol for NSO Activity Centers in interior habitat (US Fish and Wildlife Service, Revised 2012 and attachment A and B) requires a 0.5 mile and 1.3-mile habitat analysis buffer. These outline the amount of habitat needed to sustain a breeding pair. They also outline Take Avoidance for the noise associated with a logging operation. As logging utilizes heavy equipment, logging would be similar in noise to the construction phase and louder than the ongoing operations phase. Under the protocol, noise disturbance is restricted in the 0.25 miles (1320ft) around an AC during the breeding season.

There are four known Activity Centers (ACs) within 1.3 miles of the project areas. The distance from the nearest of the facilities to these ACs and the latest reported positive and negative survey results are presented in Table 10, below. None of these ACs are within 0.5 miles of the project. In addition, there have been no reported nesting pairs at these ACs since 2004. Therefore, the project's noise, from both construction and ongoing operations, should have no impact on the known ACs. As no habitat is being removed by the projects, there will be no direct impacts from habitat removal on these known ACs. NSO surveys for the entire ranch were done in 2018, 2019, and 2020 (Appendix G).

Table 12. CNDDB NSO Activity Centers in the vicinity of Rolling Meadow Ranch

NSO Activity Center	Approximate Distance to Nearest *Project* Area (miles)	Amount of foraging (or higher quality) habitat available between the 0.5 and 1.3 mile buffer around the AC	Last year CNDDB reported nesting pair	Last year CNDDB reported survey
HUM0524	0.7	2223 acres	2004	2006 (single NSO)
HUM0966	1.0	1667 acres	2001	2007 (single NSO)
HUM0891	1.0	1793 acres	1999	2003 (negative)
HUM0523	0.8	2417 acres	1995	2000 (single NSO)
HUM0941	1.2	2043 acres	--	2000 (single NSO)
HUM0774	1.0	1709 acres	2002	2007 (negative)
HUM0932	0.8	1954 acres	--	2007 (negative)

Nesting/roosting habitat for NSOs is described as having greater than 60 percent canopy cover and foraging habitat as greater than 40 percent canopy cover, with conifer and deciduous trees greater than 11 inches in diameter at breast height (USFWS, Revised 2012), along with additional tree per acre restrictions. The nearest nesting/roosting habitat to project areas is approximately 800 feet to the north of Facilities #6- #9, at the leading edge of a larger contiguous stand of dense trees. All projects will be in the grassland habitats. The forested habitat surrounding the grasslands meets the definition of foraging habitat, which is present in all directions, within 50 feet of some of the project locations.

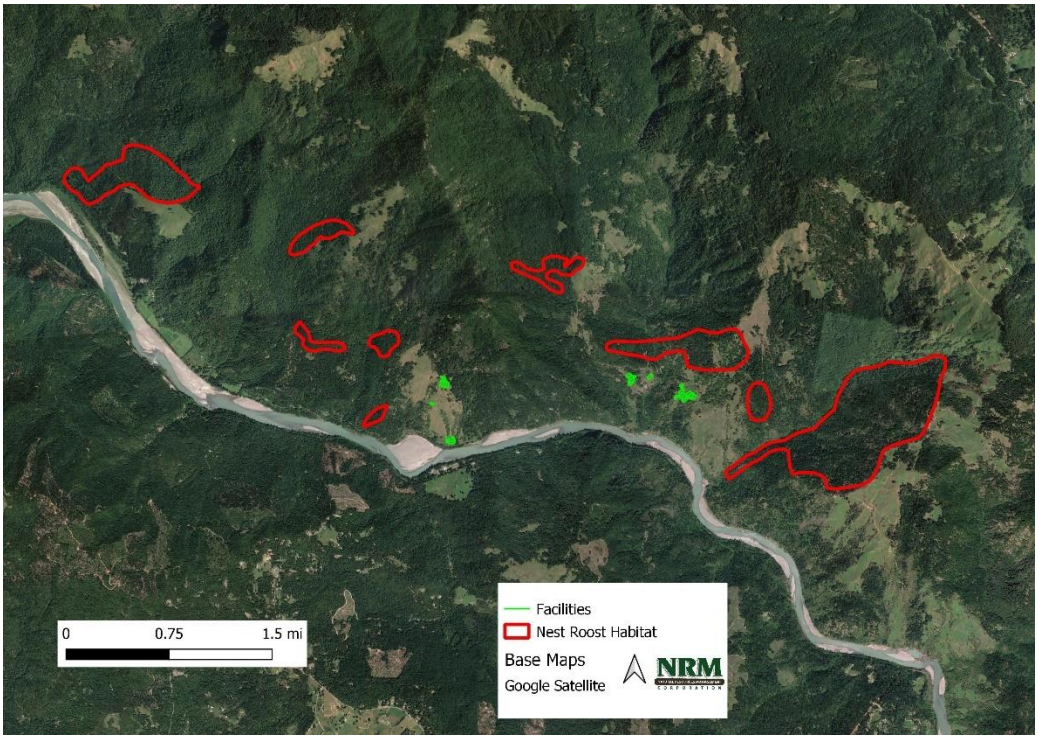

Figure 39. NSO nest/ roost habitat in relation to project locations.*

*Note this figure does not show all nest/ roost habitat on the Ranch, or even within this aerial photo. It only shows that patches closest to the project areas.

***Short term Project Impacts** – Construction*
The construction of the infrastructure portion of the cannabis operation (grading flats, installing electrical lines, road work, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. With decibel levels expected to be below 90 dB, the maximum, when ambient and project levels are added to avoid take (USFWS, 2006), the temporary short-term impacts are expected to have no impact on known NSOs ACs. The closet AC is 3696 feet from the project, so noise levels from construction at this AC are expected to be less than 50 dB. Surveys completed in 2018, 2019, and 2020 found no new NSO ACs.

Direct Effects: No NSO habitat will be directly removed for the construction of the project; there will be no direct impacts on NSO from the construction phase from habitat removal. Noise from construction equipment has the potential to impact NSO. The known ACs are all more than 0.7 mile from the project areas. As laid out in NSO Survey protocol and Attachment A and B for Take Avoidance, only a 0.25 mile buffer is required around *occupied* NSO nests to avoid impacts. All ACs are more than 0.5 miles from the project areas. Additionally, the noise level at the closest AC will be less than 55 dB during construction, far less than the 90 dB which is the maximum noise level that avoids Take (USFWS, 2006). In three years of protocol level surveys, no additional ACs were discovered.

It is possible that if project construction occurs during the summer breeding season, and breading pairs move within 0.25 miles of the project areas, the construction could impact NSO. As per the Protocol, spot check survey will take place in 2021. If no NSO are found to be breeding within 0.25 miles of the projects, then the construction phase will have no impact on NSO. As per standard protocol, if a nesting pair is found within 0.25 miles of a project area, the construction phase of that project (use of heavy equipment) should not take place within 0.25 miles of the nest until after August 31.

Indirect Effects: No indirect impacts

Determination: Based on the evidence above the construction phase will not significantly impact NSO

Mitigation: Protocol level surveys (Spot Checks) need to be conducted for the fourth year (2021). If nesting NSOs are found within 0.25 miles of a project area, no construction will take place the 0.25-mile buffer around the nest until after August 31.

***Ongoing Activity Impacts** – Cannabis Cultivation*
Ongoing noise and light pollution are the project activities that have the potential for impacts on this nocturnal species. The use of automated, light-depriving greenhouses will ensure there is no impact from nighttime light leakage.

Direct Effects: No NSO habitat will be directly removed by the project.

The noise from ongoing project activities will have no impact on existing ACs. The closest know AC is 3693 feet from the nearest project area. At this distance noise from the fans would be less than 5 dB in and will have no impact on the AC (USFW 2006). The nearest nest/roost habitat, which has the potential for NSO occupation in the future, is 765 feet from Facility #8. The noise level from the ongoing project operations at the edge of this habitat will be less than less than 17 dB (Table 11).

Noise from the fan wall will reach 47dB, 20 feet from the wall's location. The closest foraging habitat to the project areas is at Facility #6 which is located approximately 20 feet for the edge of foraging habitat. At this edge of habitat noise from the project will be 47dB.

Natural Ambient: referring to ambient sound levels typically experienced in owl habitat not substantially influenced by human activities, is generally less than 50 dB.(USFW, 2006). The baseline ambient noise levels in the project areas are likely to be in this 35 dB to 50 dB range as the ranch is used for timber production. The USFW Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California (USFW 2006) states that harassment may occur if Project-generated sound exceeds ambient nesting conditions by 20- 25 dB. The noise produced by the fan walls 20 feet from the wall location (47dB) will be equal to the current ambient noise levels already found in the area.

Indirect Effects: No indirect impacts
Determination: The project as designed with fans that produce relativity little noise (Table 11) will have raise noise levels as low as 47 dB within 20 feet of the fan walls of each greenhouse. Figures 35 through 38 show that at the edge of foraging habitat the noise from the project will be less than 47dB. In no locations does the project noise increase ambient nesting conditions by 20dB the threshold for significance. With current ambient levels estimated at 35 to 50 dB the noise from the project will not cause any increase ambient noise levels in any NSO habitat. There will be less than significant impacts to NSO as a result of ongoing project operations.

Cumulative Impacts
When viewing the general area in Google Earth imagery (2016), greenhouses assumed to be associated with cannabis cultivation operations were observed within 5 miles of the parcels on the same side of the Eel River: approximately 1.2 miles northwest of facilities #1-#5, and 2.5 miles west of facilities #6-#16. However, the majority were observed in the Fruitland area, across the Eel River corridor. The project site, as it exists within a 7,110 acre ranch, limits the amount of cannabis cultivation that can take place in the area around the projects. The majority of the ranch (94.25%) will continue to be managed for long term timber production and it will remain NSO habitat.

Cooper's hawk
Regulatory Status: The Cooper's hawk is on the CDFW Watch List.

Habitat Requirements and Natural History: Breeds March through August; peak activity is May through July. Often uses patchy woodlands and edges with snags for perching. Dense stands with moderate crown-depths used for nesting; usually in second-growth conifer stands or deciduous riparian areas near streams (CWHR, 2019). Foraging and nesting usually occur near open water or riparian vegetation.

Potential for Occurrence within the Project Area: Project areas are adjacent to patchy forested area, so Cooper's hawk is likely to use the forest edge for foraging, adjacent to the project area. Nesting in close vicinity to the project area is unlikely, see discussion in on going impacts below.

Short term Project Impacts - *Construction*
The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, road work, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used; earthwork is expected to be completed within 8 to 12 weeks.

Direct Effects: This species nests in forested areas where no direct project impacts are occurring. No nesting habitat will be removed.
If project construction occurs during the breeding season and if Cooper's hawks are nesting within proximity to the project areas which is unlikely to do lack of good nesting habitat within 1200 feet of projects areas (see discussion below), equipment noise from grading could disturb nestlings/fledglings. At 400 feet from the project area construction noise will range between 48 and 67dB. At 1000 ft from the project area construction noise will range between 42 and 61 dB.

Indirect Effects: No indirect Impacts

Determination: If construction takes place during the breeding season and nests are present the project could have a potentially significant impact. In order to ensure no significant impacts occur, preconstruction surveys for Cooper's hawk will completed prior to the start of construction. The surveys will be completed in the forested habitat in the 1000-foot buffer around each project location. If a nest is found, CDFW will be contacted and the agency will determine the appropriate no work buffer to remain around the nest until it has fledged. This is standard practice and often CDFW considers specific local factors when making buffer size decisions. In the past when working with CDFW on road construction projects a buffer of 500 feet has been placed on active raptor nests. If work takes place outside of the breeding season, no surveys are necessary.

Ongoing Activity Impacts – *Cannabis*
Ongoing noise and light pollution have the potential to impact this species. The use of automated, light-depriving greenhouses will ensure there is no impact from nighttime light leakage.

There is a paucity of empirical studies of Cooper's hawk habitat use and home ranges in California, despite declining populations observed in western portions of their range (Chiang et al. 2012). A telemetry study in in Orange County measuring home range and habitat use of adult male Cooper's hawks in urban and natural areas found they used forested habitats more often than expected and used edges and open fields less than expected compared to availability (Chiang et al. 2012). In this southern California setting, Cooper's hawks nesting in natural areas used coast live oak and riparian habitat more often than expected. Specifically, the coast live oak habitat often occurred in association with riparian areas, suggesting this species' strong association to riparian woodland vegetation.

Given this association, optimal nesting habitat in the vicinity of the project areas is most likely more proximate to the Eel River, within larger drainages, including west of Facilities #1 and #2 approximately 2,000 feet, and immediately adjacent to the Eel River in the steep terrain south of operations approximately 1,200 feet and located equidistant from Facilities #6-9 and Facilities #10-16. Otherwise, tree densities associated with smaller drainages in the area appear too sparse.

The average home range reported for this species from other areas of the US averaged from 500 to over 700 acres (CWHR 2019), presumably dependent upon prey densities. Given this, few nesting pairs are expected to be impacted by this project due to the availability of more optimal nesting habitat on the Ranch.

In addition, Cooper's hawks have been reported to be tolerant of some levels of human presence and habitat alteration (Rosenfield et al. 1992), reducing the potential for displacing hawks that may have previously nested in the vicinity of the project areas.

Direct Effects: As detailed above nesting habitat for this species is located at least 1,200 feet from the closest project area. No nesting habitat will be removed. The noise from the project will be approximately 11 dB at the edge of this habitat. Far less than the 50dB threshold laid out in the Cannabis ordinance.

The foraging habitat for this species, across all project areas, is immediately adjacent to the grasslands. Noise from ongoing operations at the forests edge will be less than 47dB. Outside of the 20 feet surrounding each greenhouse fan wall the immediate project areas will be exposed to low levels of noise of less than 47dB from ongoing project operations (fans, human occupation, etc.) (Table11). The project noise will impact very little area outside of the infrastructure foot prints (Figures 35-38). Given the extensive similar habitat across the 7,110-acre ranch and in the general area, it is expected the long-term impacts to nesting Cooper's hawks in the vicinity to be minimal given the amount of nesting and foraging habitat available on the ranch.

Indirect Effects: No indirect impacts

Determination: Given the small noise impact footprint and the extensive similar habitat across the 7,110-acre ranch and in the general area, the long-term impacts to Cooper's hawks in the vicinity are expected to be minimal. The project would have a less then significant impact on Cooper's hawk.

Cumulative Impacts

When viewing the general area in Google Earth imagery (2016), greenhouses assumed to be associated with cannabis cultivation operations were observed within 5 miles of the parcels on the same side of the Eel River: approximately 1.2 miles northwest of facilities#1-#5, and 2.5 miles west of facilities #6-#16. However, the majority were observed in the Fruitland area, across the Eel River corridor. The project site being within a 7,110-acre ranch limits the amount of cannabis cultivation that can take place in the area around the projects. The majority of the ranch (>95%) will continue to be managed for long term timber production and the vast majority of the Cooper's hawk habitat will be unchanged. The THP process for future timber harvests also contains measures for identifying active raptor nests. Any raptor nests found will be protected.

Sharp-Shinned Hawk
Regulatory Status: The Sharp-shinned hawk is on the CDFW Watch List.

Habitat Requirements and Natural History: Breeds April through August; peak activity May through July. Prefers but not restricted to riparian habitats; north facing slopes with plucking perches required. Uses dense, pole and small-tree stands of conifer which are cool, moist, well-shaded with little ground cover and near water for nesting.

Potential for Occurrence within the Project Area: There are two project areas adjacent to the Eel River corridor where some nesting habitat could occur, although the riparian area is not dense with trees and may not provide optimal conditions. Sharp-shinned hawks could potentially use the forest edge for foraging,
***Short term Project Impacts** – Construction*

The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, road work, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels during earthwork will vary depending on the equipment being used (Table 9); earthwork is expected to be completed within 8 to 12 weeks.
Direct Effects: This species nests in the forested areas where no direct project impacts are occurring. No nesting habitat will be removed. It is possible that if project construction occurs during the breeding season and if Sharp- shinned hawks are nesting within the vicinity of the projects in the nesting habitat adjacent to the Eel River, equipment noise from grading could disturb nestlings/fledglings.

Indirect Effects: No Indirect impacts

Determination: If construction takes place during the breeding season, preconstruction surveys for Sharp-shinned hawks will be conducted in forested nesting habitat along the Eel River and within the 1000 feet of the project areas. If a nest is found, CDFW will be contacted and the agency will determine the appropriate no work buffer to remain around the nest until it has fledged. This is standard practice and often CDFW considers specific local factors when making buffer size decisions. In the past when working with CDFW on road construction projects a buffer of 500 feet has been placed on active raptor nests. If work takes place outside of the breeding season, no surveys are necessary.

***Ongoing Activity Impacts** – Cannabis*
Ongoing noise and light pollution have the potential to impact this species. The use of automated, light-depriving greenhouses will ensure there is no impact from nighttime light leakage.

There is potential nesting habitat is adjacent to the Eel River. This habitat is over 40 feet from the nearest project area. Noise levels from ongoing project activities are 41 dB at 40 feet. Therefore, the project will not raise noise levels over 41dB at the edge of habitat. There is extensive similar and perhaps more optimal habitat available in the Eel River corridor. No nesting habitat will be removed or impacted by the ongoing project operations. Foraging habitat is present at the forest edge in the vicinity of the project.

Direct Effects: If sharp-shinned hawks are present in the area, daytime foraging could be occurring in project vicinity. Noise from the project is very localized and drops to 47dB 20 feet from fan walls (Table 11). The project noise will impact very little area outside of the infrastructure foot prints (Figures 35-38). Additionally, there is extensive similar habitat across the 7,110 acre ranch and in the general area.

Indirect Effects: No indirect impacts

Determination: The ongoing project operations will not raise noise levels above 47dB in surrounding foraging habitat. This taken together with the extensive similar habitat across the 7,110-acre ranch and in the general area means that the project will have less than significant impacts on Sharp Shinned Hawks.

Cumulative Impacts

When viewing the general area in Google Earth imagery (2016), greenhouses assumed to be associated with cannabis cultivation operations were observed within 5 miles of the parcels on the same side of the Eel River: approximately 1.2 miles northwest of Facilities #1-#5, and 2.5 miles west of Facilities #6-#16. However, the majority were observed in the Fruitland area, across the Eel River corridor. The project site being within a 7,110-acre ranch limits the amount of cannabis cultivation that can take place in the area around the projects. The majority of the ranch (>95%) will continue to be managed for long term timber production. The THP process for future timber harvests also contains measures for identifying active raptor nests. Any raptor nests found are protected.

American Peregrine Falcon

Regulatory Status: The peregrine falcon if a Fully Protected species.

Habitat Requirements and Natural History: Breeds early March to late August, mostly in woodland, forest, and coastal habitats; riparian areas and coastal and inland wetlands are important habitats yearlong. Nests near wetlands, lakes, rivers, or other water on high cliffs and banks; occasionally uses trees or snag cavities or old raptor nests.

Potential for Occurrence within the Project Area: Project areas are adjacent to the Eel River corridor with large, isolated rock outcrops distributed across the landscape for nesting. An aerial predator that most often catches prey in flight, it has potential to foraging above the project areas.

***Short term Project Impacts** – Construction*

The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, road work, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short, set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 9); earthwork is expected to be completed within 8 to 12 weeks.

Direct Effects: This species nests on high cliffs and banks; occasionally uses trees or snag cavities or old raptor nests where no direct project impacts are occurring. No nesting habitat will be removed. If project construction occurs during the breeding season and if peregrine falcons are nesting within the vicinity of the projects, equipment noise from grading could disturb nestlings/fledglings.

Indirect Effects: No indirect impacts

Determination: If construction takes place during the breeding season, then preconstruction surveys for American peregrine falcon in forested nesting habitat, within 1000 feet of the project areas will be completed prior to the start of construction. If a nest is found, CDFW will be contacted and the agency will determine the appropriate no work buffer to remain around the nest until it has fledged. This is standard practice and often CDFW considers specific local factors when making buffer size decisions. In the past when working with CDFW on road construction projects a buffer of 500 feet has been placed on active raptor nests. If work takes place outside of the breeding season, no surveys are necessary.

Ongoing Activity Impacts **–** *Cannabis*

Ongoing noise and light pollution have the potential to impact this species. The use of automated, light-depriving greenhouses will ensure there is no impact from nighttime light leakage.

There is potential nesting on the Ranch assuming existing rock outcrops provide the necessary prominence and cover. This would be located in high cliffs along the river in trees. There are no river cliffs in the project vicinity. Forests do surround the project areas and there is the potential for nesting habitat within the forested areas. This species forages in flight and potentially could forage over the project areas.

Direct Effects: Noise levels form ongoing project activities drops to 47dB at 20 feet from the fan walls (Table 11). The project noise will impact very little area outside of the infrastructure foot prints (Figures 35-38). Noise levels in nesting habitat will be below 47 dB well below the 50dB threshold. Peregrine falcons may forage over the project areas. Raptors also commonly forage over agricultural areas. On-going project operations should not interfere with areal foraging over the greenhouses and processing buildings. Additionally, there is extensive similar habitat across the 7,110 acre ranch and in the general area.

Indirect Effects: No indirect impacts

Determination: The ongoing project operations will not raise noise levels above 47dB in surrounding foraging and nesting habitat. Peregrine falcons will still be able to forage over the project footprint. This taken together with the extensive similar habitat across the 7,110-acre ranch and in the general area means that the project will have less than significant impacts on peregrine falcon

Cumulative Impacts

When viewing the general area in Google Earth imagery (2016), greenhouses assumed to be associated with cannabis cultivation operations were observed within 5 miles of the parcels on the same side of the Eel River: approximately 1.2 miles northwest of Tract 2/3, and 2.5 miles west of Tract 1/4. However, the majority were observed in the Fruitland area, across the Eel River corridor. The project site being within a 7,110-acre ranch limits the amount of cannabis cultivation that can take place in the area around the projects. The majority of the ranch (>95%) will continue to be managed for long term timber production and will continue to provide habitat for peregrine falcons. The THP process for future timber harvests also contains measures for identifying active raptor nests. Any raptor nests found are protected.

Osprey
Regulatory Status: The osprey is on the CDFW Watch List.

Habitat Requirements and Natural History: Breeds March through August on platform of sticks at the top of large snags, dead-topped trees, on cliffs, or on manmade structures, most often near large bodies of water. Requires clear open water for foraging. This species can have a high tolerance for human presence in the nesting area (Birds of North America, 2019).

Potential for Occurrence within the Project Area: Project areas are adjacent to the Eel River corridor and this species is expected to be utilizing the corridor area.

Short term Project Impacts - *Construction*
The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, road work, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 9); earthwork is expected to be completed within 8 to 12 weeks.

Direct Effects: This species nests on platform of sticks at the top of large snags, dead-topped trees, on cliffs, or on manmade structures, where no direct project impacts are occurring. No nesting habitat will be removed.

It is possible that if project construction occurs during the breeding season and if osprey are nesting within vicinity of the projects equipment noise from grading could disturb nestlings/fledglings.
Indirect Effects: No indirect impacts.

Determination: If construction takes place during the breeding season, then preconstruction surveys for osprey in forested nesting habitat, within 1000 feet of the project areas will completed prior to the start of construction. If a nest is found, CDFW will be contacted and the agency will determine the appropriate no work buffer to remain around the nest until it has fledged. This is standard practice and often CDFW considers specific local factors when making buffer size decisions. In the past when working with CDFW on road construction projects a buffer of 500 feet has been placed on active raptor nests. If work takes place outside of the breeding season, no surveys are necessary.

Ongoing Activity Impacts – *Cannabis*
Ongoing noise and light pollution have the potential to impact this species. The use of automated, light-depriving greenhouses will ensure there is no impact from nighttime light leakage. In addition, this species has a high tolerance for human activity in the vicinity of nest sites (Birds of North America, 2019)

Direct Effects: No nesting or foraging habitat will be removed by the project. The closest foraging habitat to the project area is the river near facilities #1 and #2. Ospreys may forage over the Eel river. The nearest fan wall is approximately 300 feet from the river. Noise levels at the river would be approximately 23 dB (Table 11), far less than the 50dB threshold.

Noise levels form ongoing project activities drops to 47dB at 20 feet from the fan walls (Table 11). The project noise will impact very little area outside of the infrastructure foot prints and almost no forest edge (Figures 35-38). Noise levels in any surrounding nesting habitat will be 23dB.

Indirect Effects: No indirect impacts

Determination: Given that no habitat will be removed by the project and noise levels in both nesting, and that foraging are projected to be less that 23dB at the edge of habitat, and that Ospreys have a high tolerance for human presence in the nesting area, the project will have a less than significant impact on Osprey.

Cumulative Impacts

When viewing the general area in Google Earth imagery (2016), greenhouses assumed to be associated with cannabis cultivation operations were observed within 5 miles of the parcels on the same side of the Eel River: approximately 1.2 miles northwest of facilities #1-#5, and 2.5 miles west of Facilities #6-#16. However, the majority were observed in the Fruitland area, across the Eel River corridor. The project site being within a 7,110-acre ranch limits the amount of cannabis cultivation that can take place in the area around the projects. The majority of the ranch (>95%) will continue to be managed for long term timber production and will continue to provide habitat for osprey. The THP process for future timber harvests also contains measures for identifying active raptor nests. Any raptor nests found are protected.

Bald Eagle

Regulatory Status: State Endangered

Habitat Requirements and Natural History

The Bald eagle requires large bodies of water, or free flowing rivers with abundant fish, and adjacent snags or other perches. Perches high in large, stoutly limbed trees, on snags or broken-topped trees, or on rocks near water. The bald eagle hunts by swooping on prey from perches or soaring flight and commonly scavenges dead fish, waterbirds and mammals. Nests in large, old-growth, or dominant live tree with open branchwork that is usually located near a permanent water source. In California, 87% of nest sites were within 1.6 km (1 mi) of water. The bald eagle has successful nesting populations in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity counties (CDFW, 1988-1990). However, the picture of reproduction success and requirements is changing, with well documented nesting locations throughout CA with some nests often occurring in urban and residential areas. A representative of the Cornell Lab of Ornithology, Kevin McGowan, reflects the change in nesting behavior in this way, "[bald eagles] just don't really care as much about people anymore" (Sullivan, G.L., 2016). Curtner Elementary School in Milpitas, California had a nesting pair in the tree on campus (redwood) during 2017 and 2018 with successful fledges. However, one of the 2018 young (suspected), was found dead in 2019 under high voltage lines. Electrocution, collisions (with turbines, cars, etc.), and poisoning (lead shot consumption and secondary poisoning from rodenticides and pesticides) remain some of the bald eagle's major human threats.

Potential for Occurrence within the Project Area

In terms of nesting habitat, generally nest trees tend to be larger and taller than average with large supportive branches; but determining potential nesting habitat is difficult. For the purposes of analysis, due to preference for large trees the nesting habitat for the bald eagle appears to be synonymous with NSO high

quality nesting/roosting habitat; given that no NSO nesting habitat exists in the immediate vicinity of the project areas (see description from Holmgren for the NSO above), the habitat available within the footprint of project areas is assumed to be limited to foraging habitat, though bald eagles would more readily be found in the foraging in the Eel River corridor. However, while bald eagles could use the larger project vicinity in the future to nest and forage, no bald eagles were observed during golden eagle surveys done in 2018 and 2019 and it is assumed that there are currently no bald eagles utilizing the project areas for foraging or nesting.

Short term Project Impacts - *Construction*
The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, road work, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 9); earthwork is expected to be completed within 8 to 12 weeks. While bald eagles have shown some tolerance to constant, low level noises, loud, uncommon noises, as would be found during construction, have the potential to elicit escape behavior and decrease foraging efficiency (CDFW, July 2018; US FHWA, 2004).

Direct Effects: The construction phase of the project could disturb nesting eagles if present in the general project area the project vicinity. Like the golden eagles, the nearest nesting habitat is 800 ft from Facilities #6-#9. Noise levels during construction will be between 60-65 dB. Dirt work in this area should take less than 5 days. The lack of any eagle presence found during surveys coupled with the short term and relatively low noise levels of 65dB at habitat leads us to conclude that there would not be any significant impacts to the bald eagle.

Indirect Effects: no indirect impacts

Determination: Less than Significant Impact with mitigation Incorporated.

Ongoing Activity Impacts – *Cannabis*
Ongoing noise and light pollution have the potential to impact this species. The use of automated, light-depriving greenhouses will ensure there is no impact from nighttime light leakage. There will be no new overhead electrical lines, the project will not utilize pesticides outside of the closed greenhouse environment, and the project will use no rodenticides. Noise disturbances have been found to impact eagles.

Direct Effects: Noise disturbance from ongoing project activities drops to 47dB at 20 feet from the fan walls (Table 11). The project noise will impact very little area outside of the infrastructure foot prints and almost no forest edge (Figures 35-38).

Indirect Effects: No indirect impacts

Determination: As recommended by The US Fish and Wildlife Service (USFWS) guidelines two years of Golden Eagle surveys were completed for the project. No nesting golden or bald eagles were observed. The nearest nesting habitat for the bald eagle is 800 ft from Facilities #6-#9. Noise levels during ongoing project operations will be less than 17 dB in nesting habitat far below the 50dB threshold. Noise from

ongoing operations reaches 47 dB at 20 feet from the fan walls. Noise impacts on foraging habitat (all project footprint is in meadow habitat) for will be minimal (Figures 35-38). The project will remove 16 acres of meadow habitat, which is 1% of the currently available foraging habitat on the ranch. Of that 16 acres, only the development of Facilities #1 and #2 would impact the primary foraging habitat (Eel River corridor) of the bald eagle. Based on this, the project will have a **Less Than Significant Impact** on Bald Eagle.

Golden Eagle

Regulatory Status: The golden eagle is a Fully Protected species.

Under the Bald and Golden Eagle Protection Act (BGEPA) take of an eagle is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest or disturb" where molest and disturb imply causing injury to the eagle, nest abandonment, or interference with normal breeding, feeding, or sheltering behavior.

With authority from the BGEPA, the US Dept of Fish and Wildlife (USDFW) has developed a permit structure for managing project related mortality and territory loss for eagles with the most recent revisions in 2016: *Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests.* To this end, the USDFW has produced several documents that are intended to guide project developers in understanding how to best avoid impacts to eagles as well as the possible mitigations for take, for example, the Eagle Conservation Plan Guidance (2013) and the National Bald Eagle Management Guidelines (NBEMG, 2007). The NBEMG is recommended for application to golden eagle management (USDFW, 2016). Neither document codifies specific setbacks or distances for eagle nests or territory protection.

The USFWS Pacific Southwest Region Migratory Birds Program has released a document entitled "Recommended Buffer Zones for ground-based Human Activities around Nesting Sites of Golden Eagles in California and Nevada" dated December 2017 which recommends a 1 mile no disturbance buffer from an in-use nest.

Habitat Requirements and Natural History: This species is present in rolling foothills, mountain areas, sage-juniper flats, and desert. In the coast range of California this species' nests are almost exclusively in trees. Foraging habitat consists of open areas and woodlands where rabbits and rodents are available; this species will utilize live or dead tree perches for hunting if near open areas, but otherwise is a soaring predator. Breeding occurs in early to mid-February with young hatching by mid-March or April. Young remain at nest for 10 weeks, fledging by June but still being fed by adult birds until dispersing from the natal area in July- August. This courtship and fledging period is defined by the USDFW as January 15 through September 1.

Potential for Occurrence within the Project Area:

For the purposes of analysis, it is assumed nesting habitat occurs in the same general area as foraging habitat, since a strong pattern of foraging within a 1.8-miles radius of the nest tree has been reported for Humboldt County (Chimmici et al., 2012). Estimates of nesting golden eagles in Humboldt County, drawn from 7 years of surveys (2002-2004, 2008-2010, 2012) for timber harvest plans on Green Diamond Resource Company (GDRC) lands, determined up to 17 nests existed, 10 of which were on GDRC property.

Information from these nests, all in large Douglas fir trees, show an average height of 223 feet and a 72-inch diameter at breast height. Therefore, potential nesting habitat for the golden eagle appears to be synonymous with NSO high quality nesting/roosting habitat; given this, no nesting habitat exists in the immediate vicinity of the project areas.

The habitat available within the vicinity of project areas is foraging habitat for the golden eagle, which requires open terrain and woodlands for hunting rabbits and other rodents. Foraging habitat appears to be present as sign of black-tailed jackrabbit, the largest local lagomorph, was detected at most open grassland areas surveyed. Foraging habitat exists on the parcels and surrounding area.

There was previously one documented golden eagle nest in the vicinity of the project. This nest, known as the Sonoma 6 nest, was discovered in 2002 as a part of a timber harvest plan (THP 1-01-457-HUM); it was reported as located on a north facing slope on the south side of the Eel River (0.6 miles west of Beatty Creek confluence). This THP began in 2001 and concluded operation in 2007. During this time, the eagle nest was left with a 500-foot radius habitat retention buffer.

Nest specific details were found on the CNDDB RareFind database. Details included a general geographic location and specific description of the nest tree (72-foot tall Douglas fir tree with a broken top and 68-inch diameter breast height measurement. In addition, there are limited public records attached to the aforementioned THP that document the correspondence between THP proponents and regional CDFW staff that noted the location with abbreviated UTMs. Apart from these records, no additional information regarding the status or the quality of the nest or nesting pair was found.

Golden eagle surveys were conducted from July 2 through July 16, 2018. No eagles were observed until the final survey (July 16), when a single bird was observed. This detection was made from a flat near the barn at the proposed site of Facilities #9-#16, when the eagle was observed flying from the northeast ridge in a southwesterly direction over the Eel River before disappearing over the next ridge. There was no indication this eagle was nesting or foraging in the project areas. In 2019 Surveys were again conducted in the project areas. Surveys for golden eagles were conducted from April 9 through June 14, 2019. Due to heavy, late rains, access to the parcel via the McCann ferry was delayed, resulting in a delay in surveying during the CDFW recommendation of at least 1 survey from January 15 to February 15. A total of three surveys were conducted in 2019 and no golden eagles were detected. Golden Eagle survey results can be found in Appendix G.

On November 12, 2020 a qualified biologist utilized the geographic location data from the CNDDB and the UTMs provided in the THP correspondence in an attempt to locate the Sonoma 6 nest. All potential trees fitting the nest tree descriptions (both from the CNDDB specific to the Sonoma 6 nest and the more generalized description of nest trees in the area as described above) were located and reviewed for signs of use (white wash, prey remains). No trees were found that appeared to have hosted or host a large raptor nest, and no white wash or prey remains were found. There were only 3 trees large enough to meet the CNDDB description; all were Douglas fir, none observed with a broken top. The area around the location of the historic nest has been logged over in the last 17 years. See Appendix G Supplemental Nest Location Survey Report, routes and notes.

Therefore, while this nest was occupied in 2002/2003, the most recent evidence (golden eagle flight surveys, nest survey) supports the conclusion that the nest is no longer there.

Short term Project Impacts - *Construction*

The Project would have no short term construction-related direct or indirect impacts on possible nesting habitat. The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines and road work) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 9); earthwork is expected to be completed within 8 to 12 weeks.

Direct Effects: The nearest possible nesting habitat is located approximately 800 feet from Facilities #6-#9. Construction noise in this area could range between 60 and 65 dB at times when earthmoving equipment is being used. The next nearest area is 1000 feet north of Facilities #14 and #16, noise levels here will be less than 60dB. Both possible nesting habitats are outside the 660-foot nest setback recommended in the NBEMG. In order to ensure no possibility of significant impact on nesting Golden Eagles mitigation is proposed that construction must occur outside of the breeding season unless pre-construction surveys have been completed which demonstrate that no nesting activity is occurring within a 660-foot radius of the project.

Indirect Effects: No indirect impacts.

Determination: **Less than Significant Impact with mitigation**

MM- Bio -16: Construction shall occur outside of the Golden Eagle breeding season unless pre-construction Golden Eagle surveys have been conducted which demonstrate that no active nests or breeding behavior are present within a 660-foot radius of the Project, which is the setback recommended by the United States Fish and Wildlife Service. The surveys shall be completed during at least two separate non-consecutive days, with at least one survey occurring between January 15 and February 15.

Ongoing Activity Impacts – *Cannabis*

Cannabis infrastructure will permanently remove Golden Eagle foraging habitat. Light pollution will not impact this species as light-depriving greenhouses will ensure there is no impact from nighttime light leakage. No rodenticides are proposed and therefore will not result in any direct or indirect impacts on this species. The power extension into the project will be entirely underground and will not contribute to electrocution of this species. Potential impacts include noise, habitat loss and disturbance; these are discussed below.

Direct Effects: The nearest possible nesting habitat is located approximately 800 feet from Facilities #6-#9. Noise from ongoing operations in this area would be less than 17 dB (Table 11), far below the 50dB threshold. The nearest known historic nest site is over half a mile (3100 feet at the closest point) from Facilities #6-#9 and Facilities #10-#16. It was last known to be active 17 years ago in 2003 when surveys for a logging project in the area resulting in the find of the nest (THP 1-01-457 HUM). Noise at this site would be less than 5dB. A nest survey in November of 2020 found no signs of an eagle nest in this historic nest location. All large diameter trees were surveyed for signs (prey remains, white wash), and no signs

were found. In the vicinity of the mapped CNDDB location there were only 3 trees large enough to meet the CNDDB description; all were Douglas fir, none observed with a broken top. (Appendix G)

Habitat

Using GIS to determine habitat and potential Project impacts on golden eagles, proposed Project facilities will directly remove 339,810 sq. ft. (7.8 acres); the road through the core area is 41,132 sq. ft. of area (approx. 1 acre). Conservatively the impact may extend beyond the footprint of the buildings themselves. Incorporating the extent of the meadows (33 acres) in which the facilities are located, the project can be conservatively estimated to impact 33 acres of habitat. The vast majority of the ranch, 7,077 acres will remain in its current undeveloped state.

Disturbance

Because territorial eagles in the western US are year-round residents on their territories, potentially disruptive human activities are not limited to the breeding season. Project specific components mitigate the disturbance from ongoing project activities. All greenhouses will be equipped with blackout curtains so that no light will be allowed to escape between dawn and dusk. Human activity will be limited to work inside of the enclosed facilities.

Unlike a residential or recreational development, this cannabis cultivation project will not result in people living or recreating on site. Disturbance will be limited to people moving to and from workspaces. Employees will spend almost all of their time working inside the buildings and greenhouses.

Most road use will be that of the electric bus and while, not an infrequent disturbance compared to baseline, the bus, unlike ATV use, is quiet (ATVs, dirt bikes, etc. are described as causing the most harm (USFWS Dec 2017) and unlikely to cause startle/flushing behavior.

Indirect Effects: No indirect impacts.

Determination: **Less Than Significant**. As recommended by USFWS guidelines two years of Golden Eagle surveys were completed for the Project. No nesting eagles were observed. One eagle was observed flying over the Project. This eagle did not exhibit any behavior suggesting it was nesting or foraging in the Project vicinity. The nearest nesting habitat is 800 ft from Facilities #6-#9. Noise levels during ongoing project operations will be less than 17 dB in nesting habitat and far below the 50dB threshold. Noise from ongoing operations reaches 47 dB at 20 feet from the fan walls. Noise impacts on foraging habitat will be minimal (Figures 35-38). A nest survey in November of 2020 determined the single historic golden eagle nest (Sonoma 6) was no longer present. Additionally, the forest surrounding the historic nest site has been logged. The Project will conservatively remove approximately 33 acres of existing golden eagle habitat. The vast majority of the ranch, 7,077 acres will remain in its current undeveloped state. The Project will therefore have a less than significant impact on Golden Eagle.

Grasshopper Sparrow

Regulatory Status: The grasshopper sparrow is a State Species of Special Concern.

Habitat Requirements and Natural History: This species is found in prairies and pastures scattered in largely forested landscapes where it builds a domed nest with a side entrance, typically in a depression at the base of grass clumps. The species appears to prefer moderately open grasslands with scattered shrubs for singing and perching. Breeding occurs early April to mid-July. Conservation concern is that this common bird is in rapid decline, primarily related to loss of habitat due to intensive agriculture.

Potential for Occurrence within the Project Area: This species potentially breeds in the project area as the open grasslands of the project areas appear to provide optimal habitat.

Short term Project Impacts - *Construction*
The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, road work, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 9); earthwork is expected to be completed within 8 to 12 weeks.

Direct Effects: Nests could be destroyed during the construction phase of the project if conducted during breeding season. Nests located outside of the project footprint could be impacted by construction noise. Nosie levels from project construction drop to less than 60dB at 1000 feet from the project areas.

Indirect Effects: no indirect impacts.

Determination: If construction takes place during the nesting season than preconstruction surveys for grasshopper sparrow will take place the within the grassland portions of all project footprints as well as a 500-foot buffer around the footprint. Survey will be completed no more than seven days before the start of construction in that area. If a nest is found, a 'no work' buffer will be flagged around the nest. The buffer will be maintained until the nest has fledged. This is standard practice and often CDFW considers specific local factors when making buffer size decisions. In the past when working with CDFW on road construction projects buffers ranging from 100 to 200 feet has been placed on active ground nesters nests. If work takes place outside of the breeding season no surveys are necessary.

Ongoing Activity Impacts – *Cannabis*
The project areas occur in optimal habitat for this species; however, this habitat type is pervasive on the Ranch and in the general vicinity.

Direct Effects: Although they were not detected during several site visits, it is possible this species currently breeds in the project areas and would therefore experience some disturbance or displacement from operations due to increased infrastructure and human activity. The project will remove approximately 16 acres of habitat for this species. Noise from ongoing operations reaches 47 dB at 20 feet from the fan walls. In most cases this 20 feet is reached within the project footprint (Figures 35-38). In the 2-mile radius around the project areas there is currently 1382 acres of similar meadow habitat. The project will permanently impact 1 percent of grasshopper sparrow habitat.

Pesticide and herbicide poisoning have been documented in numerous taxa, primarily birds, by ingesting insects and seeds that have been treated (CDFW2). Cannabis will be grown inside greenhouse structures where birds will not have access to it. No pesticide of herbicides will be used outside of the greenhouses. Additionally, the project will only use approved organic herbicides and pesticides.

Indirect Effects: no indirect impacts.

Determination: Grassland type habitat is widely available in the general area and across vast portions of the Ranch. Within 2 miles of the project area there is currently 1382 acres of similar grassland habitat. The project footprint of 16 acres will impact 1% of that habitat. Additionally, there is similar habitat across the 7,110-acre ranch and in the general area. Noise from ongoing operations reached 47dB at 20 feet from the fan walls and impacts mostly just the infrastructure footprint, so noise will not impact additional surrounding habitat. Based on these factors there will be less than significant impacts the grasshopper sparrow.

Cumulative Impacts *- Cannabis*
When viewing the general area in Google Earth imagery (2016), greenhouses assumed to be associated with cannabis cultivation operations were observed within 5 miles of the parcels on the same side of the Eel River: approximately 1.2 miles northwest of Facilities #1-#5, and 2.5 miles west of Facilities #6-#16. However, the majority were observed in the Fruitland area, across the Eel River corridor, suggesting this portion of the watershed has had some concentrated areas of cultivation activities in the past. The project site being within a 7,110-acre ranch limits the amount of cannabis cultivation that can take place in the area around the projects. The majority of the ranch (>95%) will continue to be managed for long term timber production and the vast majority of the current grasshopper sparrow habitat will remain grasshopper sparrow habitat. Future Timber activities would take place within forested areas and would not impact the grassland habitats used by the grasshopper sparrow.

Bryant's Savannah Sparrow
Regulatory Status: The Bryant's savannah sparrow is a State Species of Special Concern.

Habitat Requirements and Natural History: This species occurs primarily in moist grassland habitats along the coast and inland within the fog belt, or in moist valleys and high elevation meadows, and generally avoids drier upland grassland habitats, especially in the interior Coast Ranges. Builds nests in a hollow on the ground usually concealed by overhanging, dense vegetation; also builds cup nests. Breeding typically occurs between April and July.

Potential for Occurrence within the Project Area: This species could possibly breed in the project area, although this low elevation interior grassland habitat with some fog influence it may be too dry for this species which as detailed above is often found within the fog belt, or in moist valleys and high elevation meadows.

Short term Project Impacts *- Construction*

The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, road work, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 9); earthwork is expected to be completed within 8 to 12 weeks.

Direct Effects: Nests could be destroyed during the construction phase of the project if conducted during breeding season and Bryant's savannah sparrow nests are present. Nests located outside of the project footprint could be impacted by construction noise. Nosie levels from project construction drop to less than 60dB at 1000 feet from the project areas.

Indirect Effects: no indirect impacts.

Determination: If construction takes place during the nesting season than preconstruction surveys for Bryant's savannah sparrow shall take place the within the grassland portions of all project footprints as well as a 500-foot buffer around the footprint. Survey will be completed no more than seven days before the start of construction in that area. If a nest is found, a 'no work' buffer will be flagged around the nest. The buffer will be maintained unlit the nest has fledged. This is standard practice and often CDFW considers specific local factors when making buffer size decisions. In the past when working with CDFW on road construction projects buffers ranging from 100 to 200 feet has been placed on active ground nesters nests. If work takes place outside of the breeding season no surveys are necessary.

Ongoing Activity Impacts – *Cannabis*
The project areas occur in what could be habitat for this species; however, this habitat is not optimal (see discussion above) and is pervasive on the Ranch and in the general vicinity.

Direct Effects: Although they were not detected during several site visits, and the habitat may not be optimal due to it being low elevation interior grassland, it is possible this species currently breeds in the project areas and would therefore experience some disturbance or displacement from operations due to increased infrastructure and human activity. The project will remove approximately 16 acres of grassland. Noise from ongoing operations reaches 47 dB at 20 feet from the fan walls. In most cases this 20 feet is reached within the project footprint (Figures 35-38). In the 2-mile radius around the project areas there is currently 1382 acres of similar meadow habitat. The project will permanently impact 1 percent of the possible Bryant's savannah sparrow habitat.

Pesticide and herbicide poisoning have been documented in numerous taxa, primarily birds, by ingesting insects and seeds that have been treated (CDFW2). Cannabis will be grown inside greenhouse structures where birds will not have access to it. No pesticide of herbicides will be used outside of the greenhouses. Additionally, the project will only use approved organic herbicides and pesticides.

Indirect Effects: no indirect impacts.

Determination: The grassland habitat in this area is not optimal habitat for this species. This grassland type habitat is widely available in the general area and across vast portions of the Ranch. Within 2 miles of the

project area there is currently 1382 acres of similar grassland habitat. The project footprint of 16 acres will impact 1% of that habitat. Additionally, there is similar habitat across the 7,110-acre ranch and in the general area. Noise from ongoing operations reached 47dB at 20 feet from the fan walls and impacts mostly just the infrastructure footprint, so noise will not impact additional surrounding habitat. Based on these factors there will be less than significant impacts to the Bryant's savannah sparrow.

Cumulative Impacts *- Cannabis*
When viewing the general area in Google Earth imagery (2016), greenhouses assumed to be associated with cannabis cultivation operations were observed within 5 miles of the parcels on the same side of the Eel River: approximately 1.2 miles northwest of Facilities #1-#5, and 2.5 miles west of Facilities #6-#16. However, the majority were observed in the Fruitland area, across the Eel River corridor, suggesting this portion of the watershed has had some concentrated areas of cultivation activities in the past. The project site being within a 7,110-acre ranch limits the amount of cannabis cultivation that can take place in the area around the projects. The majority of the ranch (>95%) will continue to be managed for long term timber production and the vast majority of it will remain possible Bryant's savannah sparrow habitat. Future Timber activities would take place within forested areas and would not impact the grassland habitats used by the Bryant's savannah sparrow.

Bank Swallow
Regulatory Status: The bank swallow is a Threatened species in the state of California.

Habitat Requirements and Natural History: Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting holes. Arrives in early March and numbers peak by early May. Breeds from early May through July with peak activity from mid-May to mid-June. Colonies are vacant by late July or early August, and migrants are observed usually through early or mid-September.

Potential for Occurrence within the Project Area: Unlikely, as there is no nesting habitat in immediate vicinity of parcel. There is forging habitat in the project vicinity but foraging in this area is unlikely due to the lack of nesting habitat in the greater vicinity. Facilities #1 and #2 are located adjacent to the Eel River at approximately 200 feet in elevation. This part of the river has little riparian vegetation, characterized by a narrow strip of willow on sand and gravel substrate with a few large cottonwoods that slopes gently uphill, immediately transitioning to hardwoods with no bank habitat for nesting present.

Short term Project Impacts *- Construction*
The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 9); earthwork is expected to be completed within 8 to 12 weeks.

Direct Effects: No Habitat in the vicinity of the project. No direct impact.

Indirect Effects: No Habitat in the vicinity of the project. No indirect impact.

Determination: It is determined that the construction phase will have no impact on bank swallows.

Ongoing Activity Impacts – *Cannabis*
The portion of the Eel River near the project areas does not have the habitat necessary for this species.

Direct Effects: No Habitat in the vicinity of the project. No direct impact.

Indirect Effects: No Habitat in the vicinity of the project. No indirect impact.

Determination: It is determined that the ongoing project activities will have no impact on bank swallows.

Cumulative Impacts
As this project will have no impact on bank swallow it will not contribute to any cumulative impacts to this species.

American Badger
Regulatory Status: The American Badger is a State Species of Special Concern.

Habitat Requirements and Natural History: Most abundant in drier, open shrub, forest, and grassland habitats; requires friable soils for denning burrows that are usually in areas with sparse overstory cover. Badgers are carnivores; they eat rats, mice, chipmunks, ground squirrels and gophers as well as reptiles, insects, earthworms, birds and carrion. Active day and night, Badgers are somewhat tolerant of humans, but suffer from indiscriminate trapping and the use of persistent poisons (bio accumulating) by humans to control rodents causes extensive loses. CDFW, 2019.

Potential for Occurrence within the Project Area: The project areas were surveyed by a qualified biologist. The survey of the project area (ideal Badger habitat of open grassland with friable soils) revealed no sign of this species. The project footprint occurs in what appears to be optimal habitat for this specie however, survey found no sign of their distinctly-shaped burrows. They may occur in similar habitats elsewhere on the ranch that are not part of this proposed project.

Short term Project Impacts (Construction)
Direct Effects: There are no Badgers present in the project area and no badgers will be disturbed by noise that will be present during project construction. No direct effects from construction are anticipated.

Indirect Effects: No indirect impacts are anticipated.

Ongoing Activity Impacts – *Cannabis*

Direct Effects: The project will erect multiple processing buildings and greenhouses. As there were no signs of Badger presence during the biological survey, building facilities in the project area will have no impact on the Badger. The addition of new facilities will eliminate the possibility that the Badger will use the project area for denning or foraging in the future. This grassland type habitat is widely available in the general area and across vast portions of the Ranch. Within 2 miles of the project area there is currently

1382 acres of similar grassland habitat. The project footprint of 16 acres will impact 1% of that habitat. Additionally, there is similar habitat across the 7,110-acre ranch and in the general area.
A significant source of Badger mortality is road crossing mortality; this is indicated as one of the major threats to the Badger as the species ranges widely and therefore cross roads often; dispersing young males have been known to travel up to 110 km/63.4 miles (as found in Lay, C., 2008). This project will utilize pre existing ranch roads that have low speed limits (15mph) and will not be traveled at night. The project, as proposed, will not contribute to road crossing mortality.

Indirect Effects: No indirect impacts are anticipated. Fully enclosed cultivation areas eliminate the need for rodenticides or traps that could lead to secondary poisoning and Badger mortality.

Cumulative Impacts:
Because there were no signs of Badgers in the project area, the project will not have a cumulatively adverse impact on the American Badger. If a Badger were to return to the area, the construction of the new greenhouses and processing buildings for cultivation and processing would remove 16 acres from the landscape for hunting or denning. This amount of potential habitat removed is not significant given that it is 1% of the grassland habitat found in the 2 miles radius surrounding the project. Additionally, there is similar habitat across the 7,110-acre ranch and in the general area.

Humboldt marten
Regulatory Status: The Humboldt marten is a State Endangered species and a State Species of Special Concern.
Habitat Requirements and Natural History: In the broadest sense, martens (and fisher) occupy mesic, conifer-dominated forests with abundant physical structure near the ground (Powell et al., 2003). Both species avoid areas lacking overhead cover. There is an upper limit to the amount of openings in the forest (natural and clear-cuts) tolerated by martens: 25 to 30 percent of their home range. Non-forested habitats are effective barriers for travel and dispersing, as marten are predated by avian and mammalian predators (Zielinski, 2014). In western North America, the need for old growth forest is fairly clear. Here, martens consistently select mesic, late-successional stands (Powell et al., 2003).

This species is found in various mixed conifer forests with greater than 40 percent canopy closure that includes large trees and snag; requires a variety of different aged stands. Important features include large tree/snag cavities or logs for reproduction and cover. Martens tend to use the largest available patches of late mature or old-growth forest and prefer areas with dense shrub understories. Marten home ranges are substantially smaller than fishers, with male marten home range maximums of about 6 square miles.
Denning for this species is typically complete by late spring to early summer, with young born March through May, sometimes into June. Young stay with the female until autumn. According to the CDFW Wildlife Habitat Relationship system (CWHR) this species strongly avoids openings, rarely moving across large areas devoid of cover, but will minimally utilize small openings for foraging.

Potential for Occurrence within the Project Area: Contemporary detections of Humboldt martens have occurred in three habitat types: moist Douglas-fir, moist forest types on serpentine soils, and shore pine associated dune forests on coastal terraces (Slauson et al., 2019). A dense, spatially extensive shrub layer (sword fern, rhododendron, salal, huckleberry, salmonberry) is a consistent feature within these forest types.

The majority of marten detections have occurred in largely unmanaged moist Douglas-fir associated forest types where martens select large patches (>198 acres) of late-successional forest as habitat (Slauson et al., 2019).

While Douglas-fir dominates in the forested habitat on the Ranch, it is not a mesic (moist) setting due to the distance from the coast and its related influences regarding moisture, as evidenced by the lack of dense understory vegetation species typical of more coastal forests.

Of the 24 historical records of Humboldt marten occurrence, 83 percent occurred less than 15 miles from the coast; no records occurred greater than 22 miles (35km) (Slauson et al., 2019). Locally, the historic range includes all of Humboldt County with the exception of the extreme northeast.

The parcels may have suitable denning habitat with adequate-sized trees or down logs in the area, but none were observed in the general vicinity of the projects. Further, the forested portions of the parcel in the project areas lack the high canopy cover and dense understory this species seems to prefer. For the purpose of this analysis, the nesting/roosting habitat requirements of the northern spotted owl, is more synonymous with foraging and denning habitat requirements of the marten. It is likely even these areas may not have the conditions required to be marten habitat, as the forest is not mesic and is located more than 28 miles from the coast.

The nearest nesting/roosting habitat to project areas is approximately 800 feet to the north of Facilities #6-#9, at the leading edge of a larger contiguous stand of dense trees. The forested habitat adjacent to the grasslands where the project facilities are located is essentially nonhabitat for this species due to its lack of dense cover and other Characteristics as noted above.

Short term Project Impacts *- Construction*

The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 9); earthwork is expected to be completed within 8 to 12 weeks.

Direct Effects: No direct impacts are expected as construction will not take place in habitat, but in open meadows, and on existing roads. The nearest possible habitat is located approximately 800 feet from facilities#6-#9. Construction noise in this area could range between 60 and 65 dB at times when earthmoving equipment is being used. A study in off-highway vehicle use on the American Marten from 2007 look at vehicle noise levels of greater than 60dB on martens in the Sierra Nevada forest and Tahoe basin (Zielinski et al., 2008). The study found no effect of vehicle noise on Marten occupancy or probability of detection (Zielinski et al., 2008). This study suggests that Martens are able to tolerate noise greater than 60dB.

Indirect Effects: No indirect impacts

Determination: Habitat for this species is located over 800 feet from the nearest project area. This habitat is marginal due to is dryness and based on past accounts of this species it is unlikely that it would be this far from the coast. Additionally, construction would raise noise levels to approximately 60-65dB for a short amount of time (All earthwork, including grading for all structures, electrical, septic and roads) is expected to be completed in 8 to 12 weeks; dirt work for facilities #6-#9 should take less than 5 days). Based on these factors the construction portion of this project will have a less than significant impact on Humboldt marten.

Ongoing Activity Impacts *– Cannabis*

Ongoing noise and light pollution have the potential for the largest impact on this species. The use of automated, light-depriving greenhouses will ensure there is no impact from nighttime light leakage. As stated above for the purpose of this analysis, the nesting/roosting habitat requirements of the northern spotted owl, is more synonymous with foraging and denning habitat requirements of the marten. It is likely even these areas may not have the conditions required to be marten habitat, as the forest is not mesic and is located more than 28 miles from the coast.

The nearest nesting/roosting habitat to project areas is approximately 800 feet to the north of Facilities #6-#9, at the leading edge of a larger contiguous stand of dense trees. The forested habitat adjacent to the grasslands where the project facilities are located is essentially nonhabitat for this species due to its lack of dense cover and other Characteristics as noted above.

As Humboldt Martens avoid open meadow areas and forest openings (the current condition in the project vicinities) are these are barriers to dispersing (see above) the species is most likely not currently using project areas and will not use these areas in the future.

Direct Effects: No direct impacts are expected as construction will not take place in habitat, but in open meadows, and on existing roads. The nearest possible habitat is located approximately 800 feet from facilities#6-#9. Project noise in this area would be less than 17 dB (Table 11). Far below the 50dB threshold.

Indirect Effects: The greatest threat to this species with regards to cannabis cultivation is the use of rodenticides (indirectly through prey, but also direct effects possible), particularly anticoagulant rodenticides, for the management of perceived pests (CDFW 2). No rodenticides of any kind will be used on the Ranch.

Determination: Given that the closest habitat is 800 ft from the closest facility, and that this habitat is marginal, and that noise form ongoing project operations will be less than 17dB at the edge of this habitat, far less than the 50dB threshold, ongoing project operations will have a less than significant impact on Humboldt marten.

Cumulative Impacts

When viewing the general area in Google Earth imagery (2016), greenhouses assumed to be associated with cannabis cultivation operations were observed within 5 miles of the parcels on the same side of the Eel River: approximately 1.2 miles northwest of Facilities #1-#5, and 2.5 miles west of Tract #6-#16.

However, the majority were observed in the Fruitland area, across the Eel River corridor, suggesting this portion of the watershed has had some concentrated areas of cultivation activities in the past. The project site being within a 7,110-acre ranch limits the amount of cannabis cultivation that can take place in the area around the projects. The majority of the ranch (>95%) will continue to be managed for long term timber production. The THP process for future timber harvests also contains measures for identifying active Humboldt Marten denning sites. Any denning sites found are protected.

Fisher

Regulatory Status: The west coast population of fisher is a Federal and State Proposed Candidate Threatened species, and a State Species of Special Concern.

Habitat Requirements and Natural History: This species is found in forests with intermediate to large trees in coniferous forests and deciduous riparian habitats with greater than 50 percentage canopy closure. Important features include large tree/snag cavities, hollow logs, rock areas, or shelters provided by slash or brush piles for reproduction and cover. Fishers are generally associated with large, unfragmented blocks of mature conifer forest, preferring habitats with closed canopies and structural complexity near the forest floor (National Park Service 2019). Riparian stands dominated by Douglas fir (Pseudotsuga menziesii) are important to fishers in the West (Powell et al., 2003). Riparian habitats are also important and may be used as travel corridors between suitable habitat patches (National Park Service, 2019). Fishers avoid open habitats such as grasslands and white oak woodlands. Rest sites are rarely reused, which means that many structures must be well-distributed throughout a fisher's home range, which can be as large as 22 square miles.

Denning for this species is typically complete by late spring, with young born February through May. Young stay with female through autumn. Streams are an essential component of fisher habitat, particularly in regard to rest sites, which are especially important in areas that experience hot, dry conditions (CDFW2). Like the Humboldt marten, but at nearly twice the size, fisher are mesocarnivores that are active mostly at night or near dawn and dusk (crepuscular). This species also avoids non-forested areas but may have less potential for predation when utilizing openings due to its larger size.

Potential for Occurrence within the Project Area: The ranch may have suitable denning habitat with adequate-sized trees or down logs in the area, but none were observed in the general vicinity of the projects. Further, the forested portions of the parcel in the project areas may lack the high canopy cover and dense understory this species seems to prefer, even in the watercourses where understory vegetation is expected to be most dense. For the purpose of this analysis, the nesting/roosting habitat requirements of the northern spotted owl which has a canopy closure of 60% or greater of tress with DBH greater than 11inches, is synonymous with foraging and denning habitat requirements of the fisher.

The nearest nesting/roosting habitat to project areas is approximately 800 feet to the north of Facilities #6-#9, at the leading edge of a larger contiguous stand of dense trees. The forested habitat adjacent to the grasslands where the project facilities are located is essentially nonhabitat for this species due to its lack of dense cover and other Characteristics as noted above. The next nearest is Facilities #14-#16 are 1000 feet south of a larger contiguous stand of dense trees.

Short term Project Impacts - *Construction*
The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 9); earthwork is expected to be completed within 8 to 12 weeks.

Direct Effects: No direct impacts are expected as construction will not take place in habitat, but in open meadows, and on existing roads. The nearest possible habitat is located approximately 800 feet from facilities#6-#9. Construction noise in this area could range between 60 and 65 dB at times when earthmoving equipment is being used. The next nearest area is 1000 feet north of Facilities #14-#16, noise levels here will be less than 60dB
.
Indirect Effects: no indirect impacts.

Determination: If construction takes place during the denning season, then preconstruction surveys for Fisher den sites and structures will be completed in the more densely forested areas that occur within 1000 feet of facilities #6-#9 to determine presence or absence of denning potential for this species. Should evidence of denning be found, no work will take place at the facilities #6-#9 location until after the denning season has ended. If work takes place at Facilities #6-#9 outside of the denning season, no surveys are necessary.

Ongoing Activity Impacts – *Cannabis*
Ongoing noise and light pollution have the potential for the largest impact on this nocturnal species. The use of automated, light-depriving greenhouses will ensure there is no impact from nighttime light leakage.

The nesting/roosting habitat requirements for NSOs can be used to infer habitat availability for fisher denning and foraging. The nearest nesting/roosting habitat to project areas is approximately 800 feet to the north of Facilities #7- #10, at the leading edge of a larger contiguous stand of dense trees. The forested habitat adjacent to the grasslands where the project facilities are located is essentially nonhabitat for this species due to its lack of dense cover and other Characteristics as noted above.

Direct Effects: No direct impacts are expected as construction will not take place in habitat, but in open meadows, and on existing roads. The nearest possible habitat is located approximately 800 feet from facilities#7-#9. Project noise in this area would be less than 17 dB (Table 11). Far below the 50dB threshold.

Indirect Effects: The greatest threat to this species with regards to cannabis cultivation is the use of rodenticides (indirectly through prey, but also direct effects possible), particularly anticoagulant rodenticides, for the management of perceived pests (CDFW2). No rodenticides of any kind will be used on the Ranch.

Determination: Given that the closest habitat is 800 ft from the closest facility, and that this habitat is marginal, and that noise form ongoing project operations will be less than 17 dB at the edge of this habitat,

far less than the 50dB threshold, ongoing project operations will not have a significant impact on Humboldt marten.

Cumulative Impacts
When viewing the general area in Google Earth imagery (2016), greenhouses assumed to be associated with cannabis cultivation operations were observed within 5 miles of the parcels on the same side of the Eel River: approximately 1.2 miles northwest of Facilities #1-#5, and 2.5 miles west of Facilities #6-#16. However, the majority were observed in the Fruitland area, across the Eel River corridor, suggesting this portion of the watershed has had some concentrated areas of cultivation activities in the past. The project site being within a 7,110-acre ranch limits the amount of cannabis cultivation that can take place in the area around the projects. The majority of the ranch (>95%) will continue to be managed for long term timber production. The THP process for future timber harvests also contains measures for identifying active Fisher denning sites. Any denning sites found are protected.

Townsend's Big-Eared Bat
Regulatory Status: The Townsend's big-eared bat is a State Species of Special Concern.

Habitat Requirements and Natural History: Found throughout California in a wide variety of habitats, this species is a moth specialist that is most abundant in mesic habitats. It roosts in the open, hanging from walls and ceilings. Males are solitary in spring and summer. Females form maternity colonies starting in March that include a few dozen to hundreds of females, with births occurring in May and June.

Potential for Occurrence within the Project Area: Facility #10 is the only project area that currently has a structure on it, an old barn that shows evidence of use by multiple bat species. Bats likely forage in the Eel River corridor (straight line distance of 0.4 miles) and may use the barn to rest between feeding bouts. This barn does not have the capacity to support a maternity roost due to its lack of crevices or areas to recede into. This structure is primarily wood framing with corrugated roof and sides, with the only habitat existing between the small space that forms where the wood and metal meet. This type of structure is generally used for night roosting bats, particularly smaller species such as *Myotis*. The dispersed nature of the guano seen during multiple site visits suggests no long-term occupancy of this structure by bats.

Short term Project Impacts - *Construction*
The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 9); earthwork is expected to be completed within 8 to 12 weeks.

Direct Effects: The barn will be removed during the construction phase of the project. This structure does not appear to be suitable nor used as a maternity roost site, which have to meet consistent and precise temperature and humidity requirements. Even given the propensity of Townsend's bat in particular to readily use manmade structures for maternity roosts, this structure is suboptimal habitat.

Indirect Effects: No indirect effects are expected.

Determination: Removal of the barn could have an effect on Townsend's big-eared bats if they are using it for anything other than a temporary night roost. However, multiple visits to this site suggest it is used only temporarily and by smaller bats (guano size observed more attributable to *Myotis* species). As a precaution, preconstruction surveys of the barn should occur during breeding season to ensure no bats are using this structure for anything other than a temporary night roost.

Ongoing Activity Impacts *– Cannabis*

Bats are certainly using the Eel River corridor for feeding and drinking, and the location of the barn is optimal for digesting in between feeding bouts. However, bats are known to utilize multiple roost sites in a given area, and given the optimal location of the barn being somewhat proximate to the river, more bat activity (accumulated guano) would be expected, suggesting the wood framing and metal walls and roof are less than ideal for roosting bats; the removal of this structure is unlikely to have any adverse effects. This species is a moth specialist, but is a habitat generalist with respect to foraging (Rogers 2006). This wide-ranging species forages along edges of streams, along canyon walls and cliff faces, and over pasture and rangelands (Rogers 2006).

Direct Effects: No direct effects are expected as bats are known to utilize multiple roost sites in a given area, and the removal of this structure is unlikely to have major adverse effects. Further, the ability of this species to exploit a variety of foraging habitats reduces the potential for impacts.

Noise exposure can impact predator-prey relationships and may be especially impactful on nocturnal species where chronic noise has been proven to reduce foraging success of bats. In addition, light pollution associated with artificial lighting of greenhouses can disrupt activity of bats and birds, altering foraging, navigation and reproduction. Noise from ongoing operations reaches 47 dB at 20 feet from the fan walls. In most cases this 20 feet is reached within the project footprint (Figures 35-38). In the 2-mile radius around the project areas there is currently 1382 acres of similar meadow habitat. The project will permanently impact 1 percent of this type of habitat.

Indirect Effects: no indirect impacts.

Determination: Grassland type habitat is widely available in the general area and across vast portions of the Ranch. Within 2 miles of the project area there is currently 1382 acres of similar grassland habitat. The project footprint of 16 acres will impact 1% of that habitat. Additionally, there is similar habitat across the 7,110-acre ranch and in the general area. Noise from ongoing operations reaches 47dB at 20 feet from the fan walls and impacts mostly just the infrastructure footprint, so noise will not impact additional surrounding habitat. Multiple visits to the barn site suggest it is used only temporarily and by smaller bats (guano size observed more attributable to *Myotis* species). Based on these factors there will be **less than significant impacts** to Townsend's big-eared bat.

Cumulative Impacts *- Cannabis*

When viewing the general area in Google Earth imagery (2016), greenhouses assumed to be associated with cannabis cultivation operations were observed within 5 miles of the parcels on the same side of the Eel River: approximately 1.2 miles northwest of Facilities #1-#5, and 2.5 miles west of Facilities #6-#16

However, the majority were observed in the Fruitland area, across the Eel River corridor, suggesting this portion of the watershed has had some concentrated areas of cultivation activities in the past. The project site being within a 7,110-acre ranch limits the amount of cannabis cultivation that can take place in the area around the projects. The majority of the ranch (>95%) will continue to be managed for long term timber production and the vast majority of it will remain in its current state. The THP process for future timber harvests also include measures for identifying possible Townsend's big-eared bat roost sites. Any sites found are protected.

Western Pond Turtle

Regulatory Status: The western pond turtle is a State Species of Special Concern.

Habitat Requirements and Natural History: A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation and below 6000 feet elevation. This species needs basking sites and suitable upland habitat (sandy banks with vegetation, open forest with moderate understory vegetation, tall grass) up to a maximum of 1,600 feet from water, for egg-laying and over-wintering in burrows dug into friable soils (Reese 1998).

Potential for Occurrence within the Project Area: This species was not observed during surveys of the project areas. The watercourses with the exception of the Eel River are unlikely to support western pond turtle with no permanent flowing water or basking sites. The ponds near Facilities #6-#9 and #10-#16 have minimal vegetation and no basking substrate and are not permanent; all watercourses (with the exception of the Eel River) in the project areas as well as the pond were dry by June in 2017 and 2018. The Eel River corridor, where optimal habitat likely exists, is approximately 200 feet from the nearest project area. There is the potential for nesting in this area.

Short term Project Impacts *- Construction*

The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (table 9); earthwork is expected to be completed within 8 to 12 weeks.

Direct Effects: The project footprint is outside of water ways and their buffers. It is possible that grass meadow where Facilities #1 and #2 is nesting habitat for the western pond turtle. All other infrastructure is more than 1600 feet from the river. All total the project infrastructure will remove approximately 1.3 acres of possible nesting habitat.

Indirect Effects: No indirect effects are expected.

Determination: If construction of the infrastructure at facilities #1 and #2 takes place during the nesting season, preconstruction surveys western pond turtle nests will be conducted. If nests are found, they will be buffered and undisturbed until turtles have hatched and left the nest. As is standard practice CDFW will be consulted to help with buffer sizing. Often CDFW takes into account specific local factors when making buffer size decisions.

Ongoing Activity Impacts – *Cannabis*
This species was not observed during several visits to the parcels to conduct a variety of surveys and is not expected, except within the immediate Eel River corridor, 200 feet away from the nearest project area. Ongoing noise and light pollution could potentially impact this species. The use of automated, light-depriving greenhouses will ensure there is no impact from nighttime light leakage.

Direct Effects: Although they were not detected during several site visits, it is possible this species currently nests in meadow where Facilities #1 and #2 will be built and therefore could experience some disturbance or displacement from operations due to increased infrastructure and human activity. Pond turtles' nest in both meadows and forested habitat and as such the majority of the Eel River corridor in the vicinity of the project area is available habitat. All total the project infrastructure will remove approximately 1.3 acres of possible nesting habitat.

Noise from ongoing operations reaches 47 dB at 20 feet from the fan walls. In most cases this 20 feet is reached within the project footprint (Figures 35-36). With minimal impacts outside of the footprint.

Indirect Effects: no indirect impacts

Determination: All total the project infrastructure will remove approximately 1.3 acres of possible nesting habitat. Given the extensive available habitat along the Eel River, the project will have less than significant impacts to western pond turtle.

Cumulative Impacts
When viewing the general area in Google Earth imagery (2016), greenhouses assumed to be associated with cannabis cultivation operations were observed within 5 miles of the parcels on the same side of the Eel River: approximately 1.2 miles northwest of Facilities #1-#5, and 2.5 miles west of Facilities #6-#16. However, the majority were observed in the Fruitland area, across the Eel River corridor, suggesting this portion of the watershed has had some concentrated areas of cultivation activities in the past. The project site being within a 7,110-acre ranch limits the amount of cannabis cultivation that can take place in the area around the projects. The removal of less than 1.3 acres of possible nesting habitat is insignificant when compared to the large amounts (hundreds of acres) of habitat available in the Eel River corridor. This project will not cumulatively contribute to significant impacts to this species.

Northern Red-Legged Frog
Regulatory Status: The northern red-legged frog is a State Species of Special Concern.

Habitat Requirements and Natural History: This species is typically a pond frog, but can be wide-ranging, sometimes inhabiting damp places far from water. Reproduction is aquatic and breeding lasts only a week or two at a location. Afterwards, adults move back into nearby moist forests and riparian areas.

Potential for Occurrence within the Project Area: A *Rana species* was observed in both the ephemeral pond at facilities #10-#16 and in a stream near facilities #1 and #2; both are likely this species.

Short term Project Impacts - *Construction*
The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, road work, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 9); earthwork is expected to be completed within 8 to 12 weeks.

Direct Effects: The pond and watercourses provide potential breeding areas for this species.
No construction will take place within ponds or their buffers. Water course buffers will allow frogs to disperse without entering the construction sites.

The project does propose to upgrade and repair the existing water course crossings to the current 100 year flood standard on the existing access roads. Crossings will be repaired or replaced over the 12.9 miles of internal ranch road used by the project, between Alder Point road and McCann road. There are 45 stream crossing spanning the 12.9 miles of internal Ranch road. A total of 34 of these crossing require instream work to install new appropriately sized culverts in all fill crossings and to replace undersized, failing culvert crossings. This work will mostly all take place in the existing road prism. However, some crossing replacements will need to occupy slightly more stream channel so that the road prism fill slopes are no greater than 65 percent and new culverts extend far enough for inlets and outlets to be rock armored. The repair/ upgrade of the 34 crossings will impact a total of 369.8 linear feet (717.7 square feet) of channel that is not currently impacted by road prism. See Appendix K for the full details on the proposed road crossing upgrades. In-stream work will be done during the summer and fall season when the streams are likely to be dry with no frogs will be present.

Indirect Effects: No indirect effects are expected.

Determination: No construction will take place within ponds or their buffers. Buffers will allow frogs to disperse without entering the construction sites. Work to upgrade 34 stream crossings on the project roads will be done during the summer and fall season when the streams should be dry with no frogs present. As per standard construction process, if any streams are found to have water in them at the time of crossing reconstruction, preconstruction surveys for frogs will be completed no more 2 days prior to construction. If frogs are found they will be relocated, and a biological construction monitor will be on site for the duration of the construction of that crossing.

Ongoing Activity Impacts – *Cannabis*
This genus was observed in waterways the visits to the parcels. The cannabis infrastructure is placed outside the water ways and their buffers.

Direct Effects: Ongoing operations will not take place in any water ways or their buffers. Ongoing operations will not directly impact northern red legged frogs.

Indirect Effects: No indirect impacts are expected form ongoing project operations.

Determination: All operations take place outside of the waterways and their buffers. There will be no Impacts to northern red legged frogs.

Cumulative Impacts
As this project will have no effect on northern red legged frogs it will not contribute to any cumulative impacts to this species.

Foothill Yellow-Legged Frog
Regulatory Status: The foothill yellow-legged frog is a State Species of Special Concern.

Habitat Requirements and Natural History: This species is found in or near rocky streams in a variety of habitats and is rarely encountered far from permanent water. They often bask on exposed rock surfaces, diving under cover objects when disturbed. Breeding and egg laying typically occur from mid-March through May. Eggs hatch in about five days with tadpoles transforming in three to four months.

Potential for Occurrence within the Project Area: This species was not observed during surveys of the project areas. The watercourses in the project areas (with the exception of the eel River) are unlikely to support foothill yellow-legged frog as they are not permanent (dry by June) and breeding habitat is suboptimal with no rocky substrate.

Short term Project Impacts - *Construction*
The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, road work, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 9); earthwork is expected to be completed within 8 to 12 weeks.

Direct Effects: The project does propose to upgrade and repair the existing water course crossings to the current 100 year flood standard on the existing access roads. Crossings will be repaired or replaced over the 12.9 miles of internal ranch road used by the project, between Alder Point road and McCann road. There are 45 stream crossing spanning the 12.9 miles of internal Ranch road. A total of 34 of these crossing require instream work to install new appropriately sized culverts in all fill crossings and to replace undersized, failing culvert crossings. This work will mostly all take place in the existing road prism. However, some crossing replacements will need to occupy slightly more stream channel so that the road prism fill slopes are no greater than 65 percent and new culverts extend far enough for inlets and outlets to be rock armored. The repair/ upgrade of the 34 crossings will impact a total of 369.8 linear feet (717.7 square feet) of channel that is not currently impacted by road prism. See Appendix K for the full details on the proposed road crossing upgrades. In-stream work will be done during the summer and fall season when the streams are likely to be dry with no frogs will be present.

Indirect Effects: No indirect effects are expected.

Determination: Work to upgrade 34 stream crossings on the project roads will be done during the summer and fall season when the streams should be dry with no frogs present. As per standard construction process

IF any streams are found to have water in them at the time of crossing reconstruction, preconstruction surveys for frogs will be completed no more 2 days prior to construction. If frogs are found they will be relocated, and a biological construction monitor will be on site for the duration of the construction of that crossing.

Ongoing Activity Impacts – *Cannabis*
The project areas occur near areas with no suitable habitat for this species. The nearest suitable habitat is located in the Cameron Creek, or the Eel River corridor, which is outside of the project area.

Direct Effects: No direct impacts are expected. The cannabis infrastructure is placed outside the water ways and their buffers.

Indirect Effects: No indirect impacts

Determination: All operations take place outside of the waterways and their buffers. There will be no Impacts to foothill yellow-legged frog.

Cumulative Impacts
As this project will have no impact on foothill yellow legged frog it will not contribute to any cumulative impacts to this species.

Red-Bellied Newt
Regulatory Status: The red-bellied newt is a State Species of Special Concern.

Habitat Requirements and Natural History: This species requires rapid streams with rocky substrate for breeding and egg laying, in primarily redwood forest, but also mixed conifer habitats. Breeding typically occurs from March through May. This species may migrate a mile or more to and from breeding sites.

Potential for Occurrence within the Project Area: This species was not observed during surveys of the project areas. Some watercourses in the project area could support breeding by this species as they are not dry until June, but breeding habitat is suboptimal with little to no rocky substrate.

Short term Project Impacts - *Construction*
The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, road work, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 9); earthwork is expected to be completed within 8 to 12 weeks.

Direct Effects: The project footprint is located outside of newt habitat in open grasslands. Some watercourses in the project vicinity are potential breeding habitat for this species. Watercourse Buffers will allow newts to disperse without entering the construction sites.

The project does propose to upgrade and repair the existing water course crossings to the current 100 year flood standard on the existing access roads. Crossings will be repaired or replaced over the 12.9 miles of internal ranch road used by the project, between Alder Point road and McCann road. There are 45 stream crossing spanning the 12.9 miles of internal Ranch road. A total of 34 of these crossing require instream work to install new appropriately sized culverts in all fill crossings and to replace undersized, failing culvert crossings. This work will mostly all take place in the existing road prism. However, some crossing replacements will need to occupy slightly more stream channel so that the road prism fill slopes are no greater than 65 percent and new culverts extend far enough for inlets and outlets to be rock armored. The repair/ upgrade of the 34 crossings will impact a total of 369.8 linear feet (717.7 square feet) of channel that is not currently impacted by road prism. See Appendix K for the full details on the proposed road crossing upgrades. In-stream work will be done during the summer and fall season when the streams are likely to be dry with no newts will be present.

Indirect Effects: No indirect impacts.

Determination: Work to upgrade 34 stream crossings on the project roads will be done during the summer and fall season when the streams should be dry with no red-bellied newts present. As per standard construction process IF any streams are found to have water in them at the time of crossing reconstruction, preconstruction surveys for newts will be completed no more 2 days prior to construction. If newts are found they will be relocated, and a biological construction monitor will be on site for the duration of the construction of that crossing.

Ongoing Activity Impacts – *Cannabis*
The cannabis infrastructure is placed outside the water ways and their buffers. It is located in open meadows, not the forested habitat used by newts.

Direct Effects: Ongoing operations will not take place in any water ways or their buffers, or in forested habitats. Ongoing operations will not directly impact red red-bellied newts.

Indirect Effects: No indirect impacts are expected form ongoing project operations.

Determination: No project operations will take place within forested habitats, the water ways of their buffers. Buffers will allow newts to disperse without entering the project sites. There will be no impacts to red-bellied newts.

Cumulative Impacts
As this project will have no impact on red-bellied newts, it will not contribute to any cumulative impacts to this species.

Southern Torrent Salamander
Regulatory Status: The southern torrent salamander is a State Species of Special Concern.

Habitat Requirements and Natural History: This species occurs in coastal forests primarily in cold, well-shaded permanent streams and spring seepages in redwood, Douglas fir and mixed conifer habitats. There

is an extended courtship that occurs between October and July, with peak egg-laying in spring or early summer.

Potential for Occurrence within the Project Area: This species was not observed during surveys of the project areas. The watercourses are unlikely to support breeding by this species as they are dry by June, with little to no rocky substrate.

Short term Project Impacts - *Construction*
The construction of the infrastructure portion of the cannabis operation (grading flats, road work, installing electrical lines, and building greenhouses and buildings) is considered a short-term disturbance meaning it will take place over a relatively short set amount of time and it will not reoccur. Construction equipment noise levels will vary depending on the equipment being used (Table 9); earthwork is expected to be completed within 8 to 12 weeks.

Direct Effects: No direct impacts as no habitat exists in the project vicinity.

Indirect Effects: No indirect impacts.
Determination: As there is no habitat for this species in the project vicinity, this project will have no impact on southern torrent salamander.

Ongoing Activity Impacts – *Cannabis*
The Eel River corridor is unlikely to maintain temperatures required by this species, therefore it is not expected to occur on the parcels expect in areas with cold, permanent seeps or springs.

Direct Effects: No direct impacts are expected as no habitat exists in the project vicinity.

Indirect Effects: No indirect impacts.

Determination: As there is no habitat for this species in the project vicinity, this project will have no impact on southern torrent salamander.

Cumulative Impacts
As this project will have no impact on southern torrent salamanders, it will not contribute to any cumulative impacts to this species.

Western Bumble Bee
Regulatory Status: The western bumble bee is a California state Candidate Endangered species.
Habitat Requirements and Natural History: The western bumble bee, *Bombus occidentalis*, was historically known throughout the mountains and northern coast of California, it is now largely confined to high elevation sites. Meadows and grasslands with abundant floral resources are the appropriate habitat for this species. Like most bumble bees, the western bumble bee is a generalist forager; however, the western bumble bee has a very short tongue and is best suited to forage at open flowers with short corollas (though it has been observed biting through corollas of plants with longer corolla tubes. Bumble bees require plants that bloom and provide adequate nectar and pollen throughout the colony's life cycle, which is from early

February to late November (actual dates likely vary by elevation and local climatic conditions). Nests of this species are large relative to other bumble bee species (as many as 1,685 workers) and are primarily in underground cavities such as old squirrel or other animal nests and in open west-southwest slopes bordered by trees, although a few nests have been reported from above-ground locations (Adapted from Xerces Defenders Bombus Petition, 2018). Bumble bees locate nests preferentially near linear features (fence lines, forest borders, hedge rows) (Osborne, et al, 2008; Lye et al., 2009).

The reduction in bee abundance is attributed to the following: intensive agriculture (destruction of colonies and/or overwintering queens, pesticide use on crops, change in composition and abundance of floral resources, use of agricultural bee that introduce disease), intensive grazing (destruction of colonies and/or overwintering queens, change in composition and abundance of floral resources), climate change (overwintering queen emergence and success), and other habitat loss (Xerces, 2018),

Potential for Occurrence within the Project Area: While the area has, been utilized in the past as a cattle ranch (see Cultural Resources), the area has not hosted grazing animals for over a decade. The project areas are gently sloping meadows bordered by trees with primarily southern aspects. If the western bumble bee is present in the area, the bumble bee is may utilize the project area for nesting and foraging.
Occurrences of the western bumble bee in the 9-quad area are limited to five (5) mapped occurrences (CNDDB, Rarefind, 2020) and one unmapped occurrence in the McWhinney Creek quad (CNDDB Quickview, 2020). The dates from the mapped occurrences range from 1939 to 1970; the observation date of the unmapped occurrence was not available. In California the most recent confirmed reports of western bumble bee (CNDDB, Rarefind, 2020; Bumblebeewatch.org) are from 2013 and 2015; these reports consisted of multiple insects at approximately 5,300 feet elevation near Spike Buck Mountain (Grouse Mountain Quad) in Humboldt County. While these occurrences are not a comprehensive picture of the bee's current abundance, the lack of contemporary occurrences in the lower elevations supports the conclusion that the western bumble bee is no longer present in much of its historic range and is now generally found only in montane areas of its range (Xerces, 2018).

Direct Effects: While it is unlikely that the western bumble bee currently occupies the project area, their presence or absence has not been determined. As all construction for greenhouses and processing buildings includes earthwork in open meadows, this project has the potential to impact the western bumble bee directly through the removal of nests if present in the area.

Indirect Effects: No indirect effects are expected. The enclosed nature of the greenhouses prohibits any pesticide impacts on bees present in the area. This cannabis project, like all cannabis projects, does not use agricultural bees to fertilize plants for fruit/ seed set, which means that disease from agricultural bees is also not a risk factor for any bees in the area.

Determination: Less than Significant with Mitigation for Incorporated. Because all proposed earthwork and development proposed in open grasslands will be preceded by preconstruction surveys, if nests are found the area will be buffered and construction will not proceed until the nest has been abandoned. The project will not result in direct impacts to colonies.

***Mitigation*:** There is currently no adopted or established protocol (CDFW) for determining presence or absence of the western bumble bee for project level analysis. Based on known presence/absence protocols and professional recommendations (See Appendix N: Bombus Literature & Protocol Review) the following 'Interim Protocol' is proposed:

The project will first determine presence/absence. This can be achieved with three (3) nest seeking queen surveys **or** three (3) flight season surveys

- Nest-seeking queen surveys will target suspected preferred nesting areas (linear features with emphasis on forest transition zones). These surveys will be evenly spaced (approx. every two weeks) over the span of two months (Feb/March or March/April) depending on the expected emergence of the bee at the project area (weather dependent – queens are active after top layer of soil is consistently warm). The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Surveyors will spend approximately one person hour per every three (3) acres surveyed. Searches will be conducted by a qualified biologist and use photography as means of positive identification of Bombus species unless a permit for handling bees is secured.

- Flight season surveys will target the optimal habitat in the project area and consist of a minimum of one (1) person hour per 3 acres of optimal habitat. Habitat that does not offer floral resources will not be surveyed. These three (3) surveys will be 'free searches.' They will be evenly spaced (one week apart) in the month of July (June/Aug depending on site conditions/season). The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Searches will be conducted by a qualified biologist and use photography as means of positive identification of Bombus species unless a permit for handling bees is secured.

1. If present presence is determined during the nest seeking queen surveys or three flight season surveys, the project will conduct nest searches in the impacted (earth disturbance) area.

- These will be conducted during the flight season using a modified version of the transect methodology presented by Osborne, J. et al. (2008). Qualified surveyors will utilize compass and pacing to walk a grid of the impact area (the impact area is the project footprint plus a 100 ft buffer). In general, surveyors will spend 5 minutes nest searching (watching for bees entering or exiting nest) for every 6m x 6m area. The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Any nests that are found will be flagged and mapped and surveyor will consult with CDFW to determine appropriate action/nest buffer areas.

Cumulative Impacts

With mitigation incorporated, no cumulative impacts from the proposed project on regulated species are expected. The proposed earthwork (construction of processing buildings and greenhouses) will result in a loss of nesting and foraging habitat for some ground nesting species, This amount of potential habitat removed is not significant given that it is 1% of the grassland habitat found in the 2 miles radius surrounding the project. Additionally, there is similar habitat across the 7,110-acre ranch and in the general area.

Discussion – Effect on riparian and other sensitive natural communities

b-c) This project will not have significant impacts to riparian habitat or wetlands. Facilities will be located outside of creeks and their buffers.

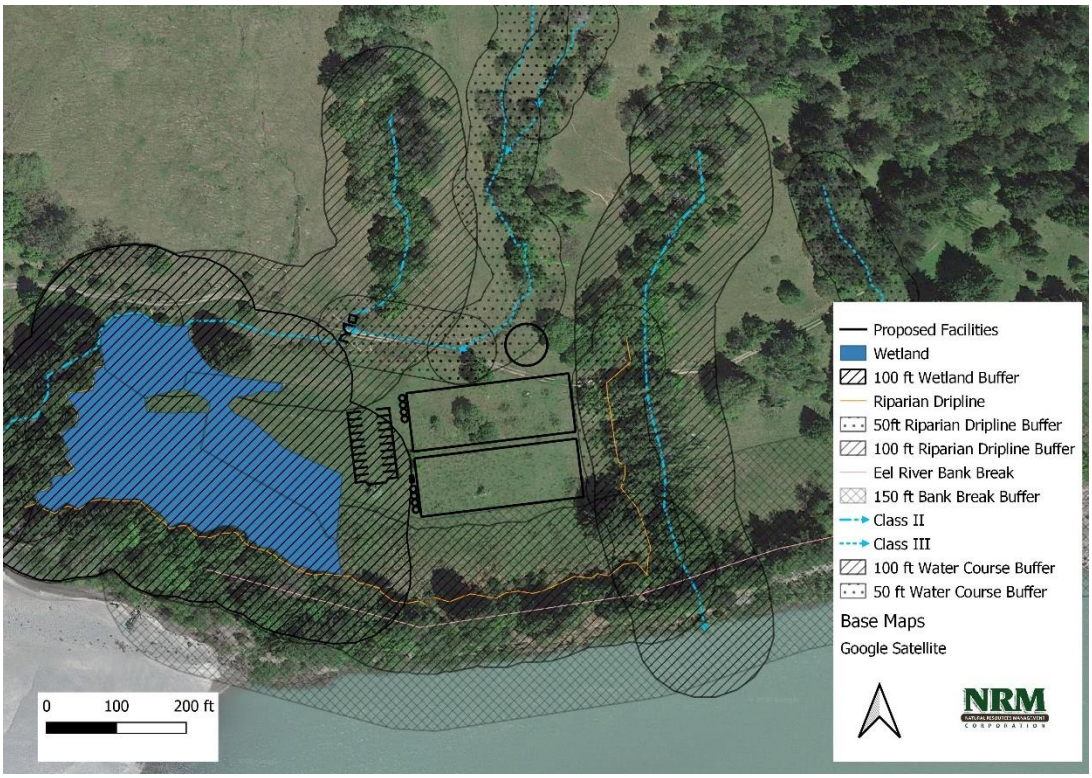

Figure 40. Water ways and buffers at facilities #1and #2

Figure 41. Water ways and buffers at facilities #3 through #5

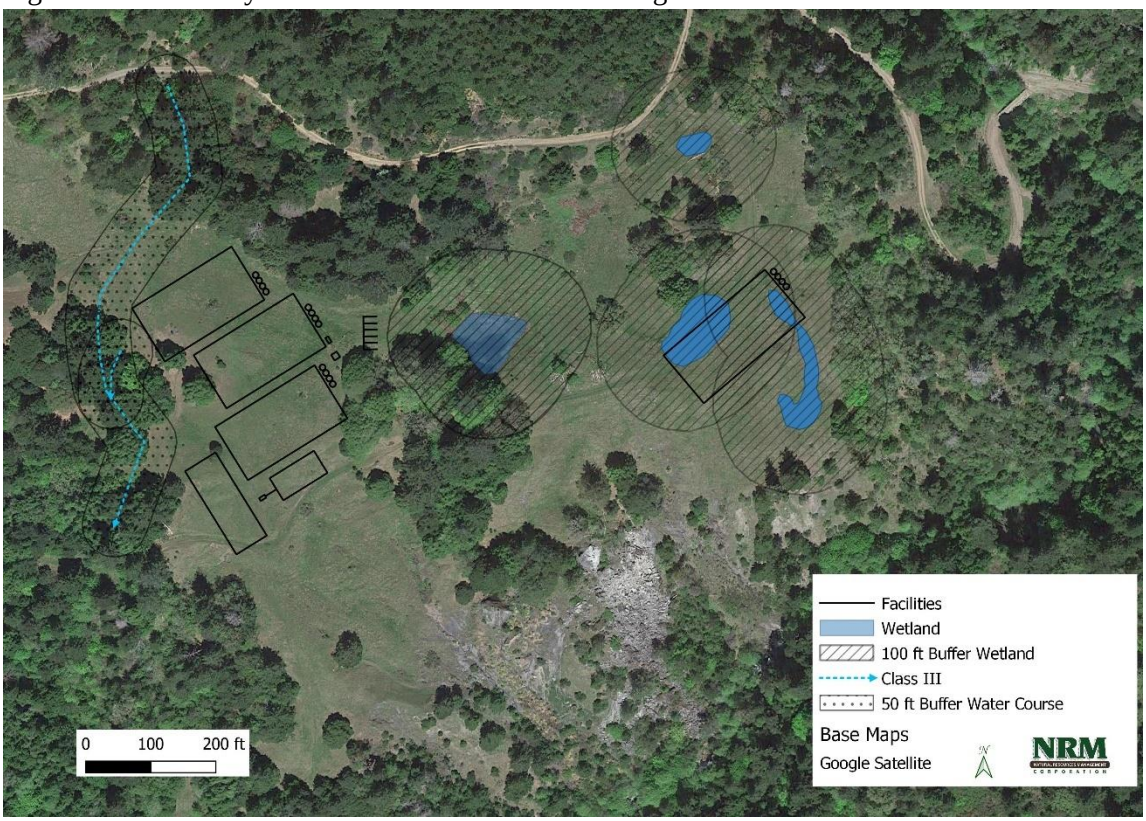

Figure 42. Water ways and buffers at facilities #6 through #9

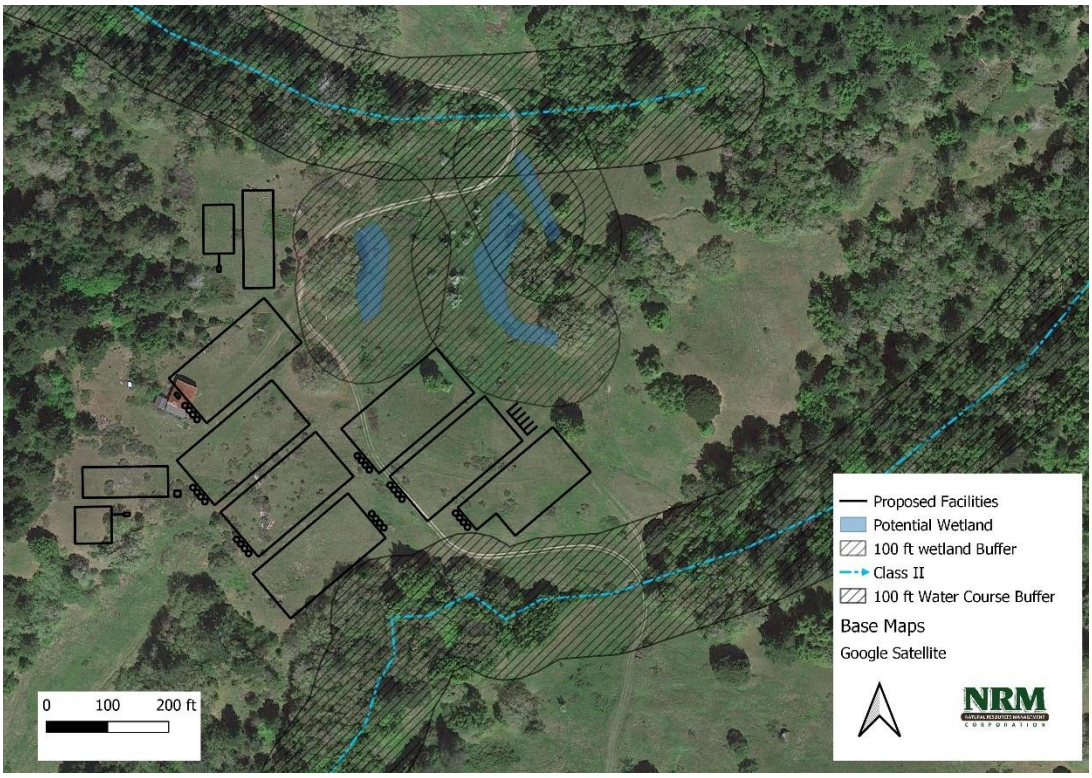

Figure 43. Water ways and buffers at facilities #11 through #16

Riparian Habitat

No riparian habitat will be removed or disturbed by the building of the project facilities. Facilities #1and #2 are located at least 150ft away from the bank break of the eel river, and 100 feet from the edge of the riparian zone along the Eel River.

The project does propose to upgrade and repair the existing water course crossings to the current 100-year flood standard on the existing access roads. Crossings will be repaired or replaced over the 12.9 miles of internal ranch road used by the project, between Alder Point road and McCann road. There are 45 stream crossing spanning the 12.9 miles of internal Ranch road. A total of 34 of these crossing require instream work to install new appropriately sized culverts in all fill crossings and to replace undersized, failing culvert crossings. This work will mostly all take place in the existing road prism. However, some crossing replacements will need to occupy slightly more stream channel so that the road prism fill slopes are no greater than 65 percent and new culverts extend far enough for inlets and outlets to be rock armored. The repair/ upgrade of the 34 crossings will impact a total of 369.8 linear feet (717.7 square feet) of channel that is not currently impacted by road prism. The impact to the channel will be mitigated at a 3:1 ratio (see mitigation measure MM-BIO-6). See Appendix K for the full details on the proposed road crossing upgrades.

The majority of this work will take place within the existing road prism and all 717.7 square feet of new channel impacts with be within stream bed and bank not with in the riparian vegetation. In some cases, riparian trees have grown up on the road fill slopes and will need to be removed in order to replace the crossing. We are defining trees per the State Water Board Order (WQ-2019-001-DWQ, Appendix A,

Section 2, #33 and #35) all riparian area trees and oak trees over four (4) inches diameter at breast height (dbh) are included as "trees." As shown in Table 2 in the Agriculture and Forest Resources Section a maximum of 10 trees (4, Douglas fir, 1 white oak, 1 bay laurel, 1 red alder, 1 bigleaf maple and 1, madrone) could be removed. Additionally, the project will improve some sections of road to ensure access for emergency vehicles (see Appendix C and I). A maximum of 3 white oaks maybe removed to facility road improvements (Table 4 in the Agriculture and Forest Resources Section). The total number of riparian trees removed for the entire project will be between 4 and 13 trees. Mitigation ***Agriculture and Forestry Resources- Mitigation 1*** provides the details for how riparian trees removed will be mitigated. All trees removed a result of stream crossing upgrades will be replanted in the same riparian corridor (benefitting the impacted stream), but away from the roadbed. This will ensure longevity for the trees in case of future road maintenance. Three trees will be planted for everyone removed. With Mitigation Measure – Agriculture and Forest Resources 1 the projects removal of riparian trees will be less than significant.

Wetlands

All project areas were surveyed for potential wetland (study area figure 21 and 22). All areas were surveyed for watercourses. Potential wetland areas were mapped using hydrophytic vegetation and in some cases soil pits to determine hydric soils. A full delineation was done around Facility #1, #2 and #9 (the Delineation of Waters Report can be found in Appendix M). Otherwise any areas that had wetland vegetation were considered potential wetlands and given protective buffers unless pits were dug to determine the areas did not have hydric soils or wetland hydrology. Figures 40-43 show creeks, wetlands, and potential wetlands in the project areas resulting from those visits.

Wetland Direct Impacts Overview

The Project as designed will directly impact approximately 0.239 acres of potential Seasonally Saturated Nontidal Palustrine Emergent Wetland identified in a 2020 wetland delineation (See Figure 44) and approximately 0.016 acres of seasonal wetland in the stream channel for the replacement of culverts. Most of these potential wetlands are within the project development footprint and 30-foot construction impact buffer, and completion of the project will result in unavoidable impacts. Approximately 0.239 acres will be impacted at site facility #9. Impacts to these wetlands will include both the placement of fill material and grading. These potential small, depressional, seasonal wetlands provide stormwater infiltration, seasonal surface water, and contribute to groundwater recharge, but are adjacent to a vast array of wetland/riparian complexes of similar type over the surrounding land ownership. Therefore, impacts to these small pockets of habitat will not significantly reduce habitat or wetland hydrologic function in the area. Additionally, a Mitigation and Monitoring Plan (MMP) will be written for the creation of in-kind wetland habitat at an appropriate location. New wetlands will be created at a ratio of 3:1.. Equally, mitigation may entail quality and function enhancement of existing wetlands at similar ratios.

Impacts and Potential for Successful Mitigation: Facility #9

Figure 44 shows the extent of 0.239 acres of direct impacts to potential wetlands at Facility #9. The potential wetlands to be impacted include two features: an upper (0.182 acres) and a lower (0.057 acres). These potential wetlands are depressional, with hydrologic inputs from direct precipitation, overland flow, and potentially groundwater discharge. These features were originally identified during a 2019 site visit, when the upper depressional feature was vegetated by native Obligate OBL) and Facultatively wetland (FACW) species such as spikerush (*Eleocharis c.f. palustris*, OBL) and toad rush (*Juncus bufonius*, FACW).

However, this feature was impacted (later in 2019) by road improvement work, disrupting the natural vegetation and resulting in higher cover by weedy species such as purple velvet grass (*Holcus lanatus*, FAC) and Italian rye (*Festuca perennis*, FAC). The second, lower feature is dominated by a mix of native and nonnative Facultative (FAC) and Facultatively Wetland (FACW) grasses, graminoids and forbs. However, invasive species such as purple velvet grass (*Holcus lanatus*, FAC) is dominant over a large portion. The despite disturbed conditions, the Hydric Soil indicators were well developed (remarkably high carbon accumulation), indicating these potential wetland features have occurred on the landscape for a long time.

These features are relatively small (less than 0.25 acres total) and are currently impacted by invasive species. Therefore, the likelihood of creating mitigation wetlands that are equally functioning is high.

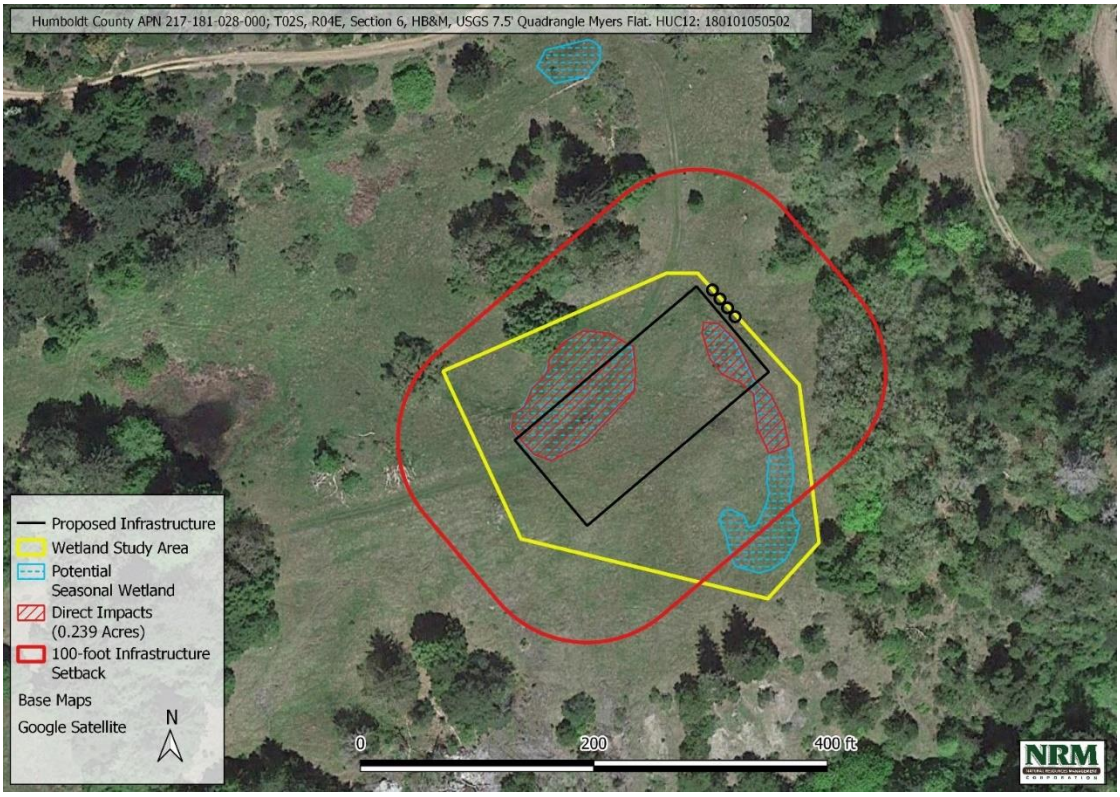

Figure 44. Wetland Impacts at Facility #9. Direct impacts to 0.239 acres of wetland are shown in red. An additional 0.047 acres of wetland lies within the 100ft buffer of the greenhouse. The parking area at Facilities #1 and #2 will not directly impact wetlands but will be within 100 feet of 0.18 acres of wetland

Impacts to SWQCB Wetland Protection Setbacks

In addition to direct impacts to potential wetlands, project development at Facility #9 will place cannabis cultivation infrastructure within the 100-foot seasonal wetland protection setbacks outlined in SRWQCB ORDER WQ 2019-0001-DWQ. At Facility #9, approximately 0.047 acres of seasonal wetlands would fall within the 100-foot setback ***outside*** the footprint of direct impacts. The parking area at Facilities #1 and #2 is also within the 100-foot seasonal wetland protection setbacks outlined in SRWQCB ORDER WQ 2019-0001-DWQ. There is a total of 0.18 acres of wetland within the 100 foot buffer around the parking area (figure 44). A total of 0.227 acres of wetlands are within the 100 feet of facilities. This 0.277 acres will be considered impacted and will be mitigated at a 3:1 ratio (see mitigation measure MM-BIO-6)

Mitigation

Mitigation to make direct impacts to wetlands less than significant is described in **MM-Bio-6** below. Potential mitigation sites on the Rolling Meadows Ranch have been identified (Figure 45), but additional alternative sites will be considered during the MMP process.

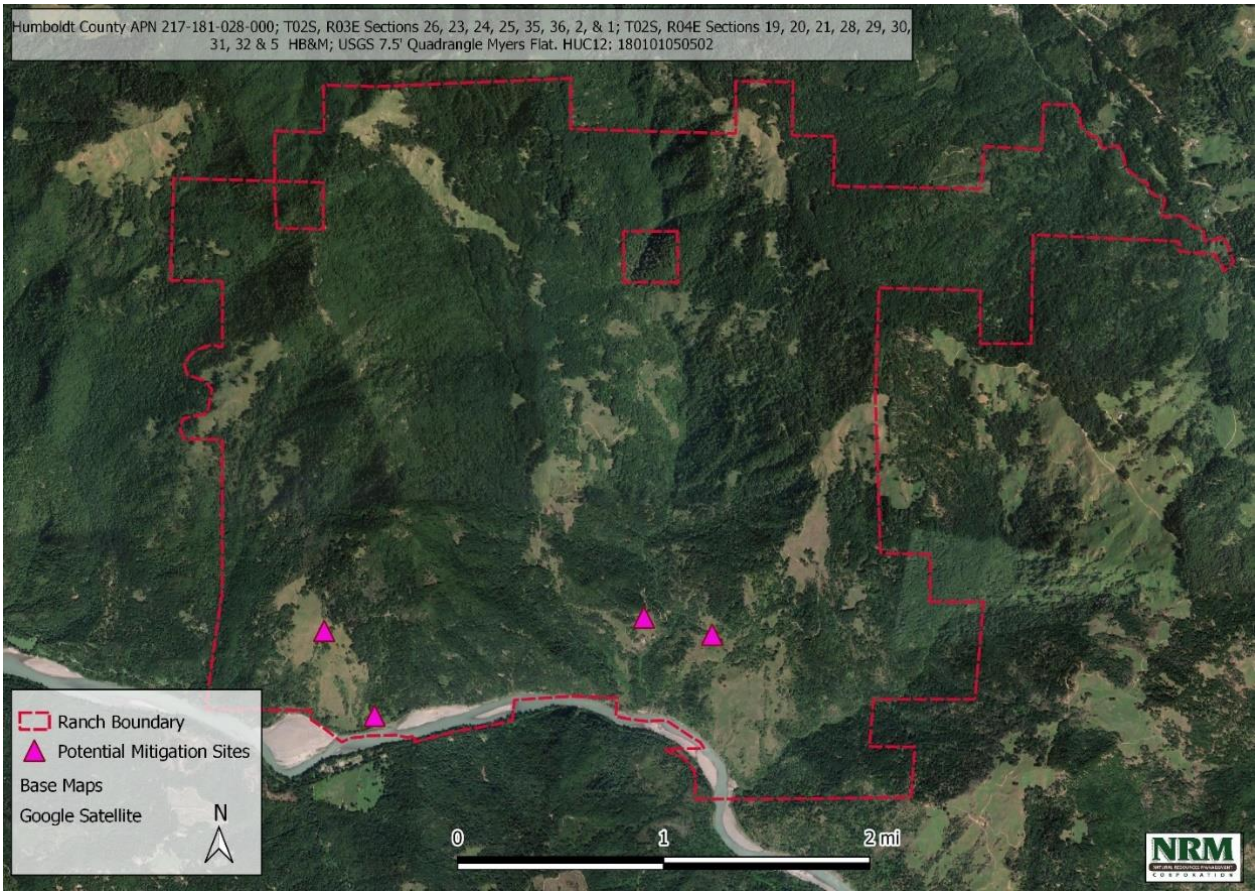

Figure 45. Potential Mitigation Sites on the Rolling Meadows Ranch

Discussion – Effect on the Movement of Fish or Wildlife

d) This project will not interfere with the movement of fish or wildlife. This is an industrial cannabis operation, and it will take place on lands that are currently managed for industrial timber. The area surrounding the projects however will remain undeveloped and continued to be managed for timber. Out of the 7110-acre ranch less than 20 acres will be impacted by the proposed cannabis operation. The open meadow areas being developed are common and scattered throughout the 7110 acres. With so much remaining open space wildlife should have no issues avoiding the cannabis operations and the project in not likely to interfere with the movement of wildlife or wildlife use patterns.

Discussion – Local Ordinances and Habitat Conservation Plans

e-f) This project does not conflict with local ordinances or Habitat Conservation Plans. These projects will not conflict with any applicable habitat conservation plan or natural community conservation plan. The parcels which contain the project areas are privately owned and managed. The property included in the project area is not included in any habitat conservation plan or natural community conservation plan nor does it carry the legally binding mitigations from any previous HCP. In nearby Scotia, The Humboldt Redwood Company (HRC) has a Habitat Conservation Plan in place; According to their 2009 Management Plan, and the 2015 updated version of their Habitat Conservation Plan (HCP), their current landholdings and their HCP does not impact the proposed agricultural and associated activities of the project. For further details see the Land Use Section.

Mitigation

Mitigation Measure- Biology -1: A full early season botanical survey has not been completed on Facilities #6-#9. Prior to construction an early season survey will be completed. If any sensitive species are found that portion of the project will not be constructed. A survey was done on April 9th, 2019 but it was too early for some special status species. Results of the survey will be Submitted to Humboldt County prior to construction of Facilities #6-#9.

MM-Bio-2: To avoid the potential for significant impacts to ***Pacific Gilia (Gilia capitata ssp. Pacifica)*** populations, improvements to- and maintenance of the road shall occur after August 15th and before October 15th, in areas where Pacific gilia is impacted (Table 6b&c, Figure 29 & 31). Seed for erosion control mix will not be used in these areas and instead weed-free straw will be laid. Straw will be removed by May of the following year. In addition, these areas will also be assessed by a qualified botanist for a period of five (5) years, following project implementation. These findings will be incorporated into a larger monitoring report of all proposed activities (facilities developments, etc.), which will be submitted to CDFW annually. Monitoring results will be used in an adaptive management process aimed at maintaining the Pacific gilia population.

MM-Bio-3: To avoid the potential for significant impacts to ***Pacific Gilia (Gilia capitata ssp. Pacifica)*** all extraction of rock from the rock quarry (Map ID #4, Figures 27 and 30) shall occur after August 15th and before October 15th and occur no more frequently than every two (2) years (i.e. allowing two years between extraction events). Additionally, monitoring will occur every two (2) years following any rock extraction, within a period of ten (10) years following project implementation. Monitoring shall entail annual inventory and mapping of the extent of the Pacific gilia population on roads accessing project areas and within the rock quarry area. A monitoring report shall be submitted to CDFW annually within the above described monitoring period. Monitoring results shall be used in an adaptive management process aimed at maintaining the Pacific gilia population. For instance, if it appears that rock extraction is negatively impacting the population, a different plan shall be developed and implemented.

MM-Bio-4: The densest portion of ***Tracy's tarplant* (*Hemizonia congesta ssp. Tracy*i)** population, the patch largely outside the project footprint (Map Point 8, Figure 30, Table 6b), will be protected during construction by the placement of construction fencing at the periphery of the population, to keep equipment operators out of the area. A qualified Botanist will oversee the construction of the fencing. The Botanist will prepare A report that will be submitted to the Humboldt County Planning Department which will include photos of the fence.

MM-Bio-5: The mitigation measure will guide the successful enhancement and restoration of a total of approximately 0.97 acres (42,446 square feet) of ***Danthonia californica*** **prairie** and approximately 0.89 acres (38,925 square feet) of ***Elymus glaucus*** **prairie.**

Many parts of the project parcel (ranch) have grasslands that have been severely degraded by historic grazing and are currently dominated by nonnative grasses and forbs. However, in some areas, large stands of native grassland (including *Danthonia californica* prairie and *Elymus glaucus* prairie) persist. These

stands vary in the degree to which they are currently invaded by nonnative species. Several of these stands will be mapped and evaluated as part of the mitigation site selection process. Stands will be categorized as:

- High quality: ~0-30% non-native,
- Moderately invaded: ~31-60% non-native, and
- Heavily invaded: ~61-90% non-native.

These categories will be assigned using stand data collected according to the California Native Plant Society releve protocol (CNPS 2000). Mitigation sites will be created within stands that are moderately to heavily invaded and have the potential to be restored to a category of "high quality" by a combination of weeding and planting.

Fifty percent (50%) of the mitigation area will be within "moderately invaded" stands, and fifty percent (50%) will be within "heavily invaded" stands. Implementing mitigation via the restoration of existing stands is a better guarantee for success than planting into areas currently unoccupied by the target species, as these sites are more likely to have suitable environmental conditions for high quality prairie development. Once the mitigation areas have been identified, they will be mapped and visually demarcated in the field. The baseline stand conditions over the mitigation areas will be documented and mapped.

Mitigation areas will then be planted with 'plug' size *Danthonia californica* and *Elymus glaucus* plants, grown from seed collected on site (on the ranch). Plugs will be planted on 2-ft centers or as needed. After planting, the sites may also be seeded with additional *Danthonia California* and *Elymus glaucus* seed collected on site or purchased.

Across the mitigation sites, invasive plants (and non-native plant species that threaten to prevent the project from meeting the Success Criteria) shall be intensively managed. Management emphasis will be placed on any invasive species with a Cal-IPC rank of High or Moderate, and on any non-native plants threatening the successful establishment of any native plantings or natural recruits, herein referred to as weedy species (Cal-IPC 2018). Non-native species without a Cal-IPC rating and that do not threaten the establishment of native plantings or recruits will not be a management priority. Species meeting the criteria for removal are herein referred to as target species. At this site, target species are expected to include yellow star thistle and weedy perennial grasses.

Each year for the five years following planting in the month of April, an individual qualified to identify target species (as described above) will visit the site, and all occurrences of target species within the prairie mitigation site shall be recorded and mapped. All mapped species will be targeted for mechanical removal during a maintenance visit, which will occur within one month. If feasible, the mapping and maintenance can happen in the same visit. Any mechanically removed invasive plant parts shall be properly disposed of to reduce the chance of spread. This may include hauling off-site. If invasive plants are shipped off site for disposal they shall be transported in closed or covered containers and delivered to a suitable destination such as a waste disposal facility.

Success Criteria

The Project will be considered successful if by Monitoring Year 5:

1. A total of approximately 0.97 acres (42,446 square feet) *Danthonia californica* prairie and approximately 0.89 acres (38,925 square feet) of *Elymus glaucus* prairie have been established, which meet the 'high quality' category defined below and the membership rules of these vegetation alliance types as described by the Manual of California Vegetation (MCV) (MCV 2020).
    a. 'High quality' stands will be defined as being between 0% and 30% invaded by non-native plants with a Cal-IPC rank.
    b. For the *Danthonia californica* Herbaceous Alliance (California oat grass prairie) the membership rules include:
        - *Danthonia californica* > 50% relative cover in the herbaceous canopy.
        - *Danthonia californica* generally > 25% absolute cover in the herbaceous layer.
    c. For the *Bromus carinatus - Elymus glaucus* Herbaceous Alliance (California brome - blue wildrye prairie), membership rules include:
        - *Elymus glaucus* > 30% relative cover in the herbaceous layer.
        - *Bromus carinatus*, *Elymus glaucus*, or *Pteridium aquilinum* > 30% relative cover in the herbaceous layer.
2. Total absolute cover (Section 6.1) by invasive species with a Cal-IPC rank of "High" shall be less than 10% at the site.
3.

Monitoring

Annual Monitoring and Maintenance site visits shall occur every year beginning in the first growing season after construction for at least five (5) years or until Success Criteria are met (see Adaptive Management Section 10). Monitoring visits shall be conducted within the same three-week period in end of April-beginning of May each monitoring year to maintain seasonal consistency between surveys, and to allow time for needed maintenance or replacement plantings to be arranged for. Qualified botanists or restoration specialists shall perform annual monitoring.

Reporting

The results of the annual monitoring will be used to create an Annual Monitoring report which tracks progress toward meeting Success Criteria and recommends adaptive management and contingency plans for any problems, issues, additional maintenance needs etc. An Annual Monitoring Report will be submitted to Humboldt County and CDFW by December 31 of each monitoring year.

Appendix L Contains additional detail for the restoration plan and is incorporated here by refence.

MM-Bio-6: Mitigate for direct impacts to 0.255 acres of ***seasonal wetland and 0.277 acres of seasonal wetland within 100 feet of Facilities. A total of 0.48 acres of wetland will be mitigated for***

Goals and Objectives

The MMP shall be created to address requirements for wetland impact mitigation required by the USACE and California State Water Resources Control Board permits needed to complete the Project as designed. The goal is to create new, 3-pararmeter wetland at a ratio of3:1.. Equally, mitigation may entail quality and function enhancement of existing wetlands at similar ratios. The mitigation goals of this project are as follows:

1. Create 1.4 acres of 3-parameter seasonal wetland;

2. Mitigate project impacts to potential jurisdictional Waters of the US, resulting in no net loss of wetland habitat or hydrologic function within the watershed;

Success Criteria

The following performance criteria will be used to evaluate project success.

The Project will be considered successful if by Monitoring Year 5:

4. 1.4 acres of 3-parameter wetland have been established in the Mitigation Area, as defined by USACE methodology.
5. 85% of container plantings or an equivalent number of appropriate native recruits have survived, or planted areas have achieved greater than or equal to 85% total absolute vegetative cover.
6. Total absolute cover by invasive species with a Cal-IPC rank of "High" shall be less than 10% at the site.
7. Site hydrology is favorable for the development of wetland soils.

Monitoring

Overview

Annual Monitoring and Maintenance site visits shall occur every year beginning in the first growing season after construction for at least five (5) years or until Success Criteria are met. Maintenance Visits shall occur in April and Monitoring visits shall be conducted within the same three-week period in August each monitoring year to maintain seasonal consistency between surveys, and to allow time for needed maintenance or replacement plantings to be arranged for. The 3-paramter wetland delineations required in years 3-5 should occur in early April, and the Hydrology Check site visits should occur sometime between December and March. Qualified botanists or restoration specialists shall perform annual monitoring.

Methods

All Monitoring Years

1. Monitor survival of all container plantings:

All planted stock will be inspected during the monitoring visit, and the following data recorded:

- Plant Species;
- Plant Survival: Dead or Alive;
- Any native recruits established in the Area will be counted.

2. Monitor absolute vegetative cover in the Mitigation Area;

- Randomly selected 1-square meter plots will be established within the Wetland Basin portion of the Mitigation Area. Within each plot, total absolute vegetative cover and absolute cover for each species present (including plantings and natural /seeded recruits) will be ocularly estimated;
- The Mitigation Area will be visually assessed for areas of low survivorship, in case these areas are missed in plot monitoring. Any such areas will be mapped and described.

3. Monitor and report Cal-IPC rank High species and other weedy species.

- All occurrences of Cal-IPC rank High invasive species shall be recorded and mapped within the Mitigation Area. The results will be used to develop a concise maintenance plan, if needed. Any other non-native, weedy species that are impacting plantings or the character of the site shall also be addressed.

4. Report pertinent site conditions:

- Any pertinent ecological conditions (outside of those outlined specifically in the Success Criteria) shall be recorded for reporting in the Annual Monitoring report. Adaptive management shall be utilized to determine a corrective course of action for any conditions that may impact project success, create water quality issues or otherwise negatively impact the site. Examples of such conditions include animal impacts, illegal dumping or camping, flood events, or wildfire. These observations will enhance the representation of site conditions in the Monitoring Reports.

5. Establishment of photo points around the project area:

- Initial photos shall be taken before restoration implementation, then once annually following restoration for each monitoring year. Photo point locations shall be permanently established and described, mapped, and images included in Annual Monitoring Reports. Photo point protocols shall conform to methods of the USDA Photo Point Monitoring Handbook (Hall, 2002).

Monitoring Years 3-5 Only:

3. Establish three (3) Wetland Survey Plots;

- Three plots will be subjectively selected within the Wetland Basin portion of the Mitigation Area. At each plot, a USACE methodology 3-Parameter survey will be conducted.
- A winter Hydrology Check should be conducted to survey and document hydrology of the site

Monitoring Year 5 Only:

- A full USACE 3-paramter method wetland delineation will be performed within the Mitigation Area.

Reporting

Appropriate statistical methods will be utilized to determine survivorship of plantings and the contribution of natural recruits/seeded species to survival each monitoring year. Change in total cover of native trees, shrubs and herbaceous species over time will be analyzed. This data will be useful in characterizing vegetation development over the site.

Each monitoring year an Annual Report (and at the end of year 5 a final report) detailing information collected during the monitoring will be submitted to CDFW and Humboldt County Planning Department.

MM – Bio-7: Protocol level surveys (Spot Checks) need to be conducted for the fourth year (2021) for ***Northern Spotted Owl*.** As per protocol if nesting NSOs are found within 0.25 miles of a project area, no construction will take place in the 0.25-mile buffer around the nest until after August 31. Survey results will be submitted to Humboldt County Planning Department.

MM – Bio-8: If construction takes place during the breeding season for ***Coopers hawk, Sharp-shinned hawk, American peregrine falcon,* and *osprey*** pre-construction surveys for these species will take in the forested habitat in the 1000-foot buffer around each project location. If a nest is found, CDFW will be contacted and the agency will determine the appropriate no work buffer to remain around the nest until it has fledged. This is standard practice and often CDFW considers specific local factors when making buffer size decisions. In the past when working with CDFW on road construction projects a buffer of 500 feet has been placed on active raptor nests. Survey results shall be submitted to Humboldt County Planning Department. If work takes place outside of the breeding season, no surveys are necessary.

MM – Bio-9: If construction takes place during the denning season, then preconstruction surveys for ***Fisher*** den sites and structures will be completed in the more densely forested areas that occur within 1000 feet of facilities #6-#9 to determine presence or absence of denning potential for this species. Should evidence of denning be found, no work will take place at the facilities #6-#9 location until after the denning season has ended. Survey results shall be submitted to Humboldt County Planning Department. If work takes place at Facilities #6-#9 outside of the denning season, no surveys are necessary.

MM – Bio-10: If construction takes place during the nesting season for ***grasshopper sparrow*** **and** ***Bryant's savannah sparrow*** than 3 consecutive preconstruction surveys for these species will take place the within the grassland portions of all project footprints as well as a 500-foot buffer around the footprint. Survey will be completed no more than seven days before the start of construction in that area. If a nest is found, a 'no work' buffer will be flagged around the nest. The buffer will be maintained until the nest has fledged. This is standard practice and often CDFW considers specific local factors when making buffer size decisions. In the past when working with CDFW on road construction projects buffers ranging from 100 to 200 feet has been placed on active ground nesters nests. Survey results shall be submitted to Humboldt County Planning Department. If work takes place outside of the breeding season no surveys are necessary.

MM – Bio-11: Although pre-project surveys showed the barn is not being used as anything other than a temporary night roost, Removal of the barn could have an effect on ***Townsend's big-eared bats*** if they start using it for anything other than a temporary night roost. Preconstruction surveys of the barn should occur during breeding season to ensure no bats are using this structure for anything other than a temporary night roost. Survey results shall be submitted to Humboldt County Planning Department.

MM – Bio-12: If construction of the infrastructure at facilities #1, and #2, takes place during the nesting season, preconstruction surveys ***western pond turtle*** nests will be conducted. If nests are found, they will be buffered and undisturbed until turtles have hatched and left the nest. As is standard practice CDFW will be consulted to help with buffer sizing. Often CDFW considers specific local factors when making buffer size decisions. Survey results shall be submitted to Humboldt County Planning Department. If work takes place outside of the breeding season no surveys are necessary.

MM – Bio-13: To mitigate for potential impacts to ***migratory birds and black-tailed jackrabbit*** three consecutive preconstruction surveys for these species should take place no more the one week prior to the start of construction at EACH location of vegetation removal or ground disturbance. The footprint of the disturbance area and a 300-foot buffer will be surveyed. Should any nests be found CDFW will be consulted for appropriate actions going forward, such as buffers or the delaying of work until nestlings have fledged. Survey results shall be submitted to Humboldt County Planning Department. Alternatively, no ground disturbing events should occur until August, when these species will have completed breeding for the season.

MM-Bio-14: To mitigate for potential impacts to ***western bumble bee*****.** The project will first determine presence/absence. This can be achieved with three (3) nest seeking queen surveys or three (3) flight season surveys

- Nest-seeking queen surveys will target suspected preferred nesting areas (linear features with emphasis on forest transition zones). These surveys will be evenly spaced (approx. every two

weeks) over the span of two months (Feb/March or March/April) depending on the expected emergence of the bee at the project area (weather dependent – queens are active after top layer of soil is consistently warm). The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Surveyors will spend approximately one person hour per every three (3) acres surveyed. Searches will be conducted by a qualified biologist and use photography as means of positive identification of Bombus species unless a permit for handling bees is secured.

- Flight season surveys will target the optimal habitat in the project area and consist of a minimum of one (1) person hour per 3 acres of optimal habitat. Habitat that does not offer floral resources will not be surveyed. These three (3) surveys will be 'free searches.' They will be evenly spaced (one week apart) in the month of July (June/Aug depending on site conditions/season). The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Searches will be conducted by a qualified biologist and use photography as means of positive identification of Bombus species unless a permit for handling bees is secured.

If present presence is determined during the nest seeking queen surveys or three flight season surveys, the project will conduct nest searches in the impacted (earth disturbance) area.

- These will be conducted during the flight season using a modified version of the transect methodology presented by Osborne, J. et al. (2008). Qualified surveyors will utilize compass and pacing to walk a grid of the impact area (the impact area is the project footprint plus a 100 ft buffer). In general, surveyors will spend 5 minutes nest searching (watching for bees entering or exiting nest) for every 6m x 6m area. The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Any nests that are found will be flagged and mapped and surveyor will consult with CDFW to determine appropriate action/nest buffer areas.

If nests are found the area will be buffered and construction will not proceed until the nest has been abandoned. A report of survey results will be submitted to CDFW and Humboldt County.

MM-Bio-15: To ensure less than significant impacts to northern ***red-legged frog, foothill yellow-legged frog, and red- bellied newt*** work to upgrade 34 stream crossings on the project roads will be done during the summer and fall season when the streams should be dry with no frogs or newts are present. As per standard construction process, IF any streams are found to have water in them at the time of crossing reconstruction, preconstruction surveys for amphibians will be completed no more 2 days prior to construction. If frogs are found they will be relocated, CDFW will be notified, and a biological construction monitor will be on site for the duration of the construction of that crossing. A copy of the preconstruction survey report and construction monitoring (if needed) report will be submitted to CDFW and Humboldt County Planning within 7 days of the completion of work on the wet crossing.

MM- Bio -16: Construction shall occur outside of the Golden Eagle breeding season unless pre-construction Golden Eagle surveys have been conducted which demonstrate that no active nests are present within a 660-foot radius of the Project, which is the setback recommended by the United States Fish and

Wildlife Service. The surveys shall be completed during at least two separate non-consecutive days, with at least one survey occurring between January 15 and February 15.

CULTURAL RESOURCES

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?				X
c) Disturb any human remains, including those interred outside of formal cemeteries?			X	

Discussion

Note: Text excerpted from the Cultural Resources Report by Nick Angeloff with additions by NRM in italics and noted. Figures and Figure numbers have been changed from the original (italicized).

a-c)

TRIBAL COORDINATION/BACKGROUND

Background research by the Bear River Band of Rohnerville Rancheria, upon a request for information resulted in no known archaeological or cultural resources regarding the subject property. The Bear River Band of Rohnerville Rancheria also requested a copy of the final report be submitted to the tribe. The report was forwarded to the Bear River Band of Rohnerville Rancheria Tribal Historic Preservation Office and they concurred with the recommendations found herein. The Sinkyone Intertribal Wilderness Council did not respond to requests for information.

REPORT ON FINDINGS

The survey did not locate any historic resources within the project area. Background research places a single potential gravesite of Stephen B. Perry within the APE of *facilities #10-#16 [APN 217-201-00*1] but outside the area of direct impact. There are nine (9) previously recorded prehistoric resources on the subject property.

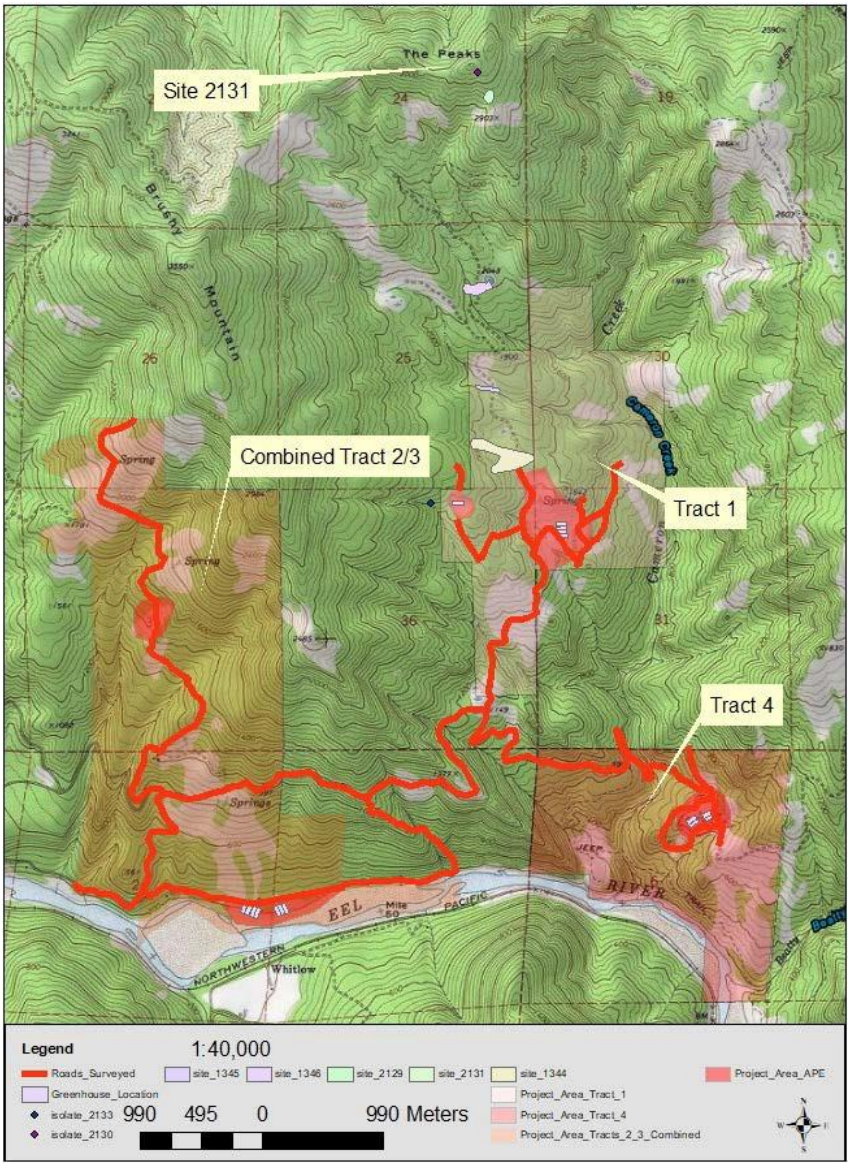

Figure 46. Surveyed Roads and Buffers

The survey area included the APE (including a 600-foot buffer), and the connecting roads between the project areas using 15 meter transects and shovel probes for all areas except the roads. The roads were surveyed to include a 600-foot buffer where landform permitted; i.e. those areas estimated to be of less than 35 percent slope. Efforts were made to locate and identify previously recorded historic resources within reasonable limits, none were relocated as they are too far beyond the APE of this project (*Figure 46*).

Note from NRM (Oct 2020): Proposed road realignment on the section of road traveling between Facilities #1-2 and described by Northpoint Consulting (Appendix C) is included in the 600-foot road buffer described by Nick Angeloff.

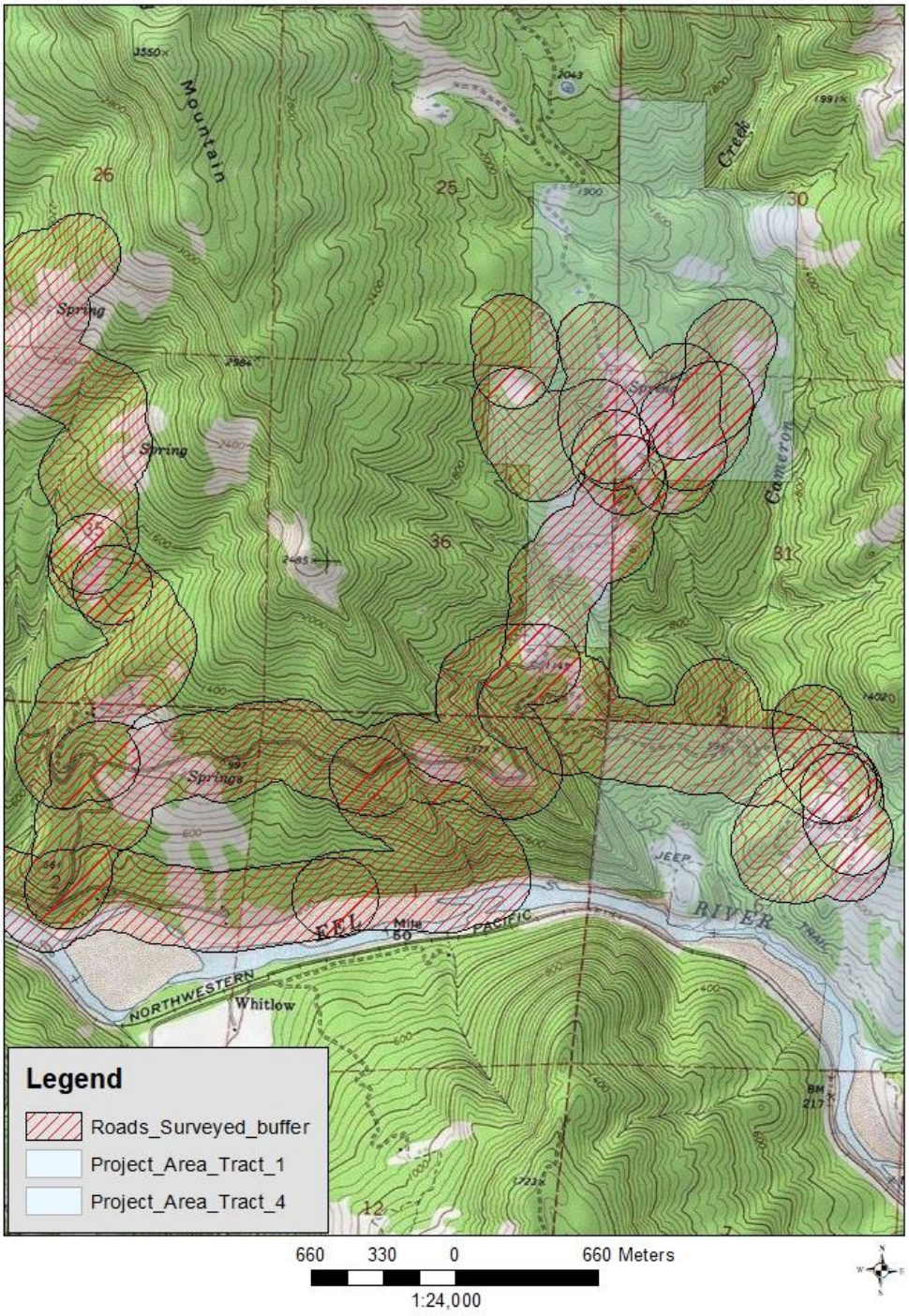

Figure 47. 600-foot buffer around surveyed roads encompasses newest project area Facility #6-9, and the road realignment described in North Points 2020 evaluation (Appendix C).

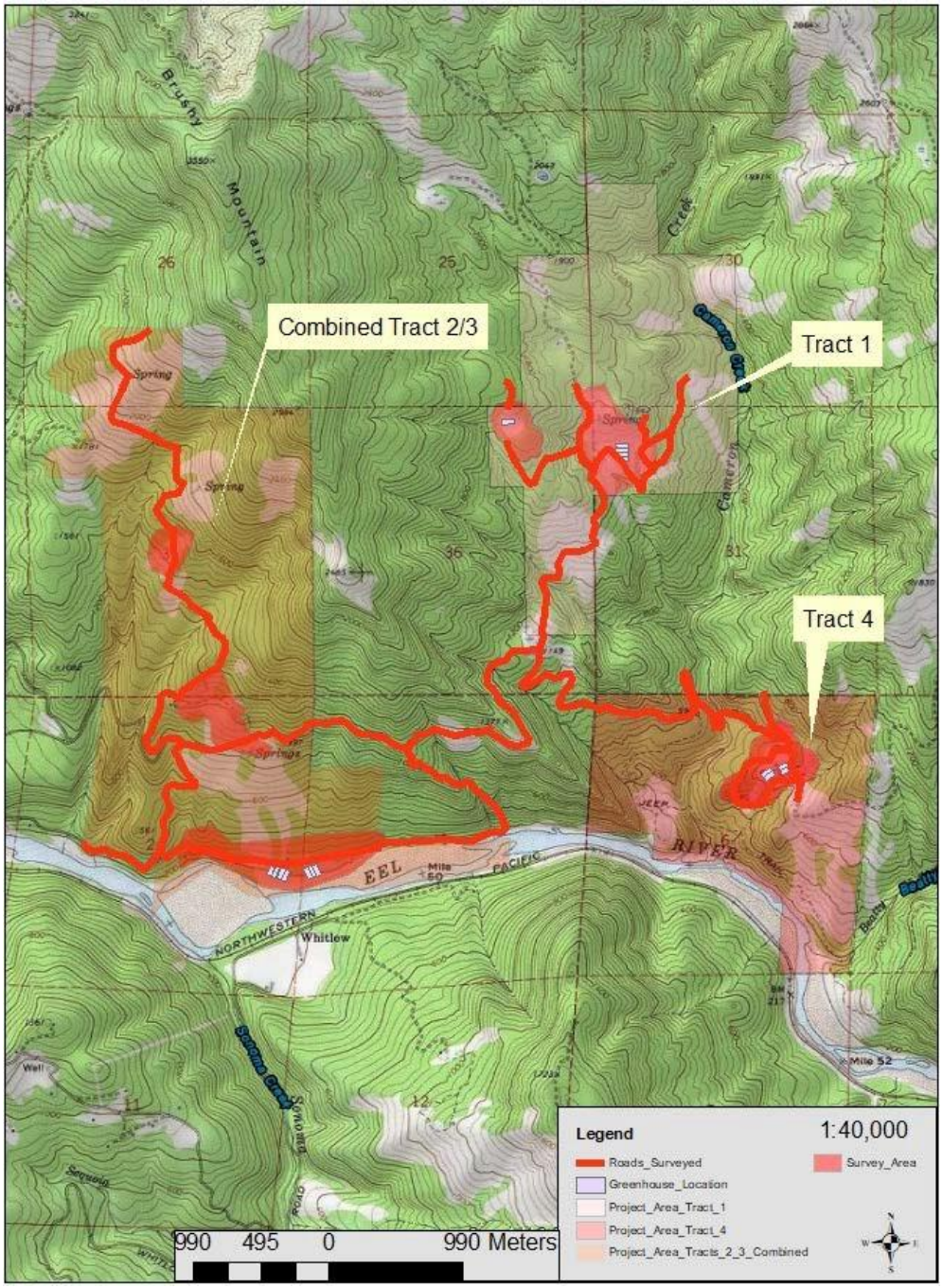

Figure 48. Cultural Survey Areas

DISCUSSION AND INTERPRETATION

There were no historic resources located during this survey, including both historic and pre-historic resources. The record search revealed significant archaeological deposits in the area. All prehistoric archaeological resources are outside the APE, including a 600-foot buffer, of the proposed projects (*Figure 47, 48* above).

The single burial location of Stephen B. Perry, located at 40° 19' 25.4" N 123° 45' 54.4"W, is outside the area of direct impact but within the APE of the proposed greenhouse locations on Track 4 *(now the location of Facility #10- #16).*

Note from NRM (Jan 2020): the archeological survey was conducted by Mr. Angeloff in 2017 and before the recent layout changes. The surveyed road buffer (600-feet) encompasses most of Facility #6-9 (Figure 49 below; in correspondence with Mr. Angeloff (NRM, personal communication), the entire low slope shelf on which the facilities will be located (beyond the 600-foot buffer) was surveyed because it was a considered a potential site location. Mr. Angeloff did not discover any historical resources or artifacts in the footprint area, the relocation of cannabis facilities remains less than significant in terms of impacts on archeological and cultural resources. No additional surveys are required.

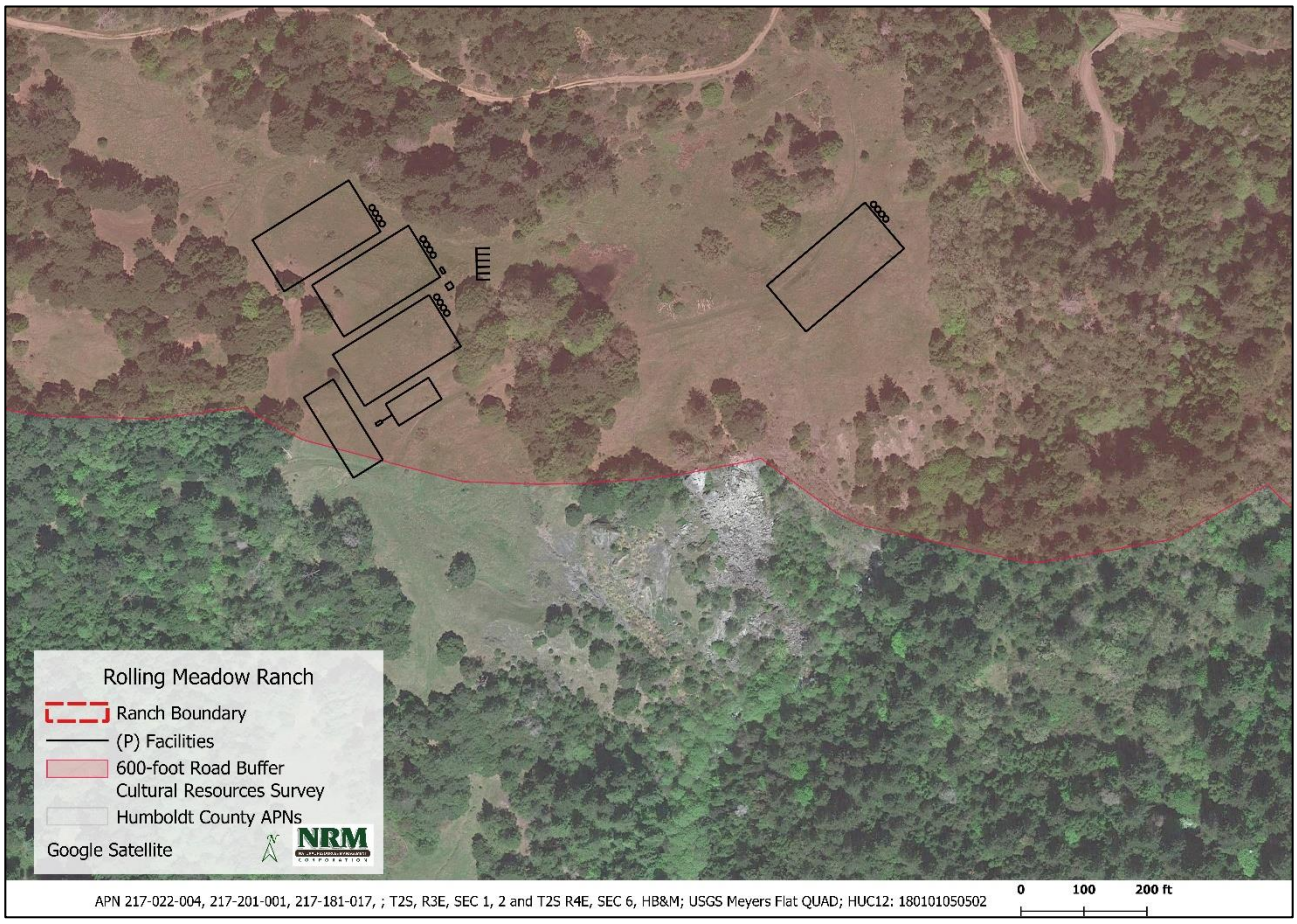

Figure 49. Project Facilities located inside of surveyed 600-foot buffer around project roads.

History

The project area was within the territory of a tribal group associated with the so-called Sinkyone tribe. No mapped ownership of the project area occurs until 1898, when P. Cameron and H. L. Beatty, the apparent namesakes of the two creeks, are each shown owning part of the project area (Lentell, 1898). In 1911, Eliza Halvorsen and Wheat each own part of the project area (Denny 1911). In 1921, Levi H. Wheat owns all of Section 6 north of the Eel. A dirt road is shown coming from the northeast down to the mouth of Cameron Creek. Just across the river is a parcel owned by the Northwestern Pacific Railroad, where a train stop called Tanoak was situated (Belcher Abstract & Title Co. 1921:2). In 1949 L. H. Wheat Jr. owns all of Section 6 north of the Eel (Metsker 1949:78).

The Wheat brothers were known as "pioneer stockmen of Dyerville" (Irvine 1915:828). In 1888, Levi Wheat and a man named Brady "killed the largest brown bear which that section has afforded for many years [Brady" may have been George Beatty, who settled the area at the same time as Whitlow (see below)]. It was a monster, weighing, when killed, 700 pounds" (CDNC 2017). Levi Wheat's obituary, from May 1929, stated in part:

> In 1869 he came to Humboldt with his brother William and George Beatty and settled on Eel river south of Camp Grant, on the ranch now known as the Wheat Ranch. They brought a band of Mexican Cattle with them and continued in cattle for a number of years. At the present time [1929] the ranch carries a stock of both cattle and sheep. Mrs. [Ella] Wheat passed away about two months ago (Humboldt Standard 1929).

The history of the Wheat/Whitlow Ranch began in 1860 with two bachelors, Charles L. Thompson and George Beatty, along with business partners, Levi H. and William C. Wheat. Charles L. Thompson, born in 1831 in Long Island, New York and George Louis Beatty born in 1829 in Montgomery County, Kentucky left the state of Iowa together in 1847 or '48, headed west. After working the gold-fields for a time the two men had made enough money to purchase land in Humboldt County. They staked out Preemption claims for property on the Eel River, which they later converted to homesteads. They were the first white men to work the land here, in what is now known as McCann. Mr. Thompson and Mr. Beatty raised hogs, sheep, and cattle. Mr. Beatty was a blacksmith, a farmer, and a skilled carpenter. They built a house and began raising livestock and harvesting timber from their holdings. After a few years they partnered with Levi H. and William C. Wheat, and Jesse Morrison Whitlow. This began a long-enduring partnership and family operation that has persisted as a Humboldt County fixture for over a century.

Jesse Morrison Whitlow came to this area of Humboldt County in 1865. He was the first Whitlow in Humboldt County. Mr. Thompson and Mr. Beatty tried to convince Whitlow to buy a neighboring piece of property, but the place they had in mind was too small to suit Whitlow's needs. He settled first in Bull Creek and continued to have dealings with Mr. Thompson and Mr. Beatty. In later years Jesse's children would come into possession of land on what is colloquially known as the Whitlow Ranch today. Around 1869, Levi Wheat (born August 14, 1846) came into the picture on the Eel River. He came to Humboldt County with his father, Alexander R. Wheat, and younger brother, William Campbell Wheat. Partnering with Mr. Beatty the Wheat's purchased the property that had been passed over by Whitlow for being of insufficient size, previously owned by a man named Ward.

Mr. Thompson and Mr. Beatty were the "backbone of the ranch" that eventually became the Wheat/Whitlow Ranch. Mr. Thompson was a well-educated man and in the early years he managed the legal affairs of the ranch, and was trusted to do so by his partners. After his death, however, no will could be found, prompting Levi Wheat to seek the services of Eureka attorney James Norris Gillet. In exchange for his services in keeping the ranch together and seeing to their legal needs, Wheat made Gillet a partner in the ranch. The 1921-22 Belcher Atlas of Humboldt County shows Gillet and Wheat jointly owning several parcels on the ranch.

Gillet had come to Eureka in 1884. He worked in the lumber industry to earn money to open a law partnership with Judge Fletcher A. Cutter. He joined the state militia as a private in the Eureka Guard Company in 1885. Gillett's unit would be called into active military service only once, assisting Humboldt County sheriffs in protecting a local town jail during the height of Anti-Chinese riots in Eureka. Following the end of his state military service, Gillett quickly resumed his career as a lawyer. In 1890, Gillett became the Eureka City Attorney, holding the position until 1895. Gillett became the state senator from Del Norte and Humboldt counties in1896. He then served as a representative in the U.S. Congress for two terms before being elected as Governor of California in 1906.

There are several graves within the boundaries of the historic Wheat/Whitlow Ranch. Photographs and coordinates as excerpted from *The Long Walk West*, by Oral Whitlow Jr. follow. The five infant children of William Otto and Flora Curless Perry (*figure 45*) were killed in a fire in 1879 according to an interview with a descendent of the Curless family (Sandra Close 2017).

Figure 50. Curless Perry children's grave site: 40° 19' 38.4" N 123° 45' 26.8" W

The Curless-Perry infant children memorial site is located outside the area of potential impact (*figure 51*).

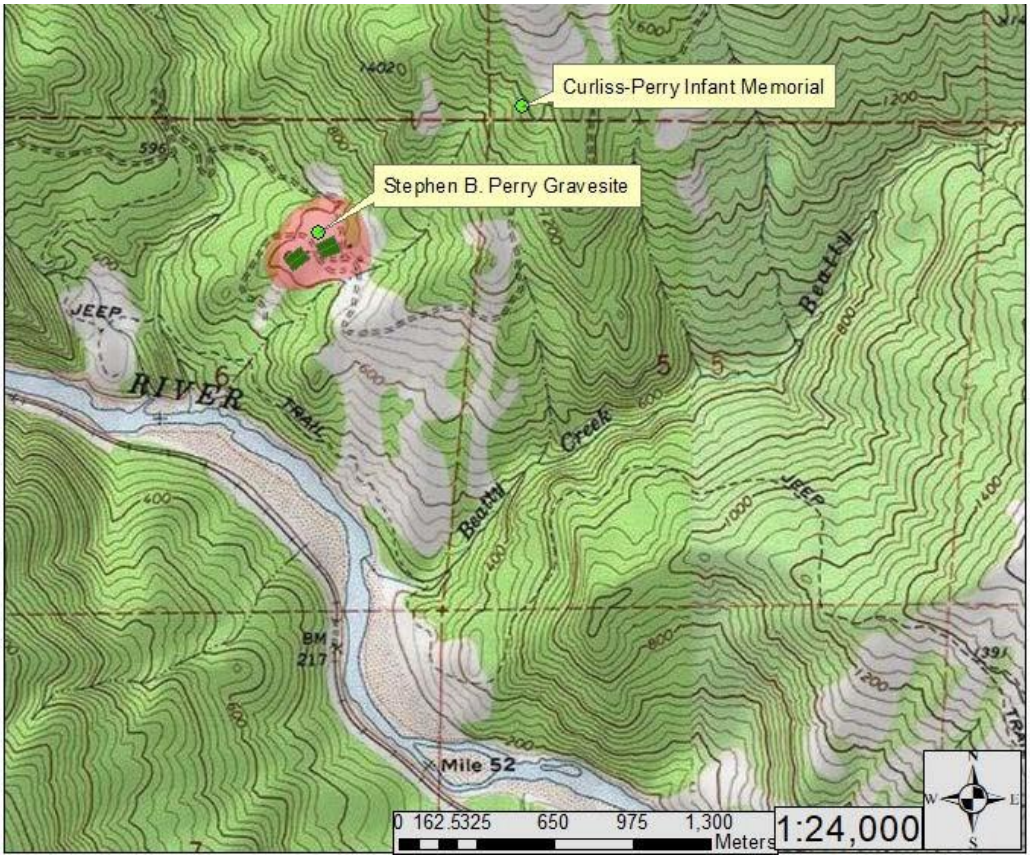

Figure 51. Location of the Curless-Perry Infant Memorial

The Stephen B. Perry gravesite has been photographed below in Oral Whitlow's book (*figure 47*).

Figure 52. Stephen B. Perry grave site: 40° 19' 25.4" N 123° 45' 54.4"W

~~This location was thoroughly surveyed and no evidence of the Mr. Perry's grave or its marker currently exist~~ *[strikethrough by NRM with respect to NRM's onsite findings: Figure 53, Figure 54].*

The location is within the APE of proposed operations on tract 4 (*Facilities #10-#16*) but outside the area of direct impact (*Figure 53)*. Monitoring of this location by a professional archaeologist during project implementation is recommended.

Figure 53. Stephen B. Perry Gravesite identified by NRM, April 2019

Figure 54. Stephen B. Perry Gravesite identified by NRM, April 2019

The project area plus a ½ mile buffer is the location of four previously identified prehistoric sites and two isolated artifacts. None of these sites will be impacted by the project. The sites on Rolling Meadows Ranch appear to be associated with middle and late period settlement based on the extant site records. The property itself could have and likely did sustain a complete seasonal round with winter residences on the river, transitional season hunting and gathering/specialized use areas as represented on the property along the benches leading to the ridgeline where summer village areas are represented on the upper portions of the property by existing archaeological deposits. It is highly unlikely that these middle and upper property

sites were not associated with a village site on the Eel River. There is no physical evidence of these winter residential sites most likely due to the 1955 and 1964 flood events scouring the terraces just above the Eel River and then depositing thick layers of silt as the flood waters receded (shovel probes were excavated to a depth of two feet and cut banks indicate silt deposits of at least three feet). The lack of a sedentary winter residential site representing the late period is judged to be a factor of flood events erasing all evidence of habitation as opposed to environmental/geographic features placing a winter village somewhere else along the Eel River.

Given the historic nature of the project area, all buildings were reviewed in field for historic features and integrity. None of the buildings on the property associated with this project are historically significant, and none qualify for the California Register of Historic Places.

No paleontological resources were noted within the survey area.

MANAGEMENT CONSIDERATIONS

It is recommended that archaeological monitoring occur during the implementation phase of Tract 4 *(now Facility #10-16)* to ensure that the Stephen B. Perry grave is not disturbed. In addition, it is recommended that a fenced perimeter be placed around the gravesite.

In addition, it is recommended that enhanced inadvertent discovery protocol be implemented for Tract 2/3 *(now facilities #1 and #2)* to include an awareness that the area is highly amenable to prehistoric human habitation although either covered in silt or washed away evidence of human habitation may be buried. In this light project implementation should be accompanied by a pre project meeting describing what to look for and the attached tear sheet (*Available in* A*ppendix A of Cultural Resources Report*) distributed to all crew members.

There is always the possibility of the inadvertent discovery of buried archaeological resources during ground disturbing activities with project implementation. If buried archaeological resources are discovered during project implementation all work should be halted within 100 feet of the find and county officials, a professional archaeologist and tribal representatives should be contacted immediately to evaluate the find. If human remains are discovered during project implementation all work shall be halted and the permitting agency, Humboldt County shall be contacted immediately. The County shall contact the County Coroner immediately and the Coroner will evaluate the find to determine the subsequent course of action. Implementation of the mitigation measures would reduce potential impacts to archaeological resources to a less than significant level.

Discussion of Significance (by NRM)
a,b,c) Less Than Significant with Inadvertent Discovery Protocol Incorporated (below). There is no evidence that the project will disturb any human remains, including those interred outside of a formal cemetery. The project will observe the recommended Inadvertent Discovery Protocol outlined by the cultural resources consultant as well as the **Management Considerations** described above – including the pre project meeting and the fencing and monitoring of the gravesite during construction. These precautions will reduce the potential of significance from accidental discovery.

Inadvertent Discovery Protocol

Archaeological Material

The following provides means of responding to the circumstance of a significant discovery during the cultural monitoring of the final implementation of the proposed agricultural development within the project parcel. If cultural materials, for example: chipped or ground stone, historic debris, building foundations, or bone are discovered during ground-disturbance activities, work shall be stopped within 20 meters (66 feet) of the discovery, per the requirements of CEQA (January 1999 Revised Guidelines, Title 14 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 materials and offered recommendations for further action.

Human Remains

If 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 adjacent to human remains (Public Resources Code, Section 7050.5). The Humboldt County coroner will be contacted to determine if the cause of death must be investigated. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the NAHC (Public Resources Code, Section 5097). The coroner will contact the NAHC. The descendants or most likely descendants of the deceased will be contacted, and work will not resume until they have made a recommendation to the landowner or the person responsible for the excavation work for means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in Public Resources Code, Section 5097.98.

<u>Mitigation</u>

None Proposed.

ENERGY

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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

Setting

California has established energy requirements for new residential and commercial construction. These are the Building Energy Efficiency Standards, known generally as Title 24. These standards are updated every three years and form a key component of California's zero net energy (ZNE) goal as described in the California Energy Efficiency Strategic Plan. In this plan, all new commercial construction will be ZNE by 2030. For now, the title 24 requirements for new constructions (commercial and residential) include detailed energy calculations, ventilation and lighting improvements.

The California Department of Food and Agriculture (CDFA) that regulates and manages cannabis permitting (Cal Cannabis) has specific renewable energy requirements that will apply to indoor and tier 2 mixed light licenses in 2023. Tier 2 Mixed light licenses are those that use artificial lighting at a rate of 6 and below or equal to 25 watts per square foot. Beginning January 1st, 2023, cultivators will "ensure that electrical power used for commercial cannabis activity meets the average electricity greenhouse gas emissions intensity required by their local utility provider."

Local regulations and requirements for general residential and commercial energy consumption are not yet described. In the 2017 Humboldt County General Plan Update, the county declared the intention to "adopt a residential and commercial energy conservation ordinance for building construction and retrofit that establishes energy conservation incentives and performance standards for projects exceeding state building codes" (E-IM14; Part3, Ch 12).

Humboldt county has developed specific energy requirements for cannabis cultivation. In the Humboldt County Commercial Cultivation and Land Use Ordinance No. 2559 (known as 1.0), the county specifically describes renewable energy requirements for indoor cultivation as being composed of 100% renewable source power or on-site zero net energy; and energy not from renewable sources are to be balanced with carbon offsets. According to the Ord. 1.0, "indoor" means cultivation using exclusively artificial lighting. Energy for Mixed-Light cultivation and Outdoor cultivation is not prescribed or limited by Ord. 1.0.

In the more recent iteration of the Humboldt County Commercial Cultivation and Land Use Ordinance, No. 2599 (known as 2.0), all cultivation, manufacturing, or processing activities that have grid power must be supplied from 100% renewable sources or from non-renewable sources with the purchase of carbon offset

credits (55.4.1.12.5).

Discussion

a) **No Impact.** The implementation of the project as proposed will not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. Project construction will only take place during daytime hours and will not employ night lighting. The largest component of the project construction consists of the construction of the greenhouses. These greenhouses are purchased as engineered "sets" and thereby create little waste in their construction. This 'zero waste' is extended to the transportation of materials. The manufacturer of the greenhouses will contract with a shipping company and that shipping company will deliver the greenhouses and greenhouse components. The construction of the greenhouses will not include multiple small deliveries of materials due to miscalculations (over or under ordering) as is typical of many construction sites. The result is an above average energy savings during project construction.

The project operation will not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. The project is greenhouse based and therefore relies on the sun for most of its energy requirements. The use of supplemental lighting is included in the project description. The supplemental greenhouse lighting and all other power requirements during project operations (fans, security lights, etc.) will be powered by grid power derived from 100% renewable resources as provided by the Redwood Coast Energy Authority Repower+ program. In 2018, the REpower+ program sourced renewable energy from the following:

Biomass & Biowaste	12%
Geothermal	0%
Eligible hydroelectric	0%
Solar	44%
Wind	44%

Transportation of employees around the project sites will consist of an electric bus. The processing buildings will have an electric vehicle recharging station for this bus that utilizes the 100% renewable power supply.

b) **No Impact.** The project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. As a project in California that is 100% new construction, all of California's applicable energy saving requirements will apply to this project (Title 24). The project will expand power lines from the South half of the property to the extent required for the proposed buildings (see Figure 14 for map of power lines). The project's power will be supplied by the local utility Redwood Coast Energy Authority (RCEA) Community Choice Energy (CCE) Program. This program will allow the proposed project to purchase on-grid power with 100% renewable sources that are certified by the California Renewables Portfolio Standard (RPS) system. By purchasing 100% renewable power the project will support the local and state efforts to increase support for renewable energy and comply with entities regulating energy consumption in California (State of California Title 24; CDFA, Cal Cannabis; Humboldt County CMMLUO No. 2559 and 2599 (The project application is under Ord no. 2559).

Cumulative Impact

The support by the project of the local Community Choice Energy Program and the engineered construction of the greenhouses means that this project will have a less than significant impact on Energy. The fact that this new construction will conform to California's strict energy regulations and the purchase of 100% renewable energy means that the project supports CA energy goals for a clean energy future. The project operator has secured a letter from the RCEA that confirms availability for the project's power demand and therefore it can be affirmed that the local and broader area's energy needs will not be negatively impacted.

Mitigation

None Proposed.

GEOLOGY AND SOILS

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:			X	
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) 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 onsite or offsite 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 wastewater?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X

Setting

Humboldt county is geologically complex and active. The geologic activity is dominated by the nearby "Triple Junction," which is the area in which three major faults, the San Andreas, the Mendocino, and the Cascade subduction zone meet. The County describes the region as located within the two highest of five seismic risk zones and notes that offshore Cape Mendocino has the highest concentration of earthquake

events anywhere in the continental United States (Humboldt General Plan Revised Draft EIR,3.8-3, 2017). There are several important and active fault zones in Humboldt county, some of which require special geologic investigation and human habitation buffers under the Alquist-Priolo Special Studies Zones Act of 1972. The Fault Zone nearest to the project area is the Russ Fault Zone which is not included in the Alquist-Priolo Special Studies Zones Act. The Russ Fault Zone, as mapped, ends over one mile from the nearest project development (Figure 55). In addition to the Russ Fault Zone, there is a fault, identified as a coastal thrust fault, whose approximate path bisects the project area approximately a quarter mile to the west of Facilities #6 - #9 (Figure 55).

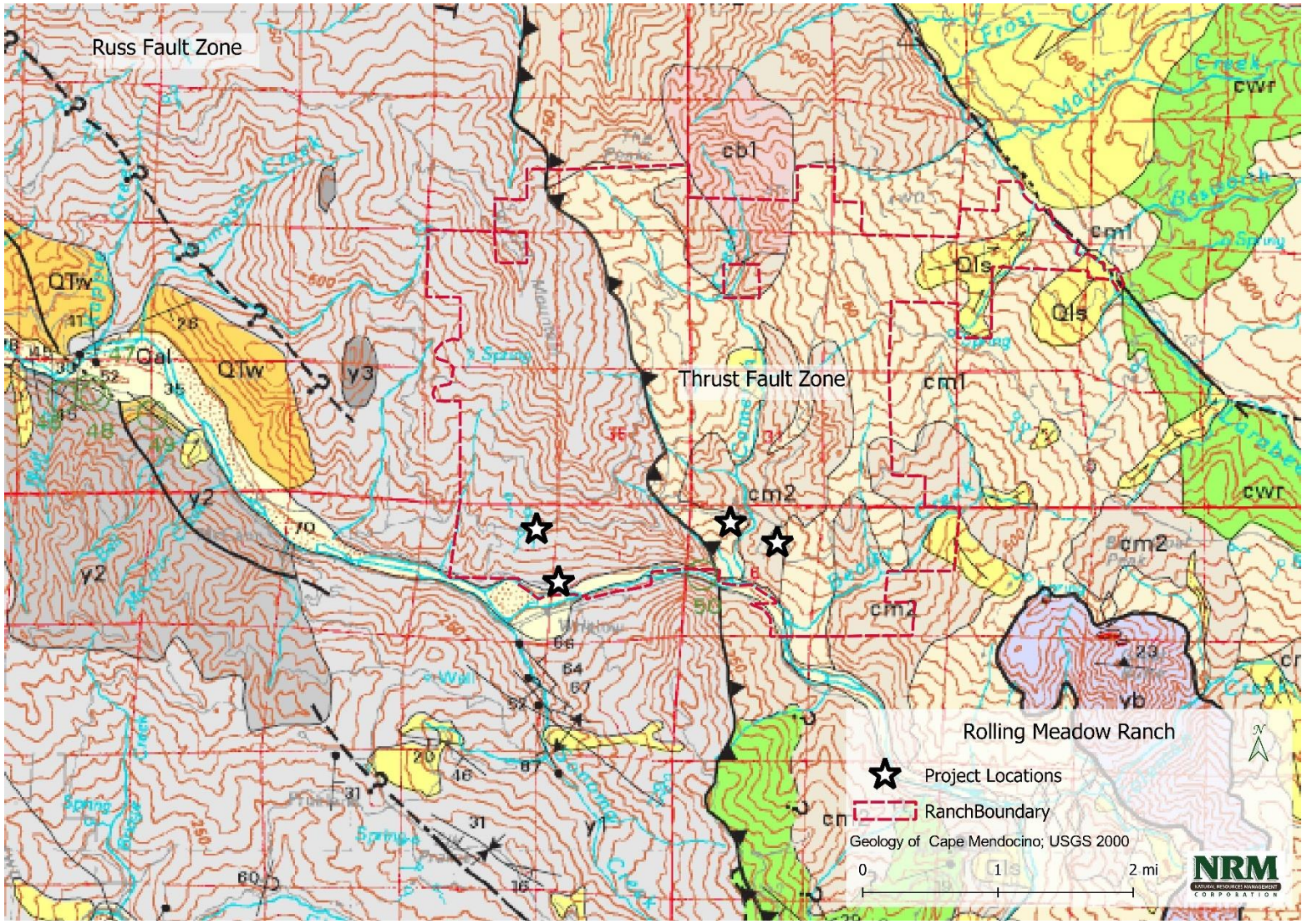

Figure 55. Geologic Features of Rolling Meadow Ranch: Russ Fault Zone (top left) and a thrust fault (center); McLaughlin, R.J. et al., 2000.

While Humboldt County experiences many earthquakes, the region in which the project is located has only seen one earthquake epicenter since November 2000 (Figure 56; retrieved Nov 2018, USGS); occurring in 2013 with a measure of 2.8, it was located on Beatty Creek, near its confluence with the Eel and outside of the Ranch property.

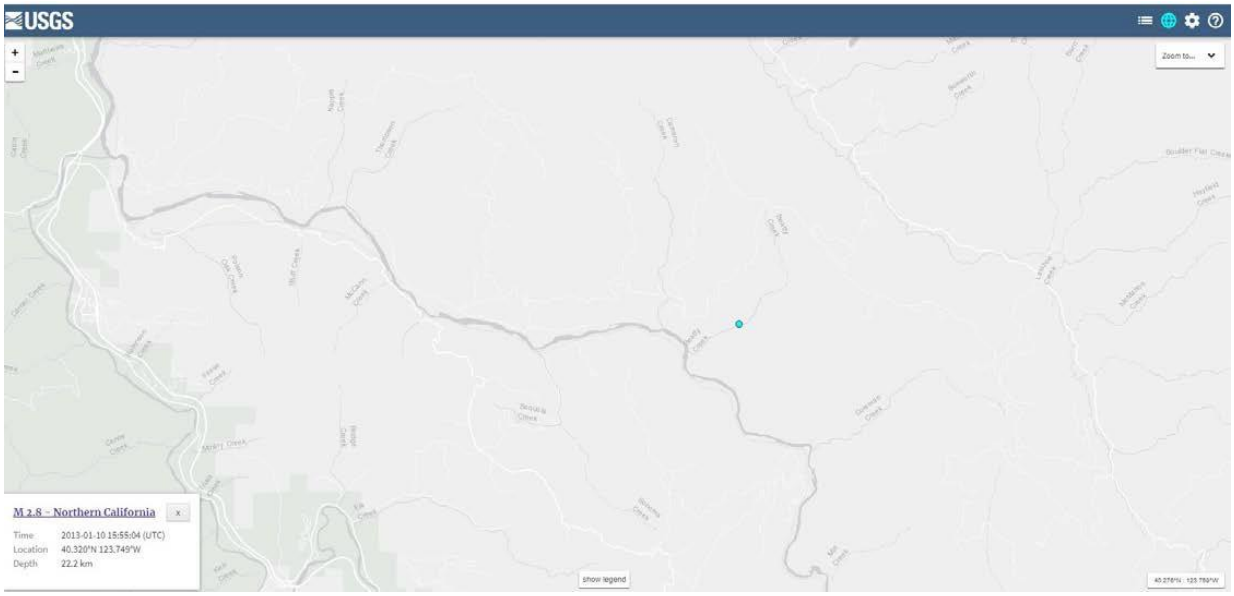

Figure 56. Mapped location of most recent earthquake in project vicinity; richter scale = 2.8, 2013.
Search parameters included all earthquakes over 2.5 occurring in mapped region (above) between the dates of Nov 19 2000 and Nov 19 2018.

The National Earthquake Hazards Reduction Program (NEHRP) has identified the project area (per Hum County GIS database) as Geologic Unit C. The Units are a measure of seismic stability based on the velocity at which the rock or soil transmits shear waves (S-waves) and an important component when calculating seismic amplification. Shaking is stronger where the shear wave velocity is lower. A unit C rating puts the shear velocity of the project's geologic unit between the most rapid and the least rapid transmission of S-waves and therefore within the range of relative seismic stability (Figure 57). This relative stability is aligned with the seismic safety rating designation of Moderate Instability (Low instability by Eel River) provided by the Humboldt County WebGIS and based on Humboldt County General Plan Geologic maps (2015).

Soil type A	Vs > 1500 m/sec	Includes unweathered intrusive igneous rock. Occurs infrequently in the bay area. We consider it with type B (both A and B are represented by the color blue on the map). Soil types A and B do not contribute greatly to shaking amplification.
Soil type B	1500 m/sec > Vs > 750 m/sec	Includes volcanics, most Mesozoic bedrock, and some Franciscan bedrock. (Mesozoic rocks are between 245 and 64 million years old. The Franciscan Complex is a Mesozoic unit that is common in the Bay Area.)
Soil Type C	750 m/sec > Vs > 350 m/sec	Includes some Quaternary (less than 1.8 million years old) sands, sandstones and mudstones, some Upper Tertiary (1.8 to 24 million years old) sandstones, mudstones and limestone, some Lower Tertiary (24 to 64 million years old) mudstones and sandstones, and Franciscan melange and serpentinite.
Soil Type D	350 m/sec > Vs > 200 m/sec	Includes some Quaternary muds, sands, gravels, silts and mud. Significant amplification of shaking by these soils is generally expected.
Soil Type E	200 m/sec > Vs	Includes water-saturated mud and artificial fill. The strongest amplification of shaking due is expected for this soil type.

Figure 57. Shear wave velocity for NEHRP soil types; https://earthquake.usgs.gov/hazards/urban/sfbay/soiltype

The project proposes development in a region that has experienced landslides. The Humboldt County General Plan, Revised Draft EIR (2017) describes the main Eel River as generally comprised of highly erodible rocks, including substantial amounts of Franciscan Complex rocks. Over 85 percent of the Middle Main Eel watersheds are Franciscan Complex. The landslides that are mapped in the vicinity of the project location are identified as debris slides. According to the California Dept. of Conservation (2018), debris slides occur most commonly on very steep slopes (60% to 70%), usually in an area where the base of a slope is undercut by erosion. The project will not develop cultivation or processing facilities on mapped historic landslides or areas that are within 400-feet of the base of any landslide (Figures 58 and 59).

Figure 58. Project Facilities #1-#5 in relation to historic landslides; Humboldt WebGIS, October 2020.

Figure 59. Project Facilities #6-#16 in relation to historic landslides; Humboldt WebGIS, October 2020.

The grading for the project's proposed 16 greenhouse facilities and 5 processing buildings is expected to be minimal as all 16 cultivation greenhouses will be located on land with slopes of less than 15%. A visual assessment of the proposed area in 2019, by consulting engineering firm, Oscar Larson & Associates, affirmed that the proposed cut and fill could be balanced onsite (Appendix B). The project has had Georectified Photogrammetry imagery taken for all project areas. The Georectified Photogrammetry images are located in Figures 8 – 11 and Appendix A.

The Georectified Photogrammetry imagery for Facilities #1, #2, shows the slope of the land where the greenhouse will be located is less than 15%. The areas are grassy open meadows that steepen toward the north.

A review of Facilities #3 - #5 shows some small sections in the greenhouse footprints as over 15%. A comparison of these small sections to the aerial image reveals these sections to be vegetation. Facilities #3-#5 are located on slopes lower than 15%.

Facilities #6 - #9 also have vegetation and a rock outcropping that read at higher slopes (middle of Facility #6 and #7). The southwestern edge of Facility #9 shows a true slope change as the open hill transitions down to a forested swale. The slope is remains under 15%; the over 15% reading corresponds to the canopy of the mature Bay trees located at the slope transition point. Facilities #6 - #9 are located on slopes lower than 15%.

Facilities #10 - #16 all have sections of Georectified Photogrammetry imagery that show slopes of over 15% that directly correspond to trees or dense woody vegetation (Coyote Bush, *Baccharis pilularis*). The exceptions are the road cut that shows as slopes over 15% near Facility #15. The road cut is not part of the natural slope. There are also several places where the Georectified Photogrammetry shows a change in slope unassociated with the road cut or vegetation. These areas are a product of the gentle rolling topography of this open space. They are limited and do not significantly impact the overall slope evaluation of under 15%.

According to the most recent soil survey (Web Soil Survey) Map Unit Description are described as the following: 655 Yorknorth-Witherell complex, 663 Yorknorth-Windynip complex, 657 Yorknorth-Witherell complex, and 662 Yorknorth-Witherell complex. Investigation by the soil consulting company, Dirty Business, into the surface soil specific to the project areas revealed 1,289,668 square feet of prime agricultural soils. The project will cultivate approximately 249,739 sq. ft. (less than 20% of the total prime ag available on legal Parcel 1). The study and the Web Soil Survey show that the soils are generally moderately to well drained fine sandy loams. Fine sandy loam is generally preferred for standard septic installation.

Discussion

a) Less than Significant. The project will not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. the 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. Per the Division of Mines and Geology Special Publication 42, the Meyers Flat quadrangle area of Humboldt county does not have a, Special Studies Zone Map delineated by the State Geologist. There are no known Alquist-Priolo earthquake zone within the project area.

ii. strong seismic ground shaking. The Russ Fault Zone is over one mile from the project area and the mapped thrust fault is approximately ¼ mile away from the nearest project facility. The seismic stability rating (HumGIS) is identified as 'Moderate Instability;' additionally, the shear wave velocity is of moderate estimated speed. Therefore, the potential impacts from seismic ground shaking are less than significant.

iii. seismic-related ground failure, including liquefaction. The area nearest to the project that is mapped by HumGIS as a potential area of liquefaction is the Eel River directly northwest of Rio Dell and over 20 air miles from the project area. The project area is not expected to experience any impacts from seismic related liquefaction. Direct seismic related ground failure, fault rupture, is not considered potentially significant because the project is over 0.25 miles away from any mapped faults.

iv. seismic-related ground failure including landslides. See historic land slide and slope map above. Historic landslides in the vicinity of the project areas will not be significantly disturbed. There will be no project development within 400-feet of the base of any known historic landslide area; disturbance at the base, or 'foot' of a landslides carries the most potential for landslide risk. In general, landslide risk is less than significant because the project proposes development on slopes less than 15% and will not locate employee occupied buildings (Greenhouses or processing) on historic landslides (historic land failure).

b) Less than Significant. The projects will not result in substantial soil erosion or the loss of topsoil. The project will balance cut and fill volumes. The greenhouses, processing buildings will be engineered and equipped with rainwater catchment and associated drainage components (infiltration zones, filter/trench drains, etc.) per the specifications of the project engineer that will adequately manage storm water and eliminate the risk of soil erosion from the addition of impermeable surfaces.

c) Less than Significant. The projects are not located on a geologic unit or soil type 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. The projects are located on soils with a seismic stability rating of moderate instability. No site has a rating of high instability. The NEHRP Geologic Unit is identified as Geologic Unit C, which means that the project area has a moderate ability to amplify seismic activity and as such does not constitute a significant risk to life or property.

d) No Impact. The projects are not located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property. Property soils, as described above, are generally fine sandy loam, which are known to drain well with minimal to no expansion.

e) No Impact. The project will not 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. The site is not in an area of special concern as identified by the county and it is anticipated that the soils will perform well due to the generally good performance of sandy loamy soils. The project is located on a 7,110 acre ranch and the processing buildings that will house the restrooms and sinks are located, at minimum 500 feet apart at facilities #10-#16 (most are over at least 0.4 miles apart) . The project has the

capacity to find the best suited soils for the leach field of an Onsite Wastewater Treatment System (OWTS); additionally, the operator is prepared to install an alternative permitted system, such as a mound system, if necessary.

f) No Impact. The project will not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. As described in the Cultural Resources component of this report, no significant historic resources would be impacted by the implementation of the project. The definition of historic resources includes, as described by the Humboldt County Framework Plan in the project's Cultural Resources Report, cultural resources. Cultural resources include archaeological, paleontological and architectural sites, grave sites and cemeteries.

Cumulative Impact

As described previously, the project will develop cultivation on low slope areas (less than 15% slope); the project will not cut into or build on areas that have experienced historic landslides. The nearest fault zone is over one mile away and the area has only experienced one earthquake epicenter in the last ten years. The cumulative effects of this project will not create a more unstable geologic and edaphic environment than exists at present.

Mitigation None proposed.

GREENHOUSE GAS EMISSIONS

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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

Setting

Greenhouse Gas (GHG) Emissions are said to result in an increase in the earth's average surface temperature commonly referred to as global warming. This change in global temperature is associated with long-term changes in precipitation, temperature, wind patterns, and other elements of the earth's climate system, known as climate change. These changes are now broadly attributed to GHG emissions, particularly those emissions that result from the human production and use of fossil fuels.

Climate changes resulting from GHG emissions could produce an array of adverse environmental impacts including water supply shortages, severe drought, increased flooding, sea level rise, air pollution from increased formation of ground level ozone and particulate matter, ecosystem changes, increased wildfire risk, agricultural impacts, ocean and terrestrial species impacts among other adverse effects.

In 2006, the State passed the Global Warming Solutions Act of 2006, commonly referred to as AB 32, which set the greenhouse gas emissions reduction goal for the State of California into law. The law requires that by 2020, State emissions must be reduced to 1990 levels by reducing greenhouse gas emissions from significant sources via regulation, market mechanisms, and other actions.

It should be noted that an individual project's GHG emissions will generally not result in direct impacts under CEQA, as the climate change issue is global in nature, however an individual project could be found to contribute to a potentially significant cumulative impact.

This project will have negligible contribution to greenhouse emissions as the project will be using renewable electric power. There is PG&E infrastructure currently located on the south side of Rolling Meadow Ranch property near the Eel River. This existing electrical power infrastructure is strung above ground on poles. Additional infrastructure will be run from this existing section to the proposed infrastructure North and then East. The lines will be buried below ground along existing Ranch Roads. See Electric Figure 14 in Project Description for more detail on power line routes. Power will be supplied by the local utility Redwood Coast Energy Authority (RCEA) Community Choice Energy (CCE) Program. This program will allow the proposed project to purchase on-grid power with 100% renewable sources. By purchasing 100% renewable power the project will not have a significant impact of greenhouse gas emissions.

Discussion

a) Less than Significant Impact. The project will not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment. The construction phase of the project would include the installation of power lines, the installation of septic systems, road work, grading and construction of all flats for processing facilities and greenhouses as well as the wiring and installation of related finish construction components. Earthwork activities, which are expected to last less than three months, will result in temporary, minor emissions of diesel and gasoline engine combustion products from equipment. Due to the temporary and minor nature of these greenhouse gas emissions, the construction contribution to greenhouse gas emissions will have a less than significant impact on the environment.

The employee travel to reach the job site during the operational phase of the project accounts for most of emissions related to the project. Employee travel to and from work sites for the project is estimated at around 22.29 roundtrips by car per day. Additionally, the project will need to bring in supplies and haul out product and garbage. The project will need to bring in supplies one to two times a week. Processed cannabis and garbage will be hauled off site as part of the round trip for bringing in supplies. Minimal garbage (approximately 7.5 cubic yards a month) will be created by the project, which will be hauled to Eel River Recology in Fortuna or Redway, CA. Overall average for trips for the site (employee travel, supplies in and product and garbage out will be just over 22 trips per day.

The majority of the vehicle travel connected to this project, and therefore the majority of the emissions under consideration, will take place on Hwy 101 as product and people travel North or South on Hwy 101 from local communities to reach the Dyerville Loop access road. According to the 2016 Traffic Volumes on California State Highways report by Cal Trans the Annual average daily traffic (which is the total traffic volume for the year divided by 365* days) for the section of 101 nearest the Dyerville Loop access road is an average of 7400 cars (Back and Ahead directional totals averaged, counted at JCT. RTE.254 South). The percentage increase from 7400 to 7422.21 is 0.3%. Due to the small scale of the project, emissions from vehicles will be insignificant, especially when compared to the amount of traffic that already occurs on Hwy 101.

Breaking down the emissions into annually produced pounds of Carbon Dioxide can help clarify the potential Greenhouse Gas contribution that this proposed project will have. See Table 12 and 13 for reference. According to the US Energy Information Administration, burning a gallon of E10 gasoline produces 18.9 pounds of carbon dioxide. Assuming 22 passenger vehicles that get 25mpg travel 30 miles one way (from Garberville) every day of the year, the 22 employees of the project will contribute 364,240.8 pounds of Carbon Dioxide a year. All travel, for this analysis is calculated from the nearest large population center (Garberville). Because project hiring and material sourcing cannot be accurately predicted, Garberville is chosen as the primary reference point for all travel because it is a stable and large source of regional employees and materials.

There will also be one diesel burning box truck (or equivalent) that gets 15mpg that will be driven 60 miles round trip (Garberville) to remove garbage and bring in supplies 53 times a year; the truck will also be used another 53 times a year to take product offsite and bring in additional in supplies. The box truck will make approximately 106 trips to Garberville and back per year. If a gallon of diesel produces 22.4 pounds of carbon dioxide, the resulting contribution from these project related box truck trips would be around 9,496 pounds of Carbon Dioxide per year.

Table 13. Summary of proposed yearly vehicle trips using McCann Rd. access for project operations and resulting approximate pounds of Carbon Dioxide output per year.

Task	**Type of vehicle**	**Number of round trips per year**	**Estimated distance of round trip miles/yr** (Garberville, 60 miles round trip)	**Gallons of fuel per year** (ave diesel = 15mpg, ave gas = 30 mpg)	**Pounds of CO2 per year** (22.4 lbs/g diesel 18.9 lbs/g gas)
Bring in supplies/ Remove garbage	17/18'Box truck, diesel;	1 times/week =ave 53 trips/yr	53 trips/yr x 60miles/trip =3,180 miles/yr	3180 miles ÷15mpg = 212 gallons/yr	212 gal x 22.4lbs/g =**4,748 lbs/yr**
Remove processed product / Bring in supplies	17/18'Box truck, diesel;	1 time/week ave 53 trips/yr	53 trips/yr x 60miles/trip =3,180 miles/yr	3180 miles ÷15mpg = 212 gallons/yr	212 gal x 22.4lbs/g =**4,748 lbs/yr**
Employee travel to reach project	Passenger car, gas (22 employees on site/day)	22/day x 365 days/yr = 8030 trips/yr	8030 trips/yr x 60miles/trip =481,800	481,800 miles/yr ÷25 mpg =19,272gal/yr	19,272 gal/yr x 18.9 lbs/gal =**364,240.8 lbs/yr**
Total Project CO2 **= 373,737 pounds CO2/Year** Total Project CO2 **= 153 Metric Tons/Year**					

The McCann Road will not provide year round access until the new, year round McCann Bridge is complete (estimated to be complete in 2025). The project will utilize the Alderpoint Road entrance as the alternate access when the county removes the existing seasonal McCann bridge over the Eel River. This low water bridge is typically removed from late November through late April when the Eel River flow volume increases to 3,500 cubic feet per second (cfs). Therefore, for the first1-5 years, the project will utilize Alderpoint Road for approximately one half of the year and McCann Rd. the other half.

If the annual Metric Tons of C02 produced during project operations for one year using McCann Rd. is 153 MT (Table 13), then six months is approximately 76.5 MT. Use of the Alderpoint road access is estimated to produce approximately 277 MT of CO2 per year (Table 14); six months of CO2 production

would be 138.5 MT (Table 13). Therefore, the project, using both McCann and Alderpoint as access during the first 1-5 years of operations would contribute **215 MT of CO2 annually**.

Table 14. Summary of proposed yearly vehicle trips using Alderpoint Rd. access for project operations and resulting approximate pounds of Carbon Dioxide output per year.

Task	**Type of vehicle**	**Number of round trips per year**	**Estimated distance of round trip miles/yr** (Garberville, 98 miles round trip)	**Gallons of fuel per year** (ave diesel = 15mpg, ave gas = 30 mpg)	**Pounds of CO2 per year** (22.4 lbs/g diesel 18.9 lbs/g gas)
Bring in supplies/ Remove garbage	17/18'Box truck, diesel;	1 times/week =ave 53 trips/yr	53 trips/yr x 98 miles/trip =5,194 miles/yr	5194 miles ÷15mpg = 346 gallons/yr	346 gal x 22.4lbs/g =**7,750 lbs/yr**
Remove processed product / Bring in supplies	17/18'Box truck, diesel;	1 time/week ave 53 trips/yr	53 trips/yr x 98 miles/trip = 5,194 miles/yr	5194 miles ÷15mpg = 346 gallons/yr	346 gal x 22.4lbs/g =**7,750 lbs/yr**
Employee travel to reach project	Passenger car, gas (22 employees on site/day)	22/day x 365 days/yr = 8030 trips/yr	8030 trips/yr x98miles/trip =786,940 miles/yr	786940 miles/yr ÷25 mpg =31,478 gal/yr	31,478 gal/yr x 18.9 lbs/gal =**594,934.2 lbs/yr**
				Total Project CO2 **= 610,434.2 pounds CO2/Year**	
				Total Project CO2 **= 277 Metric Tons/Year**	

The Construction component of the project includes short term, specific goal oriented transportation trips that will generate greenhouse gases. These trips are project specific and not reoccurring. These are the delivery and return of equipment and the delivery of project specific materials in order to achieve the installation of the septic systems and underground electrical, the grading of greenhouse and processing building flats.

The total Estimated Carbon dioxide emissions for the vehicle use during the construction phase of the project is **21.8 metric tons**. These emissions are singular and short term (Table 15).

It is also true that the equipment brought onto the site for use in construction (backhoe, bulldozer, excavator, dump truck, water truck, etc.) will be burning fuel. The amount of fuel burned will vary. Two of the most

common factors (according to several internet sources) that influence fuel use during equipment operation are the experience of the operator and the task and corresponding engine load. An example of a low engine load task is moving loose dirt compared to a high engine load task of excavating rock.

To reduce fuel consumption and GHG emissions, the equipment will not allow engines to idle and operators will have experience with the specific task demanded. Fuel use will be limited to active work times. These work times will occur intermittently throughout the first phase of construction (8-12 weeks of earth work). No heavy equipment will be used during the finishing phases (building of buildings and greenhouses, electrical, plumbing, etc.).

Table 15. Project Construction, Estimated GHG (Metric Tons of Carbon dioxide) From Vehicle Use

Vehicle Type	Number of round trips	Total miles traveled From Garberville = 60 miles roundtrip	Miles per gallon of fuel D -diesel G- gasoline	Total gallons of fuel burned (miles/mpg)	CO2 pounds released per year 22.4lbs/1gal diesel 19.5 lbs./1gal gas
Concrete Truck**	43	2,580	3.3 mpg (D)	782 gal	17,517 lbs. CO2
Gravel Delivery/ dump truck	10	600	5 mpg (D)	120 gal	2688 lbs. CO2
Backhoe loader Delivered w/trailer or on semi/flat bed	1	60	5 mpg (D)	12gal	268.8 lbs. CO2
Bulldozer Delivered w/trailer or on semi/flat bed	1	60	5 mpg (D)	12gal	268.8 lbs. CO2
Compactor/roller Delivered w/trailer or on semi/flat bed	1	60	5 mpg (D)	12 gal	268.8 lbs. CO2
Excavator Delivered w/trailer or on semi/flat bed	1	60	5 mpg (D)	12 gal	268.8 lbs. CO2
Building Materials Delivery on flatbed truck	15	900	12 mpg (D)	75 gal	1,680 lbs. CO2
Dump truck	1	60	5 mpg (D)	12 gal	268.8 lbs. CO2
Water truck	1	60	5 mpg (D)	12 gal	268.8 lbs. CO2
Construction Employees*/ pickup truck	420	25,200	20 mpg (G)	1,260 gal	24,570 lbs. CO2
Total Estimated Construction CO2 Emissions from Vehicles= 48,068 lbs. or **21.8 metric tons of CO2**					

* Construction employees (average of 5 onsite daily) will be onsite daily for 8- 12 weeks.

** Concrete truck estimate based on 4inch deep slab for six (6) processing buildings (34,600 sq. ft. will require approximately 425cubic yards of concrete) and assuming that each fully loaded concrete truck can carry 10 cubic yards of material.

Based on these numbers (Table 13, 14, 15), it is estimated that maximum amount of carbon produced in one year (year one; includes construction emissions) would be approximately **237 MT of CO**2 (Table 16). To put this number into perspective, the EPA carbon footprint calculator calculates that an average household of 4 people in the Garberville area produces 57,838 pounds of Carbon Dioxide every year (US EPA, 2016). The combined annual vehicle emissions from the project during year one is roughly equal to the annual output of 9.3 average families of four living in the area. The impact will be less than significant.

Table 16. Summary of Annual Project Emissions (CO2)

	Annual CO2 pounds	**Annual CO2 Metric Tons**
Construction	48,068	22
Year 1 (construction plus operations)		**237**
Operations, yrs 2-5	492,086	215
Operations, yrs 6+	373,737	153

Another measure of significance is set forth in the Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines (May 2017). The BAAQMD guidelines are used herein to describe impacts by Greenhouse gases as the Bay Area is the nearest neighbor to Humboldt County with clearly established significance thresholds for Greenhouse Gases and these thresholds have been applied in at least one other CEQA document in Humboldt County (Humboldt County Public Works Initial Study and Proposed Negative Mitigated Declaration for the ACV Airport Microgrid Project, March 27, 2018). As described by the BAAQMD, the threshold of significance for greenhouse gas emissions for a land use development project is, "annual emissions less than 1,100 metric tons per year (MT/yr) of CO2e" (p2-4, 2017). While the above number of project produced CO2 during year one and including construction emissions (235 metric tons/year) has not been converted into CO2e (e=equivalent), the EPA provides a greenhouse gas (CO2e) calculation for the average passenger vehicle: 4.67 metric tons CO2E/vehicle /year (EPA calculator, accessed Dec 2018). Using this average number provided by the EPA and using the total number of cars (30) and trucks (1) that the project assumes GHG emissions for, we see that the average metric tons of CO2e produced by the project would be around **144.77 metric tons of CO2e per year** (4.67metric tons/vehicle/yr x 31 vehicles). Even if the number is doubled to account for the above average miles traveled to access the rural project site and access point on Alderpoint Road, the expected emissions from this project are clearly below the BAAQMD threshold of significance for greenhouse gas emissions which is 1,100 metric tons of CO2e per year.

b) No Impact. The project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The project will use grid power with 100% renewable sources. This is in line with the requirements of the Humboldt County CMMLUO (1.0 and CCLUO 2.0).

Cumulative Impact

The employee travel to reach the job site accounts for most of the miles that will be driven. The project will use an electric bus to move employees around the internal project roads. Power will be supplied by the local utility Redwood Coast Energy Authority (RCEA) Community Choice Energy (CCE) Program. This program will allow the proposed project to purchase on-grid power with 100% renewable sources. By purchasing 100% renewable power the project will not have a significant impact of greenhouse gas emissions. Additionally, this project is not growth inducing. There are many people in the areas currently employed by illegal cannabis farms. As these illegal farms are shut down these employees will form the work pool for the legal farms such as this. In terms of employee travel they will be very little change from the current conditions in the area. The trips needed for these projects are minimal. The contributions from these projects are not cumulatively significant.

HAZARDS AND HAZARDOUS MATERIALS

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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	

Setting

The project areas are located in a landscape characterized by timber stands and open grasslands that have historically been used for logging and ranching. The site is not included a list of hazardous materials sites (no results from EnviroStor database, Figure 55). The project will not employ hazardous chemicals or pesticides on their cannabis product. This project will use various natural fertilizer and pesticide products; only products that are citrus or neem- seed based and/ or permitted for use in organic farming will be used and on site. No rodenticides will be used on the site. No hazardous compounds are used in the cultivation practices.

It is estimated that the construction phase of the project will take two to three months to complete. If any equipment is stored on site during the construction phase a drip pan will be placed underneath it. Fuel for the equipment will either not be stored on site or it will be stored onsite in secondary containment. And all fuel storage will be removed when construction is complete. Standard BMPs for 1) fueling all vehicles and equipment away from any watercourse, pond, or wetland; 2) ensuring that all heavy equipment on site is inspected in case of hydraulic leaks, oil leaks, etc. will be followed.

All of the project areas are located in Very High Fire Hazard Severity areas. The project site is located within the jurisdiction of the Department and the California Department of Forestry and Fire Protection (CALFIRE). The subject properties were identified in the Natural Resources and Hazard Report as a Very High Fire Hazard Severity area. Cal Fire provides emergency response to fire. The nearest Cal Fire station is located in Weott, 12 miles away. The firefighters would leave Weott and travel North on Hwy 101; exiting onto the Dyerville Loop Road, they would travel East along the Eel River and North across the McCann Bridge; turning East onto McCann Road Cal Fire would reach the project location. Google approximates that a vehicle, traveling the speed limit, would take 35 minutes to reach the Southwestern boundary from the Cal Fire station in Weott. The Cal Fire Air Attack Base in Rohnerville is 23 miles North, Northwest of the project location. According to the Cal Fire Strategic Fire Plan Humboldt-Del-Norte Unit, this Cal Fire Air Attack facility will provide "rapid initial attack … where steep terrain and narrow, winding roads greatly increase ground response times. In such situations, aircraft assigned to the Humboldt- Del Norte Unit are often at scene and applying water or retardant before engines and dozers arrive, cooling the fire and giving ground resources the ability to achieve initial attack success. (p.11, 2018).

Discussion

a) No Impact. The project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Discussion for finding *b)* applies to both finding *a)* & *b)*.

b) No Impact. The project will not 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. This project does not produce any hazardous materials. This project does not involve the handling of acutely hazardous materials, substances or waste or the emissions or disposal of hazardous substances. The materials onsite will include: Organic nutrients/fertilizers, organic pesticides, propane, and small amount of gasoline/diesel fuel. The substances used as fertilizers and pesticides will be stored inside the fully enclosed processing buildings on a concrete surface and will be returned to storage immediately after use. These products will only be used in accordance with the instructions on their labels. These products will only be used on cannabis plants inside the closed greenhouse environment. The propane for

the emergency generators will be stored in propane tanks located near the 45KW Generac generators. The tanks will be 500-gallon underground tanks that will be installed, inspected and filled by a professional propane supplier (i.e.: AmeriGas in Redway or Ferrellgas in Redcrest). Gasoline or diesel that might be used for maintenance equipment or emergency vehicle fuel will be of limited quantities (5-gallon containers) stored in polyethylene or aluminum containers with spill reduction caps and be stored inside the enclosed processing buildings. The hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials in the environment will be insignificant. Public health and safety concerns include both on-site and off-site impacts. This project will not have a significant increase of risk to people on-site due to the following: materials used in project activities are generally nonhazardous, quantities of materials are limited by individual containment (packaging of nutrients and pesticides and distribution among the six processing building) and safety (standardized storage of fuels).

c) No Impact. The project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. No schools exist within one-quarter mile of the projects and no hazardous or acutely hazardous materials, substances, or waste will be generated during the course of project operations. The closest school to the project site is the Agnes J. Johnson Elementary School located in Weott.

d) No Impact. The projects are not located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, it would not create a significant hazard to the public or the environment. The figure below is a visual representation of the search results – no results - of the EnviroStor Database (Figure 60). According to the website, EnviroStor is "the [California] Department of Toxic Substances Control's data management system for tracking our cleanup, permitting, enforcement and investigation efforts at hazardous waste facilities and sites with known contamination or sites where there may be reasons to investigate further" (2020).

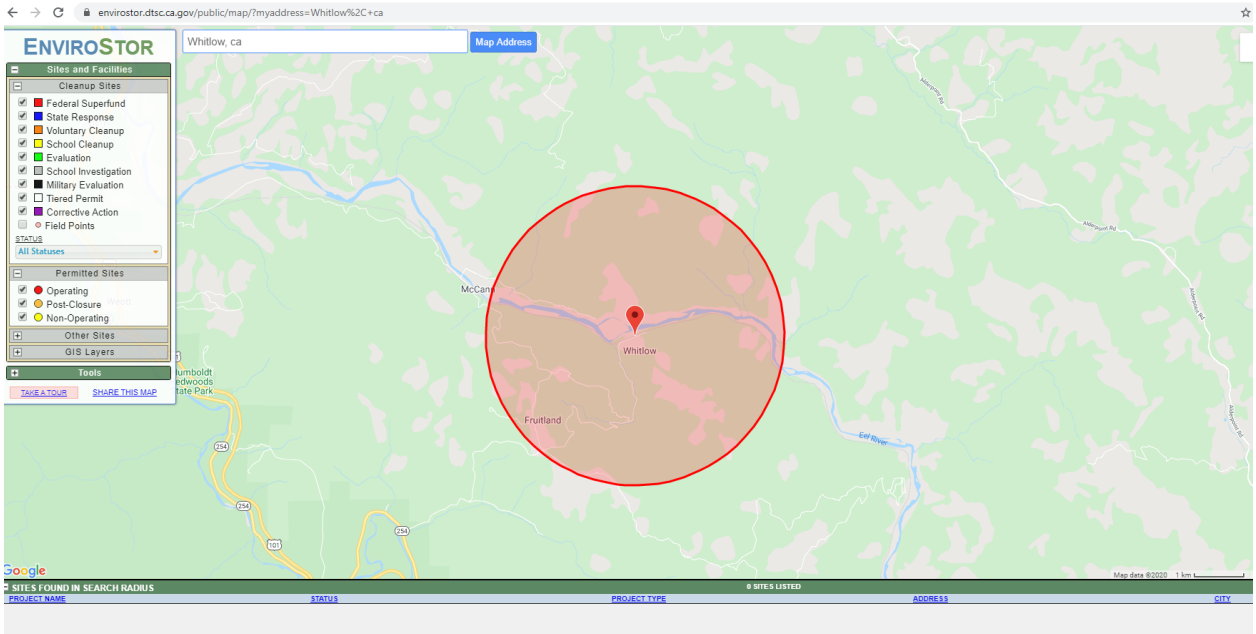

Figure 60. Search results from EnviroStor database, January 2020.

e) No Impact. The project will not, 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, result in a safety hazard for people residing or working in the project area. The nearest airstrip is in the town of Dinsmore, approximately 14 miles North Northeast of the project location. Substantial safety risks would not occur to people residing or working in the project area due to use of the airstrip.

f) No Impact. The projects will not impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan. Because of its isolated location, this project will not interfere with any emergency response or evacuation plan. The increased employee traffic on the Dyerville Loop Road to/from Weott will not interfere with emergency response vehicles. The Dyerville Loop Rd., the first 1.5 miles of McCann Road from its intersection from Dyerville Loop Road, and Alderpoint Road are approved for use by the Humboldt County Public Works Department for commercial cannabis operations as the roads meet the functional capacity of a Category 4 road with pull outs and offers sufficient room for emergency vehicle traffic to pass. According to *Access Assessment for Compliance with Humboldt County Code Section 3112-12 - Fire Safe Regulations* (North Point Consulting Group, 2020, Appendix C) the McCann road from 1.5 miles to its termination in Rolling Meadows Ranch meets Roadway Category 2 standard and is functionally equivalent to a Category 4 Road, with the recommended improvements included in the report and the extremely low traffic volumes. The improvement consists of Modifying a cattle guard / currently unused gate to achieve a 14-foot width. In case of an emergency that impacts the project location, the project owner/employer will develop an Injury and Illness Prevention Plan (IIPP) that will include an emergency evacuation plan. In the case of wildfire, the project will use the electric bus (mentioned earlier in the report) as a method of employee evacuation to safety; therefore, the potential for employee traffic to interference with the emergency evacuation of the project area is eliminated.

g) Less than Significant Impact. This project will not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. This project does not include any residential buildings. Buildings will be built in open grasslands with open space between the forest canopy and the buildings. The commercial processing buildings will be permitted and built to code. The buildings will be generally flame resistant: processing buildings will be built with metal exterior and roofing; the greenhouses will be built with steel and rigid polycarbonate; polycarbonate greenhouse cladding is flame and heat resistant. The project description does not include any high-risk activities or components that might lead to an increased risk of fire. The high voltage power to the property will be designed and installed by P. G. & E. and it will be buried underground for increased fire safety. The electrical wiring will be done to code and performed by a licensed electrician. The project complies with the Humboldt County Fire Safe Ordinance. With the recommended improvements included in *Access Assessment for Compliance with Humboldt County Code Section 3112-12 - Fire Safe Regulations* (North Point Consulting Group, 2020, Appendix C) The road on the property that is used to access the project locations has been determined to be within conformance of Humboldt County Code Section 3112-12, the Fires Safe Regulations (Chapter 2 – Emergency Access). The entire roadway (from entrance off the McCann rd to the entrance off Alderpoint rd) meets Roadway Category 2 standard and is functionally equivalent to a Category 4 Road, with the recommended improvements included (in the above refenced report) and the extremely low traffic volumes. Turnaround points will be located at each facility. The access roads and project footprints shall be maintained in a state such that they are free of vegetation during times

of activity, fire safe buffers with reduced fuel loads shall be maintained around the project footprints, and all equipment shall be kept in a 'fire-safe' condition. The project is in a State Responsibility Area (SRA) that has been designated (CalFire) a 'very high fire hazard severity' area. See Wildfire section in this document for wildfire hazard discussion.

Cumulative Impact

The project, as proposed, will have no impact on hazards or hazardous waste and therefore will not have a cumulative impact on hazards & hazardous materials occurring in the area.

Mitigation None proposed.

HYDROLOGY AND WATER QUALITY

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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 that the project may impede sustainable groundwater management of the basin				X
c) 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:			X	
(i) result in substantial erosion or siltation onsite or offsite?			X	
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite			X	
(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; or			X	
(iv) 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

Setting

The project location is 5 miles East of Weott, on the North bank of the main stem of the Eel River. The Eel River is the third largest river system in all of California, and the Middle Main watershed itself encompasses 753 square miles of land and 504 miles of Strahler stream order classified streams. This project is located in this Middle Main Eel River planning watershed. The Middle Main Eel has an average precipitation of approximately 57 inches per year, receiving most of the precipitation during the winter months. This high seasonal rainfall, combined with a rapid runoff rate on unstable soils, delivers large amounts of sediments to the river. The Humboldt County General Plan Update (2017) describes the Eel River as one of the highest sediment producing rivers in the country due to heavy winter rainfall running and highly unstable soils. This is a characteristic of the area's geology. Humboldt County lists this watershed as a "low" priority in terms of the pollution control plan and Total Maximum Daily Load (TMDL) calculations.

According to the EPA's Middle Main Eel River and Tributaries TMDL (2005) document, one of the two "pollutant" factors requiring a TMDL is temperature. The EPA found, using shade and flow modeling, that the current natural stream temperatures are very similar to the estimated historical/natural stream temperatures and "the EPA concludes a TMDL for temperature is not needed in the main channel Eel (from Dos Rios to the South Fork)" However, the Middle Main Eel River does have an assigned sediment TMDL. While there is an allowable amount above natural sediment loads (125% for most Northern California Rivers), the Eel surpasses this and is at 146% of natural sediment loads (753 tons/square mile/year total loading divided by 516 tons/square mile/year natural sediment loading). Of that 753 tons, roads with poor design, failing stream crossings, gullies, etc. are responsible for 11%.

The EPA also analyzed the two pollutant factors, "temperature and sedimentation" for the major tributaries to the Middle Main Eel. While they found that sedimentation was variable for the tributaries and did not assign a TMDL, the EPA determined the temperature increases to be significant and has set a TMDL for all tributaries to the Middle Main Eel River: *TMDL = 66% shade (average number for all stream segments.)*

Within the project vicinity, there are multiple Class I, Class II and Class III streams. Two of the Class I (fish bearing) streams are named, Cameron Creek and Beatty Creek. All of the water features in the project areas have been mapped and classified using the definitions described in the State of California Forest Practices Act with water feature buffers informed by the State Water Board General Order (WQ 2017-0023-DWQ) and Humboldt County's Streamside Management Areas (SMAs). The project developments are plotted outside of the stream buffered areas. For more detailed delineations and maps of the streams and wetlands in the project area please see Figures 40-43 in the Biological Section).

NRM inspected and surveyed all watercourse crossings along approximately 12.9 miles of internal road within the Ranch that will be used for access to proposed cultivation sites (full report in Appendix K). This includes 2 entrance points from the end of McCann road, and access from Alderpoint Road (Figure 1). All roads are pre-existing. Crossings on the Rolling Meadows Ranch roads that do not access proposed cultivation sites were not inspected; crossings on sections of road not owned by Rolling Meadow Ranch (deeded easements) were not inspected as the crossings were evaluated and will be improved per the ongoing Jets timber harvest plan (THP 1-19-00119HUM, Appendix K). Careful inspection resulted in detection of 45 watercourse crossings. Of the 45 crossings, 11 are fill crossings with no culvert, 32 are culvert crossings, and two are bridges (Cameron Creek and Larabee Creek).

The bridge off the Alderpoint project access crosses Larabee Creek at the property boundary; it is currently

not safe for use and is in the process of being replaced. The bridge replacement is a crucial part of the overall ranch management and will provide access to planned timber operations; the Larabee Creek bridge replacement is required separately from this cannabis project. The Lake and Streambed Alteration Agreement for the bridge (LSAA 1600-2020-0285-R1) has been finalized (Appendix K). The second bridge is a one lane steel bridge that crosses Cameron Creek; it is in good condition. It is 13.5 feet wide, has a minimum of 15 feet of vertical clearance, "is structurally sufficient to carry loads imposed by emergency vehicles, [and] has unobstructed visibility and turnouts on either side" (Northpoint Consulting, 2020 Appendix C).

Of the 32 culverted crossings, 30 are considered under the recommended sized based on both the Rational Method and Bankfull Method and two are considered appropriately sized. The two (#10 & #11) appropriately sized culverted crossings are functioning but fill and hillside have eroded away from the outlets. Seven of the 30 undersized culverts are in good condition and do not show evidence of erosions due to being undersized. The bridge crossing Cameron Creek is in good condition and functioning. Natural Resource Management Corp. recommends installing new appropriately sized culverts for all fill crossings and replacing undersized, failing culvert crossings – 34 of the 45 crossings will require improvements. If the recommended 34 crossing are replaced, some of the crossings will need to occupy slightly more stream channel so that the road prism fill slopes are no greater than 65 percent and new culverts extend far enough for inlets and outlets to be rock armored. If the recommended 34 crossing are replaced the project will impact a total of 369.8 linear feet 717.7 square feet) of channel that is not currently impacted by road prism. (See Table 2 in *Stream Crossing Evaluation Summary*, NRM 2020, Appendix K). Implementing the upgrades for the 34 crossings outlined in *Stream Crossing Evaluation Summary*, (NRM 2020, Appendix K) will result in all of the stream crossings on the internal ranch roads used to access cannabis facilities meeting the standards set by and with the permission of the Regional Water Quality Resources Control Board (RWQCB), the California Department of Fish and Wildlife (CDFW), and the Army Corps of Engineers.

The Eel River and much of the Pacific Northwest experienced a record breaking flood event in 1964 that has been alternatively labeled the Christmas Flood and the Thousand Year Flood. Thirty-four counties in California were declared disaster areas and many towns in Humboldt county on the Eel River, including Weott, Holmes, Redcrest, Pepperwood, Scotia, Shively and more were severely affected. The county experienced unprecedented human fatalities and losses of structures, lumber and cattle. Estimates of the financial losses of the North Coast reached $175 million (McGlaughlin, 2014).

In 1982, Humboldt County adopted a compliance ordinance and began participation in the Flood Disaster Protection Act of 1973 (managed by FEMA). The County has adopted a building ordinance that regulates construction in the 100-year flood plains to limit future flood damages. Humboldt county requires all new proposed construction within the 100-yr flood plain to obtain a Flood Plain Development Permit as established in the Humboldt County Code, Section 335-3, Ordinance 2560.

The Middle Main Eel River has a 100 year flood plain in which building is controlled. The project proposes to locate two greenhouses, Facility #1, #2 within the 100 year flood plain. A designated floodway, meaning the portion of the floodplain of highest velocity and water depth and carrying greater regulatory restrictions, has not been identified in the area of the proposed project. Historically, near facilities #1 and #2, there were two previous cannabis cultivation sites located within this flood plain. Currently, there are, directly across

the river from the project, both residences, crop agriculture, and mixed light cannabis located within the flood plain (APN 217-181-029). Northpoint Consulting was retained to determine the Base Flood Elevation (BFE) at the impacted area. The October 2020 grading plan for Facilities #1 and #2 describe the BFE and describes an estimated 700 cubic yards of cut, 2000 cubic yards of fill, and retaining walls that will bring Facilities #1 and #2 above the BFE and protect them and the fill from flood impacts (Rolling Meadows Preliminary Grading Plan; Facilities #1 and #2; Appendix B).

Discussion

a) Less Than Significant Impact. The project will not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. The construction phase will not take place during the wet periods. Instream work related to stream crossing improvements will, when possible, take place when the streams are dry. In order to project possible sediment inputs during bed and bank work, agencies and consultants use standardized methodologies to predict and quantify sediment such as those described in the Rural Roads Handbook (Weaver, et al., 2015) and the CDFW Salmonid Stream Habitat Restoration Manual (Flosi et al., 2010). With respect to the Middle Main Eel River TMDL for sediment, any potential sediment inputs projected as possible results of any instream work will be subjected to a full review by the pertinent regulatory agencies (CDFW LSA permit, 401 reviewed by the RWQCB) before instream work is approved. In general, the agencies, including the County of Humboldt agree that bringing substandard crossings into compliance will result in an improved water quality environment over time because temporary sediment inputs from repairs are generally preferred to the potential or ongoing inputs from failing crossings. Bringing the 34 crossing up to current standards will reduce the ongoing sediment inputs from these crossing resulting in a positive impact on water quality.

Additionally, compliance with the State Water Resource and Control Board Order WQ 2017-0023 DWQ, requires that specific Winterization steps will be taken in preparation for the wet season (SWRCB WQ 2017-0023 DWQ, Section 2, #125-133). The SWRCB winterization includes, but is not limited to:

- Implementation of applicable Erosion Control and Soil Control Requirements (including the use of linear sediment controls and seeding and mulching of bare ground)
- Cessation of all heavy equipment use.
- The clearing and maintenance of all ditches and culverts

By design, the project addresses storm water runoff from the parking areas, roads, and greenhouses as well as irrigation runoff these in the following manner: Recent road maintenance improved road features (inboard ditches, sloping) and added rock to limit runoff and sediment mobilization from the project roads. There will be one main gravel parking area that will accommodate employee parking for up to 20 vehicles and additional parking at each facility area (Site Plans, Appendix A); parking areas will be properly drained and sloped away from surface waters. The parking areas will be rocked to appropriate standards. Engineered flats for greenhouses and facilities will have a variety of water management tools to manage water and maintain water quality; these may include outsloping, French drains, infiltration trenches, or other drainage systems.

Greenhouses will be fully enclosed without hardened floors; water will be delivered through drip irrigation into pots on the ground or on benches and monitored by employees. No agricultural runoff will be produced.

The sides of the greenhouses will be flush with the leveled greenhouse pad to ensure that any water that escapes from an accidental leak or spill in the planting area will be trapped inside the greenhouse.

Storm water from roof runoff (gutter connected greenhouses) will be stored near each greenhouse site in hard sided water storage tanks. Each greenhouse will have four (4) 5,000 gallons storage tanks. There will be 320,000 gallons of hard sided storage tanks for rainwater catchment on site (16 greenhouses). This stored rainwater water will be generally used for summertime landscaping and lawn maintenance around the facilities as well as fire protection and supplemental water for dust mitigation and irrigation. Once storage capacity is reached water will travel through engineered French drains and/or infiltration trenches and be allowed to infiltrate into native soils and natural slopes without causing erosion or substantially altering the hydrology of the site.

The parking spaces (locations found on Plot Plan, Appendix A) and pathways (approximately 6 to 12-feet wide space on the access side of each greenhouse) around and between greenhouses will be covered in gravel or wood chips to provide a stable, non-erodible, year-round surface for walking and driving small electric utility vehicles. Areas outside of these parking spaces and pathways will be vegetated with grasses.

Adherence to the Porter- Cologne Water Quality Control Act, Water Code section 13000, et seq., and the Federal Clean Water Act 301 et seq. (33 U.S.C. section 1251, 1311, 1344 et seq.) the Regional Water Quality Control Board or the State Water Resources Control Board and requirements of the permitting agencies will ensure that water quality is not degraded. A Storm Water Protection Plan (SWPP) will also be developed and submitted to the Water board and other responsible agencies as a component of the project's engineering plans. Specific details regarding rainwater capture, storage overflow mechanisms will be addressed in the plans. In addition, the 401 permit will include a disturbed area Revegetation and Monitoring Plan as required by the SWQCB order WQ-2019-001-DWQ.

b) No Impact. The projects will not substantially deplete decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. All water for irrigation and domestic use will be supplied from ground water wells, and rainwater catchment. In June 2019, the applicant drilled three wells on Parcel 1 and tested for yield. Well #1 was drilled to a depth of 240-feet; it yielded 20gmp. Well #2 was drilled to a depth of 200-feet; it yielded 30gpm. Well #3 was drilled to a depth of 270-feet; it yielded 13gmp. Water use for irrigation is estimated at 780 gallons per day for each greenhouse. It is estimated that an additional 40 gallons a day will be used by employees for personal use at each processing building; The total daily water use for project operations will be 12,680 gallons per day for all 16 greenhouses and employees; for year-round operations (365 days a year), the project would use approximately 4,628,200 gallons of water Assuming year-round flow rates as tested, the project could produce a combined average of 63gpm; 63gpm would result in 90,720 gallons in 24hrs and a more than sufficient water supply for the projected project needs. See Appendix E

for well reports.

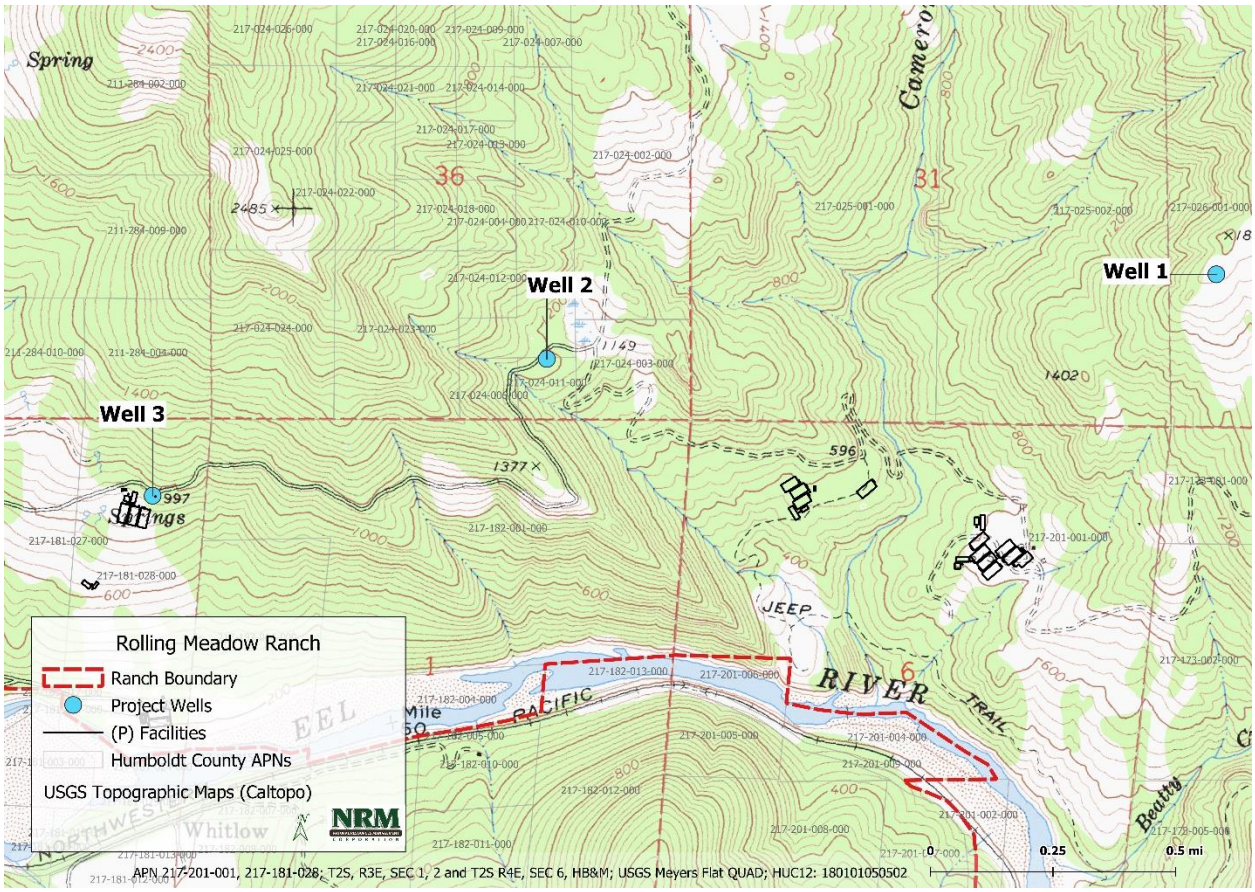

Figure 61. Wells, Rolling Meadow Ranch; drilled June 2019 by Fitch Drilling.

According to David Fisch at Fisch Drilling who drilled the wells "The wells were completed in the Franciscan Sandstone. The wells are drilled into perched bedrock with no hydraulic connection to any surface water or any part of a larger shallow homogeneous aquifer. Considering the depth of the well, it appears to fall in line with the guidelines of a non-jurisdictional well of similar depth in the surrounding area" (see letters, Appendix E).

The project wells are not drawing from a contiguous shallow aquifer as they are spread over miles of hilly terrain at different elevations. Well #3 is at approximately 1000-feet in elevation; Well #2, is at approximately 1200-feet and Well #1 is at approximately 1700-feet (Figure 61).

The nearest identified ground water basin is the Weott Town Basin (1-031); this basin is approximately 2.5 miles away from the nearest project well, Well #3. In 2014, California Governor, Jerry Brown signed the Sustainable Groundwater Management Act (SGMA). Under the SGMA, the state has identified the Weott Town Basin to be a very low priority basin. Some of the factors contributing to the 'very low priority' designation include low population, low population growth predictions, a lack of exceedances and overdrafts, and the lack of documented water quality degradation. At this time, there is no active monitoring of this basin and, while the surface size of the basin (3,655 Acres) is known, the volume of the Basin and its hydrologic connectivity to surface features and surrounding ground water is not well understood (CA

Groundwater Bulletin 118, North Coast Hydrologic Region). Based on their geographic position, the project wells will not impact the Weott Town Area Groundwater Basin. See Figure 62 below.

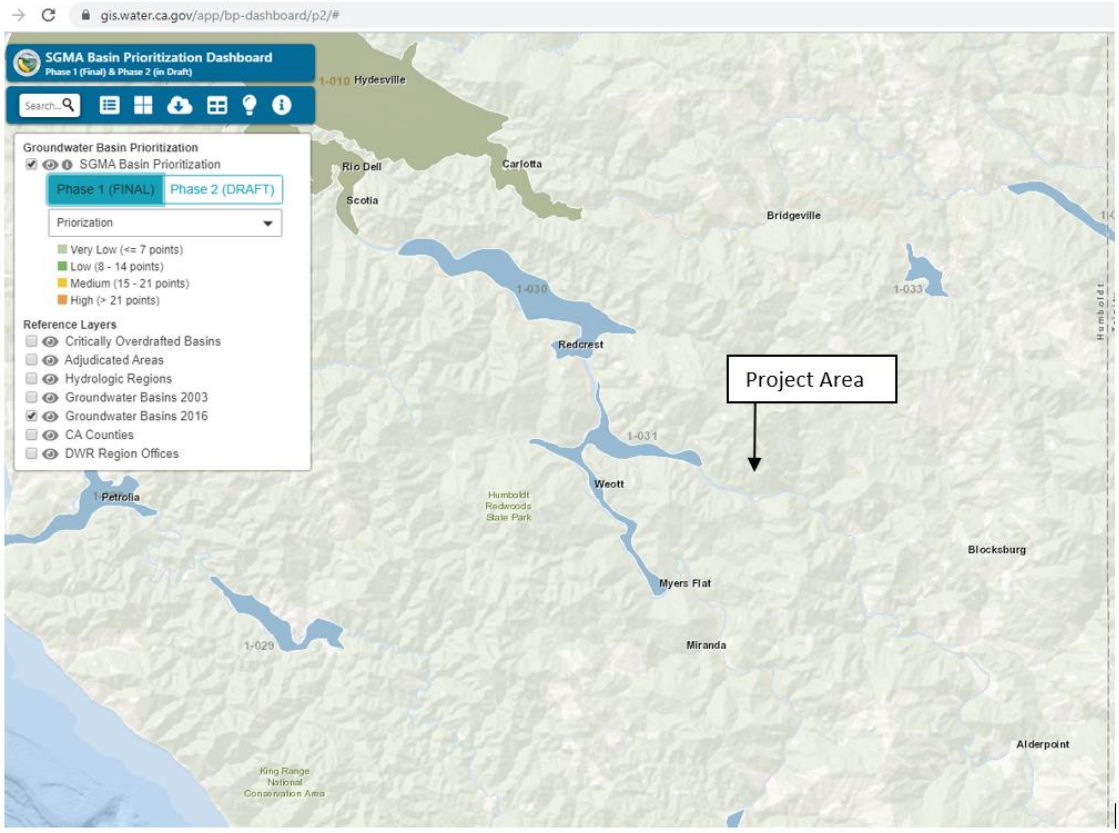

Figure 62. Weott Town Area Groundwater Basin, 1-031, very low priority basin; Ca Dept of Water Resources, Draft 2018 Basin Prioritization Results; http://gis.water.ca.gov, Accessed November 2019.

c) Less Than Significant Impact.

c)(i)(ii). The project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on or off-site or in flooding on or offsite. No creeks or rivers will be altered by the facilities. Setbacks required by the County of Humboldt's Streamside Management Areas and the State Water Board have been considered during the planning of this project and observed. Please see Figures 40-43 from Biological section above for stream, and wetland buffers. The existing road network in the project area includes stream crossings and work on these stream crossings is expected to occur at a later date and pending analysis and permits by the Water Board, CDFW, and the Army Corps of Engineers. The stream crossing on the project will provide that all the crossings be adequately sized for the 100 year flood interval. This step will reduce the potential for erosion and onsite flooding. The crossings and the required work will be done to the standards and with the approval of the County of Humboldt, CDFW (LSAS 1600), the Army Corps of Engineers (404) and the State Water Board (401).

The impervious surfaces that will be added to the site are the rooftops of the greenhouses and the processing facilities. The stormwater from these facilities will be captured and used, with overflow allowed to infiltrate into the ground in the imitation of natural circumstances; the project will thereby conserve the existing

drainage pattern and prevent erosion. The focus of the drainage systems on the infiltration of water versus the diversion of water means that the project will not contribute significantly to on or off site flooding.

c(iii) The project will not 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 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. There is no planned stormwater drainage system; the natural drainage basin is the Middle Main Eel River. The project will produce wastewater from toilets and sinks. Each trimming and drying building will have a toilet and sink facilities for employees, and these will have a permitted septic system. The project will add impermeable rooftops that could contribute pollutants in the form of fines. To eliminate potential polluted runoff, the project will engineer an integrated storm water system into the design of the buildings and flats. The storm water will be directed to infiltration zones and will not deliver to waters of the state. The project will not require a national pollutant Discharge Elimination System (NPDES) permit. Adherence to the Porter- Cologne Water Quality Control Act, Water Code section 13000, et seq., and the Federal Clean Water Act 301 et seq. (33 U.S.C. section 1251, 1311, 1344 et seq.) the Regional Water Quality Control Board or the State Water Resources Control Board and requirements of the permitting agencies will ensure that water quality is not degraded.

c(iv) The project will not 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 impede or redirect flood flows. The project will observe setback for all water ways onsite (Figure 40-43). The rainwater will be captured for use with overflow allowed to infiltrate into the ground. The project sites are located on the South face of a slope with shoulders that slope up and away from the Eel River. The project does propose locating two greenhouses (Facilities #1, #2) within or partially within the 100 year flood zone of the Eel River (Figure 58). The project will comply with the requirements of the county to secure a Flood Plain Development Permit and will meet county requirements for Flood Hazard Reduction (Title III, Division 3, Chapter 5: Flood Damage Prevention). The project has investigated the BFE and has a preliminary grading plan (Appendix B). The total amount of fill that will be added to the site to bring the greenhouses above the BFE is approximately 1,100 cubic yards (2000cy fill less 900 cy cut). Distributed over the footprint of both greenhouses per the grading plan, this amount is not expected to redirect or alter flood flows in a way that will increase flood heights or add to the threat to public safety.

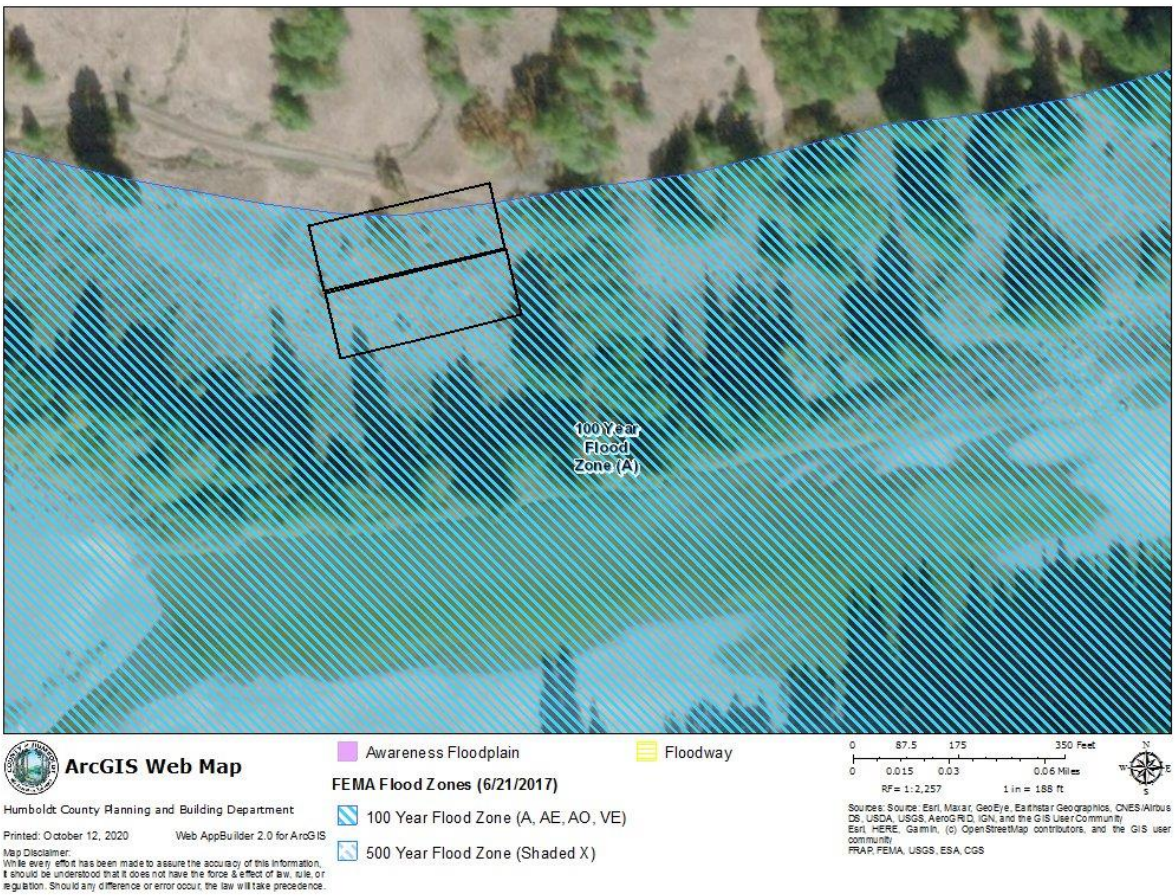

Figure 63. FEMA 100 year Flood Zone for Middle Main Eel River and approximate locations of proposed project facilities; Humboldt WebGIS, Jan 2020.

d) Less Than Significant Impact. The project will not be a risk of significant pollutant release in case of project inundation because the project does not propose to store chemicals in significance amounts in the greenhouses (Facility #1, #2), and no processing buildings will be located in the flood zone. The project proposes to raise the facilities up above the flood plain level making inundation unlikely (Appendix B). The greenhouse facilities in the flood zone will contain fans, lights, irrigation tubing, soil, plants in bags, benches, and tools for tending plants (small hand tools). The risk of pollutant release would be confined to the nutrients in the soil and the soil itself. These risks are not significant in that nutrients in the soil are balanced for plant growth and limited in amount. The flood event itself will result in an undetermined amount of soil erosion and displacement, of which the greenhouse soils would not constitute a significant pollutant release.

e) No Impact. The project will not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The nearest groundwater basin the Weott Town Basin; this basin does not have a groundwater management plan. See above (b) for more details on the Weott Town Basin. Adherence to the Porter- Cologne Water Quality Control Act, Water Code section 13000, et seq., and the Federal Clean Water Act 301 et seq. (33 U.S.C. section 1251, 1311, 1344 et seq.) the Regional Water Quality Control Board or the State Water Resources Control Board and requirements of the permitting

agencies will ensure that water quality is not degraded.

Cumulative Effect

The project is new construction and therefore, built to the most current and most environmentally protective code. The grading for the site, the building designs, the storm water systems and the septic will be designed and reviewed by professional engineers. There will be two structures built on the 100 year Flood Plain of the Middle Main Eel River; these buildings will be built with the additional guidelines of the Flood Plain Development Permit, and will therefore not result in increased danger to human lives or property by their construction. The water supply for the project will come in the form of three wells. They are cased down to bedrock and draw from perched aquifers with no hydrologic connectivity; they will have a less than significant impact on ground water level and recharge. Due to the size of the ranch, 7110 acres, the project can confirm that no other development that requires water will occur in the immediate vicinity. This project will have no significant cumulative impact on hydrology and water quality.

Mitigation

None Proposed.

LAND USE AND PLANNING

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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

Setting

The project site is located in rural Humboldt County directly North of the Middle Main Eel River and approximately 5 miles East of Hwy 101. No easements through the property have been granted by the property owner; no prescriptive easements have been claimed nor, to the knowledge of the property owner, are any prescriptive easements currently in place. The 7,110 acres of land, Rolling Meadows Ranch, is not associated with any type of binding Habitat Conservation Plan which may inhibit development or access as part of contracted mitigations.

Discussion

a) No Impact. The projects will not physically divide an established community. The site is located entirely within private land, on private roads within a rural community with no established community centers. The access through the ranch was limited before the project by gates on private land. The access through the ranch will maintained in a similar manner; the project will use gates and a security presence to limit access to the ranch and project areas. The project will not physically divide an established community. Agricultural and grazing operations as well as past cannabis cultivation have historically been part of the rural culture within that area. These projects are consistent with past and present land use in the area.

b) No Impact The project will not cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The proposed development will take place on one legal parcel with Agriculture Exclusive (AE) and Timber Production Zone (TPZ) designations. The Humboldt County General Plan specifies two land use designations for APNs on the legal parcel, Agricultural Grazing (AG) and Residential Agriculture (RA). Both designations allow for general and intensive agricultural use. Adjacent lands to the ranch are zoned similar to the project area and utilized generally for agriculture (including cannabis cultivation), rural residential, timber production, ranching, open space, and wildlife habitat.

The parcel that contains the project areas is privately owned and managed. The property included in the project area is not included in any habitat conservation plan or natural community conservation plan nor does it carry the legally binding mitigations from any previous HCP. In nearby Scotia, The Humboldt Redwood Company (HRC) has a Habitat Conservation Plan in place; According to their 2009 Management Plan, and the 2015 updated version of their Habitat Conservation Plan (HCP), their current landholdings and

HCP does not impact the proposed agricultural and associated activities of the project. The HRC does not mange land near the project area. Sierra Pacific Industries is working on a Habitat Conservation Plan in conjunction with an incidental take permit (ITP) application for the federally threatened Northern Spotted Owl and the California spotted owl. According to their website and the Fish and Wildlife Service public scoping documents, their landholdings are minimal in the vicinity of the project area and are not expected to impact the project. Green Diamond, another large timber operator in Humboldt County, does not own property South of Rio Dell. The project sites are not a part of or adjacent to any Habitat Conservation Plan, Natural Community Conservation Plan or Safe Harbor Agreements.

The project is consistent with the Humboldt County General Plan, as referenced throughout the analysis in this document. The project, with mitigations described within this document, meets the requirements of the Humboldt County Commercial Medical Marijuana Land Use Ordinance No. 2559 (known as CMMLU 1.0). The project is enrolled in the State Water Board Cannabis General Order (WQ-2019-001-DWQ) and will comply all necessary permitting and improvements to be described by the CDFW LSA and SWRCB Clean Water Act (401) permits. The project will not conflict with any land use policy plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Cumulative Effect

These projects will not physically divide an established community since the projects consists of activities historically and currently present in the surrounding area. The projects will not conflict with any applicable land use plan, policy, or regulation of any agency with jurisdiction over the project; the project will not have a cumulatively considerable impact.

Mitigation: None proposed.

NOISE

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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 plans of other agencies?			X	
b) Generation of excessive groundborne vibration or groundborne 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

Setting:

The following description and analysis of noise created by the proposed project and its components relies on several basic definitions of sound and types of sound measurements.

A-weighted decibels (dBA)- the expression of the perceived loudness of sounds by the human ear.
Ambient - in this document, refers to the typical background sounds at the project location.
Decibels (dB) - express sound intensity as a logarithmic unit of sound.

The project area experiences general ambient noise from wind, birds, insects, the river, and roads. Above ambient noise levels are generated by timber harvesting activity and agricultural production, activities common to the area. The hills across from the project have multiple greenhouses and there is a large agriculture site with greenhouses that is present directly across the river from the project. There are also permitted gravel mining parcels downriver of the project area (see SMARA map from previous section).

The sensitive receptors in the vicinity of the project sites include rural residences and farm employees on the surrounding properties and the potential river recreators. The few neighbors adjacent to the site are concentrated across the river (South of the project area) and off of McCann Road (East). This section discusses the nearest sensitive receptor to proposed project facilities, the neighbor(s) located approximately 900-feet across the river from Facility #1 and #2. Sensitive wildlife is discussed in the Biological section.

The earthwork component (8-12 weeks) of this project will include a front-end loader, excavator, bulldozer, a water truck, a dump truck, and concrete trucks. No pile drivers or other extremely high sound level devices will be employed. This will result in temporary, above ambient noise levels.

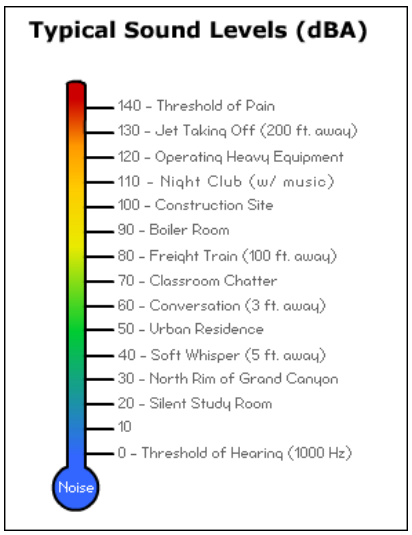

Figure 64 Typical sound levels; retrieved 4/19 from OSHA.gov

Noise from ongoing project operations will come from the general occupation of the project areas. All work will take place inside the greenhouses or the processing buildings. It is generally agreed that conversation and background music in an office is around 60 dBA (Figure 64). The work taking place inside of the greenhouses and processing buildings will diminish the approximate 60 dBA from employees speaking etc. Apart from employees and the electric bus, the project will have only two other predictable sources of sound: greenhouse fans for ventilation and the exercise cycle of the emergency generators.

To understand the potential impacts of the noise from the fans and the emergency generators on sensitive receptors (including neighbors and wildlife) the location of the source is required. The greenhouses will be located in open meadows on a large property where the Southern property boundary is the closest (Figure 65). Facilities #1 and #2 are closest to the property line at approximately 260-feet and away from the property boundary.

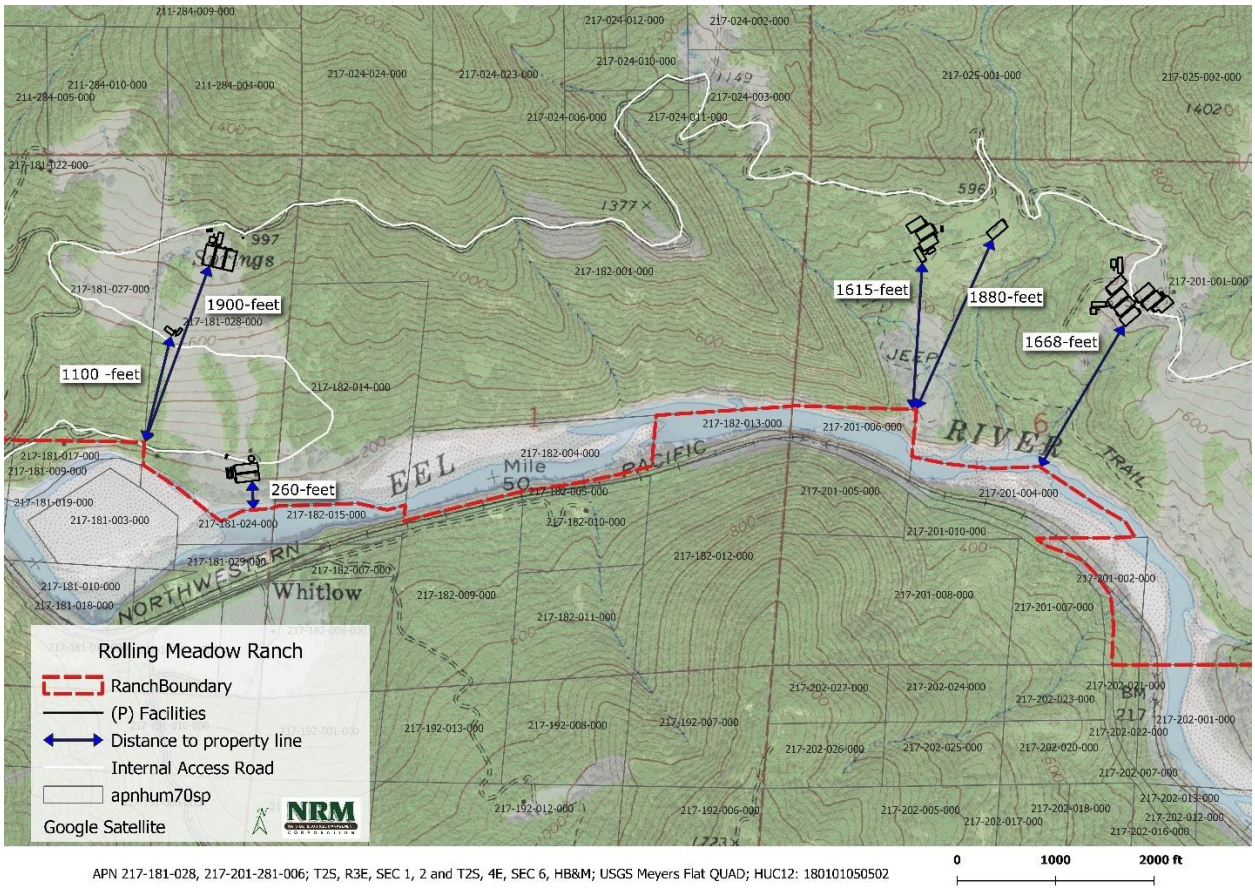

Figure 65. Distance (feet) of project facilities to nearest parcel boundary

Generators

The standby generators (4 total) on the project will be 45KW Generac propane generators. The generators will only be used for fire suppression in an emergency if the PG&E grid power is lost. They will only be used to run fire suppression water pumps. These generators are designed to attenuate noise and are rated at 73 dBA at 23ft when operating at a normal load. The fire emergencies that may occur on the project are impossible to predict and therefore, the frequency and length of time that the generators will operate at full power is not calculatable. What can be defined, however, is the noise that the generators will make when operating for fire suppression. The noise that the generators would produce when running at a normal load to power water pumps during a fire is outlined in Table 13 below. The general method for calculating noise from a point source, like the generator, is to decrease the noise level by 6 dBA (decibels, a measure of perceived noise) every doubling of the distance from the source. The emergency generator for Facilities #1 -# 2 will be located on the west side of Facility #1. This generator at Facility #1 located closer to the property line than all other generators proposed by the project (4 total) and therefore, the analysis of this generator's noise impact on neighbors represents the loudest possible noise impact that any project neighbor could expect. The generator is approximately 373-feet away from the north bank of the Eel River. Running at with a normal load, during a fire emergency, the generator would be under 49dBA at the river's edge.

Outside of a fire emergency, the generators will be inoperative except when engaged in the maintenance cycle. According to the manufacture, in order to maintain readiness, the generators will automatically turn on and run for five minutes every two weeks. This "exercise cycle" runs the generator at a lower RPM. As a result, it has a lower decibel output (61 dBA at 23-feet during the "exercise cycle"). To maintain emergency readiness, each generator would run for a five minute interval 26 times a year, for a yearly total of 130 minutes (2 hours, 10 minutes) a year. The generator is approximately 300-feet away from the north bank of the Eel River. Running in exercise mode, for five minutes every two weeks, the generator would be under 37 dBA at the river's edge. Table 17 contains the noise estimates (dBA) over distance (feet) for the Generac Protector 45kW LP generators.

Table 17. Generac 45kW LP Protector Generator: Noise estimates

Generac Protector 45kW LP generator Normal load **(Runs during fire suppression)**	*feet*	23	46	92	184	368	736	1472	2,944
	decibels	73	67	61	55	49	43	37	31
Generac Protector 45kW LP generator Exercise Mode **(Runs 5-min every 2 weeks)**	*feet*	23	46	92	184	368	736	1472	2944
	decibels	61	55	49	43	37	31	25	19

Fans

The greenhouses on the project, like most greenhouses, will require environmental controls for managing interior conditions and product performance. Fans are the primary source of air exchange in the greenhouses and have the most potential to impact total project noise. According to the engineers at Grow-Tech Systems Inc (the project's greenhouse supplier), each greenhouse bay will require two (2) QuietAire 56" fans with 1.5HP motors on the bay end walls and one (1) QuietAire 30" fan with a1/2 HP motor at the gable. To create

greenhouses to the sizes demanded by the project (19,584, 17,568, 17,280, and 17424 sq. ft.), Grow-Tech Systems has put together specialized greenhouse 'sets' composed of multiple, gutter connected greenhouse bays. The greenhouses will have six (6) bays of varying widths and require twelve (12) large fans (endwall primary exhaust fans) and six (6) gable fans. The endwall fans at Facilities #1 and #2 will be on the North side each greenhouse. See Figures 35 through 38 in the biological resource section for additional endwall fan placement.

As per the communication from CRS Supply Group (Appendix D) the fans at the set distances in the greenhouse plans (Figure 61) will not interact with one another in a cumulative manner. Additionally, each fan would act as its own point source. The noise from each individual fan would therefore be analyzed alone (Table 18). The noise produced by a single fan operating at 100% speed will produce an overall sound level of 53dBA at 10-feet from the fan dropping to 47dB at 20 feet. As sound generally decreases by 6 decibels every doubling of the distance from a point source, the sound from one fan at the river's edge (around 230-feet from the South wall of the Facility #2) would be between 23 and 29 dBA; it would be barely perceptible. This low level of sound would be further diminished when combined with topographic features, physical barriers (fans are located on the North walls of the greenhouses) and the ambient noise of the natural site (wind, birds, insects, etc.).

Table 18. Greenhouse exhaust fan dBA analysis -one (1) fan as point source

QuietAire 56"	feet	10	20	40	80	160	320	640	1280
@100% speed	decibels	53	47	41	35	29	23	17	11

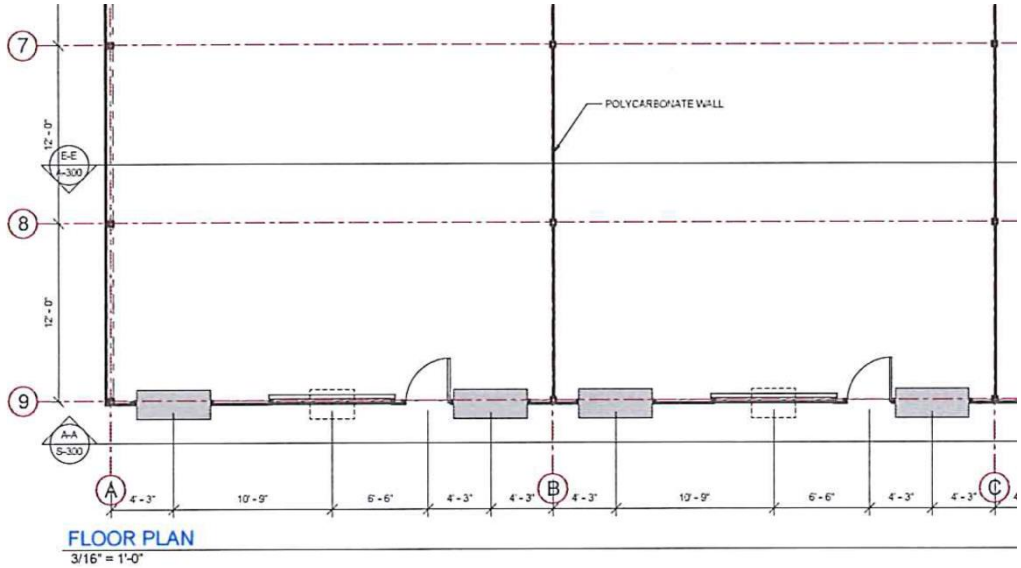

Figure 66. Endwall fan locations; Detail from Gro-Tech Floor Plan Sample, Appendix D.

Discussion:

a) Less than Significant Impact. The project will not generate 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 plans of other agencies. The noise standards in the Humboldt County General Plan Framework Plan are based on EPA recommendations. Section 3240 of the General Plan states*:*

> *"The Environmental Protection Agency identifies 45 Ldn indoors and 55 Ldn outdoors as the maximum level below which no effects on public health and welfare occur. Ldn is the Day-Night Noise Level. Ldn is the average sound level in decibels, excluding frequencies beyond the range of the human ear, during a 24-hour period with a 10dB weighting applied to nighttime sound levels. A standard construction wood frame house reduces noise transmission by 15dB* (20dB with double pane windows). *Since interior noise levels for residences are not to exceed 45dB, the maximum acceptable exterior noise level for residences is 60dB* (65dB with double pane windows) *without any additional insulation being required. Of course, this would vary depending on the land use designation, adjacent uses, distance to noise source, and intervening topography, vegetation, and other buffers."*

The noise description in the Humboldt county Ordinance 2559 section 55.4.11 o), Performance Standards for all CMMLUO Cultivation and Processing Operations states the following:

> *"The noise produced by a generator used for cannabis cultivation shall not be audible by humans from neighboring residences. The combined decibel level for all noise sources, including generators, measured at the property line shall be no more than 60 decibels."*

Construction: Since Ldn is a daily average, allowable noise levels can increase in relation to shorter periods of time. For the powerline trenching and grading projects, noise levels will vary in intensity and length depending on the equipment being used and the task being performed. Table 19 describes some of the expected construction equipment and the noise produced. The project construction does not include any high intensity noise sources, like pile drivers or jack hammers. The project construction will be short term in nature; it should be completed in approximately two to three months. The impact on the sensitive receptors, neighbors, will be less than significant as the noise level will be less than 60dBA by the time it reaches the nearest neighbor across the river. The nearest neighbor to the project is approximately 900-feet from Facility #1 and #2). The conclusions made in this section about the nearest neighbor at 900-feet across the river should be applied to all neighbors as the nearest neighbor scenario is the scenario that describes the largest possible impact.

Table 19. Noise Levels (dBA) for Project Construction

Backhoe	feet	50	100	200	400	800	1600
	decibels	80	74	68	62	56	50
Bulldozer	feet	50	100	200	400	800	1600
	decibels	85	79	73	67	61	55
Concrete	feet	50	100	200	400	800	1600
	decibels	85	79	73	67	61	55
Dump Truck	feet	50	100	200	400	800	1600
	decibels	84	78	72	66	60	54

- Source: Federal Highway Administration Construction Noise Handbook (https://nrc.gov)

- The project facility closest to the property line is greenhouse #2 at **260 ft,** the next closet project facility is greenhouse #2.
- Note: These noise level reductions are relevant to distance from the site only and do not take the noise reduction factor such as change in topography, vegetative cover, and stockpile buffers, all of which would cause the noise levels to be reduced.

The project areas sit within a large 7,110 acres ranch. The Greenhouse nearest the property boundary and most able to impact nearby residents are Facilities #1, #2; they are 900-feet away from the nearest neighbor. The construction at the sites nearest these residences would be temporary in nature and, due to the large distances, would not exceed 61dBA at its peak. This is within the acceptable limit outlined in Humboldt County's General Plan; therefore, the construction phase will have a less than significant impact on temporary ambient noise levels.

Operation:

Noise from ongoing project operations will come from the general occupation of the project areas, the fans used in the greenhouses, and from the emergency generator running its 'exercise mode'. As discussed above, the ranch facilities are removed from human neighbors and the property line. The fans from Facility #1, #2 the closest to the property line, are expected to produce between 23 and 29dBA at the river's edge/property line. The generator, located on the west side of Facility #2, would produce around 37 dBA at the river's edge/property line when running its exercise cycle. The interaction between the two sources could add additional decibels. The largest difference between the generator and fan noise levels is 13dBA; the smallest difference is 8dBA. Using the table below to 'add' sound (adding signals, Table 20), the potential increase in noise caused by the interaction of the fans and the generator in exercise mode is between 0 and 0.5 decibels; the maximum noise level at the property line is calculated to be 37.5 dBA.

Table 20. Adding sources with different strengths

Signal Level Difference between two Sources *(dB)*	**Decibels to Add to the Highest Signal Level *(dB)***
0	3
1	2.5
2	2
3	2
4	1.5
5	1
6	1
7	1
8	0.5
9	0.5
10	0.5
> 10	0

Source: Engineering Tool Box (https://www.engineeringtoolbox.com), accessed on 12/11/18)

Nosie levels generated by these projects will not subject nearby residences outdoor levels in excess of the maximum acceptable level of 60 dBA. The day to day operations of the project, including emergency generators running in exercise mode and fans, will not subject nearby residences to outdoor levels in excess

of 37.5 dBA. In practice, it is likely that these numbers will be lower at the receiving point for several reasons. First, the fans at Facilities #1 and #2 will be oriented away from the river (they will be located on the north side of the greenhouses); second, topographical barriers and other limiting factors (vegetation type, type and size of tree stands, etc.) have not been considered. The project will not expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance.

The project will cause an increase in the permanent ambient noise levels in the project and immediately sounding area. Noise will come from the operation of the electric van, passenger cars parking as well as the human occupation of the site (talking, laughing, phone ringing, etc.), use of greenhouse exhaust fans, and the occasional exercise of the emergency generators. It is also true that the current ambient baseline for the area is not that of an empty forest or grassland, which would be very low, but demonstrates more similarity to that of an agricultural area. The nearest residence (at 900ft from Facility #1 and #2) has agriculture operations with agricultural fields and cannabis greenhouses with fans (Sequoia River Farms, LLC, Mixed Light Interim Permit Issued 9/11/2018). The conclusions made in this section about the nearest neighbor at approximately 900-feet across the river should be applied to all property line neighbors as this nearest neighbor scenario is the scenario that describes the largest possible impact. The project will cause an increase in the permanent ambient noise levels in the immediately surrounding area, but the impact will be less than significant on nearby sensitive receptors (neighbors) and will not violate any established standards.

b) No Impact. The project will not expose persons to excessive groundborne noise levels. The project does not propose any operations that could contribute to excessive groundborne noise or effects. The greenhouses are stationary with fans and water pipes. The fans will be appropriately braced so as to eliminate any vibration of the greenhouses and therefore eliminate the potential for groundborne noise to impact neighboring structures or residents. The increased traffic on the Dyerville Loop will mainly be passenger car traffic with occasional (2 times per week on way) box truck traffic. The speed limit is 25mph and the road is paved; the reduced speed and the pavement is expected to limit the possibility of groundborne noise travel.

c) No Impact The project is not located within an airport land use compatibility zone, or within the vicinity of a private airstrip. The nearest airstrip is in the town of Dinsmore, approximately 14 miles North Northeast of the project location.

Cumulative Effect

The owner's decision to employ PG&E to bring power to the project has important effect of eliminating the need for generators as the power source on the project and therefore, eliminating a potentially cumulative significant noise impact on the area. The 45KW Generac propane generators that the project will employ only in case of a fire, and will be less than 37 dBA (exercise mode) when the sound reaches the river's edge/property line and less than 31 dBA when it reaches the nearest neighbors across the water (900-feet away; Table 17). This low level of noise from the generator will only be apparent for five minutes every two weeks. The fans in each greenhouse will increase the ambient noise level in the immediate area around the Facilities themselves. The fan noise will be reduced to approximately 17dBA by the time the sound reaches the nearest neighbor (900-feet away, Table 18). The noise produced by the project will be well under the county mandated decibel limits. The size of the Rolling Meadow Ranch property, 7110 acres, eliminates the possibility of any additional projects adding to the ambient noise level in the immediate vicinity and all sound attenuates over distance. The project noise will not have a significant cumulative impact.

Mitigation: None proposed

POPULATION AND HOUSING

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in the 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

Setting:

The project is located in rural southern Humboldt County. The project area and the surrounding areas have been historically used for agriculture, logging, and cattle and sheep ranching. On the ranch there is a network of private roads currently used as access roads, as well as older roads from past logging operations. The nearest communities are Weott, Meyers Flat, Fort Seward, and Blocksburg. All of these towns have some commercial areas and centralized residential housing with most members of the communities spread throughout the rural landscape. This landscape currently includes cannabis cultivation operations. A large portion of the residents within these communities already work in the cannabis industry. It is estimated that the proposed projects will employee approximately 30 people (with 22 onsite per day) to be sourced from the currently under an unemployed people in the surrounding area. The project does not propose to build new housing. The average unemployment rate for Humboldt County in November 2019 was 3% (CA EDD, 2019). While this in an exceptionally low unemployment rate for Humboldt County, there are still, according to the California Employment Development Department, almost 2,000 people fully unemployed (not even one hour of paid work) that are actively looking for work. Notably, laborers in the county that are not easily tracked (marginal or discouraged workers) and laborers working one to 15 hours a week are not counted as "unemployed" by CA EDD in by this standard unemployment rate (U3) (CA EDD, 2020).

Discussion

a) No Impact. The project will not induce substantial unplanned population growth in an area, either directly (e.g. by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure). The proposed project will not produce any significant growth inducing impacts. Growth inducing impacts are generally caused by projects that have a direct or indirect effect on economic growth, population growth, or when the project taxes community service facilities which require upgrades beyond the existing remaining capacity. The project owner will extend PG&E power via underground lines from the existing point on the ranch to a termination point near Facilities #11-16. (Figure 14). This power supply will be constructed entirely on private land and will not be available to other landowners. Private roads on the project property will be upgraded to meet the Cal Fire, Fire Safe Ordinance, but will not be extended beyond their existing lengths or established in new locations.

Currently in the surrounding areas there are cannabis cultivation operations employing many people. As some of these operations disappear, the area should see a net loss in the number of people needing housing. In some cases, the illegal operations are eradicated by virtue of county action. In 2018, Humboldt County sent out 330 'Cease and Desist' violations to county residents were suspected of growing illegally (Marijuana Business Daily, 2018). In November 2019, the county sent 470 letters to county residents that were suspected of growing cannabis illegally (Lincoln, 2019). There are multiple sites on the Rolling Meadow Ranch property itself, where previously illegal cannabis growing was taking place (Plot Plan, Appendix A). To some extent, the project will replace this previously existing industry and the employees that were previously attending illegal cannabis gardens. The economic benefits of these projects would not be such that additional people might be attracted to the area. These projects will not be growth inducing; they will not require new housing.

b) No Impact. The project will not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. The project will not displace any existing housing or people. There is no housing located within the project area.

Cumulative Effect

The proposed project will not produce any significant growth inducing impacts and will not displace substantial number of existing housing or people. Therefore, the project will not cause a cumulatively considerable impact or addition to the population and housing in the area surrounding the project site.

Mitigation

None Proposed.

PUBLIC SERVICES

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of 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:				
a) Fire protection?			X	
b) Police protection?			X	
c) Schools?				X
d) Parks?				X
e) Other public facilities?				X

Setting

Located in rural Humboldt County, the isolated location provides the project with a degree of anonymity that may reduce the risk of the project becoming a target of criminal intent. The rural nature of the site also reduces the breadth of impact that the project can have on the surrounding population as the surrounding population is very small (8 people per square mile). The intensity of the impact is also mitigated by the large scale of land that the facilities will be built on. Rolling Meadow Ranch is 7,110 acres; the developed project sites, while limited to the Southern portion of the Ranch, are spread over miles of land. The isolated location can also pose some limitations in terms of public services.

Discussion

This project will not 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**.**

a) Fire Protection The project is located in rural southern Humboldt. It is not located within a community services district. It is located within a State Responsibility Area (SRA); therefore, fire protection services for wildland fires are provided by the California Department of Forestry and Fire Protection (CALFIRE). The Fire Severity rating is Very High according to the Humboldt County Web GIS source. Cal Fire has responsibility for enforcement of Fire Safe Standards as required by Public Resources Code (PRC) 4290 and 4291. The nearest Cal Fire station is located in Weott, 12 miles away. Cal Fire would reach the project location via Dyerville Loop and McCann Roads. Google approximates that a vehicle, traveling the speed limit, would take 35 minutes to reach Facilities #1-6 and 40 min to reach Facilities #7-16 from the Cal Fire station in Weott. During the winter when the existing low water McCann Bridge is inaccessible and in the years before the new McCann Bridge is built, the project will use the Alderpoint road to access the project sites. The McCann bridge is only inaccessible during rainy weather when the threat of wildfire would be nonexistent. In addition to a land attack, Cal Fire has an air attack option for fighting wildland fires in remote areas. The Cal Fire Air Attack Base in Rohnerville is 23 miles North, Northwest of the project location. According to the Cal Fire Strategic Fire Plan Humboldt-Del-Norte Unit, this Cal Fire Air Attack facility will provide "rapid initial attack … where steep terrain and narrow, winding roads greatly increase ground response times. In such situations, aircraft assigned to the Humboldt- Del Norte Unit are often at scene and applying water or retardant before engines and dozers arrive, cooling the fire and giving ground resources the ability to achieve initial attack success." (p.11, CalFire, 2018.) The project has written in extra water

storage for fire protection. Each greenhouse will have four (4) 5,000 gallons of hard sided storage tanks; there will be a total of 320,000 gallons of hard sided storage tanks for rainwater catchment on site (16 greenhouses). This stored rainwater water will be generally used for summertime landscaping and lawn maintenance around the facilities as well as fire protection and supplemental water for dust mitigation and irrigation. The project also proposes to limit fire danger by limiting the amount of internal combustion that will take place on the property. The greatest amount of vehicle traffic, the employee vehicles, will be driven only to the main parking area near Facility #1 and #2 and just inside the property boundary. An electric bus will transport employees to the job sites (see Roads Exhibit, Figure 13). The emergency propane generators (four total with one 45KW generator at every grouping of Facilities (Facilities #1-2, #3-5, #6-9, #10-16) will be on concrete pads that will stabilize the generator and may reduce the spread of fire in case of fire. The propane tanks themselves (500 gallons tanks) will be buried adjacent to the generators at the processing buildings. Project maintenance equipment (weed eater/mower) may use combustion. This type of equipment is handheld and operated, and in the unlikely event that a grass fire starts, the operator will be able to see and respond to the incident. The project will have basic fire suppression capability (water and fire extinguishers) located at each building.

The facilities are planned for construction in open grassland settings; the grasslands will provide, in most areas, defensible space and a fire break. The facilities included in the project are agricultural and limited commercial. They include greenhouses with lights and other electrical as well as processing buildings for drying, trimming, and sorting. The electrical power will be delivered to the buildings by PG&E from underground power lines installed by PG&E. The electrical work at the greenhouse and processing buildings will be performed by licensed electricians.

The buildings, per CA Building Code, will be built to include all applicable fire safety standards. The facilities will be constructed of fire resistant, noncombustible materials. The processing buildings will be constructed with a steel frame and metal roofing and siding. The Greenhouses will also have a steel frame and be clad with rigid corrugated poly carbonate.

The project will install firefighting infrastructure as a precaution against fire danger. The project will have emergency power (generators) to run water pumps for water

In case of a fire related emergency, the project's electric bus will be used to evacuate employees to safety. The primary road, meeting fire safe standards, provides immediate evacuation South, to McCann Road. The area in the immediate vicinity of the project is occupied by residential and agricultural structures that require a similar level of protection by CalFire and are similarly impacted by rural response times. This project will not result in a significant increase in the number of calls-for-service, significant increases in response times, or inadequate satisfaction of performance objectives. As such, the project will not result in the need for new or physically altered fire protection facilities. For more detail regarding fire, see Wildfire section.

b) Police Protection) the project falls into Humboldt County Sheriffs jurisdiction. The project is rurally located and there is no sheriff's office substation nearby. The nearest sheriff's station and ambulance is in Garberville CA. The response time via McCann Road is 36 minutes to Facilities #1-6 and 50 minutes to an hour to reach Facilities 7-16. When using the Alderpoint Road access route in the wet months, the project may utilize public services from either Bridgeville or Garberville. There are no sheriff offices or stations in

Bridgeville. The Humboldt County Sheriff's office in Garberville is located at 648 Locust St. A sheriff would travel 36.6 miles on Alderpoint Road to reach the private ranch road and then an additional 12 miles (approx.) on ranch road to reach project sites. Google Maps approximates the travel time (at average speeds) would be one (1) hour and 11 minutes to reach the private road turn off. Travelling 12 miles at an average speed of 15mph (ranch speed limits) would mean an additional 48 minutes of travel time. From the Garberville office via Alderpoint Rd and the project's Alderpoint access, the sheriff's maximum response time would be just under two (2) hours. Once the McCann bridge is built (estimated 2025) it will be the year round access for the project.

In its current state the cannabis industry is at higher risk for security to be an issue and place a greater demand on law enforcement services provided by the County Sheriff's Department. To address this potential, the project has extra security measures. The Security Plan for this project includes the following: Each site will be fenced. Each greenhouse and processing building will have security cameras. There will be two security gates with a security cameras at the split entrances and a guard station at the McCann Road (see Figure 13 in project description). Security lighting will be installed at each processing building and used when greenhouse employees are onsite. The employee parking and transfer of personnel onto the electric bus transfer will take place inside of the gated entrances. The electric bus will provide the only source of employee transportation around the property.

c) Schools This project is not located near any schools. The nearest elementary school is in Weott (approximately 6-miles away). The nearest upper level school is Miranda Junior high and South Fork High School in Miranda (approximately 6-miles away). In the past, there was a nearby elementary school in Fruitland, but it shut down due to low enrollment. This project will not increase population growth, the project expects that employees will come from the local communities. In the event that the project employs a family from out of the area, the local schools would generally have the capacity to enroll any associated minors without the need to hire new teachers or create new classrooms (correspondence with administration – Miranda Junior High, Nov 2018). This project will have no impact on schools.

d) Parks The nearest park to the project is Humboldt Redwoods State Park. The Founder's Grove Nature Trail is located on the Dyerville Loop Road, approximately 8 miles by road to the property boundary. This project is not expected to increase the population in the area.; therefore, the park will not see an increase in visitors due to this project.

e) Other Public Facilities This project will not increase population growth and includes no residential development; therefore, it will have no impact on other public facilities.

Cumulative Impact

The project will not require the provision of any new or physically altered public services (Fire protection, Police protection, Schools, Parks or other). The cannabis agricultural operation proposed by the project is, however, at a higher risk of security problems than other agricultural operations. The security measure described in the project will ensure a less than significant impact. The project will not have a cumulative impact on public services.

Mitigation: None proposed

RECREATION

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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

Setting:

The section of the Middle Main Eel River near the project area is designated "Recreational" as a part of the National Wild and Scenic River Act. The river provides opportunities for boating, fishing, and swimming during the Spring and Summer. The use, however, is infrequent due to private access limiting public access to the river. At the McCann Bridge, the public has access to the river bar and the river. There are no other public recreational opportunities in the immediate project vicinity. Approximately 8 miles west of the project area (driving), near highway 101, there is immediate and concentrated public access to the Dyerville Giant and the Founder's Grove Nature Trail in Humboldt Redwood's State Park. There are no county or city parks within the immediate vicinity of the project (Humboldt County Parks, 2010). There is no accessible Forest Service or Bureau of Land Management land within the immediate vicinity (5 miles driving) of the project (2003, HCCDS) (Figure 67).

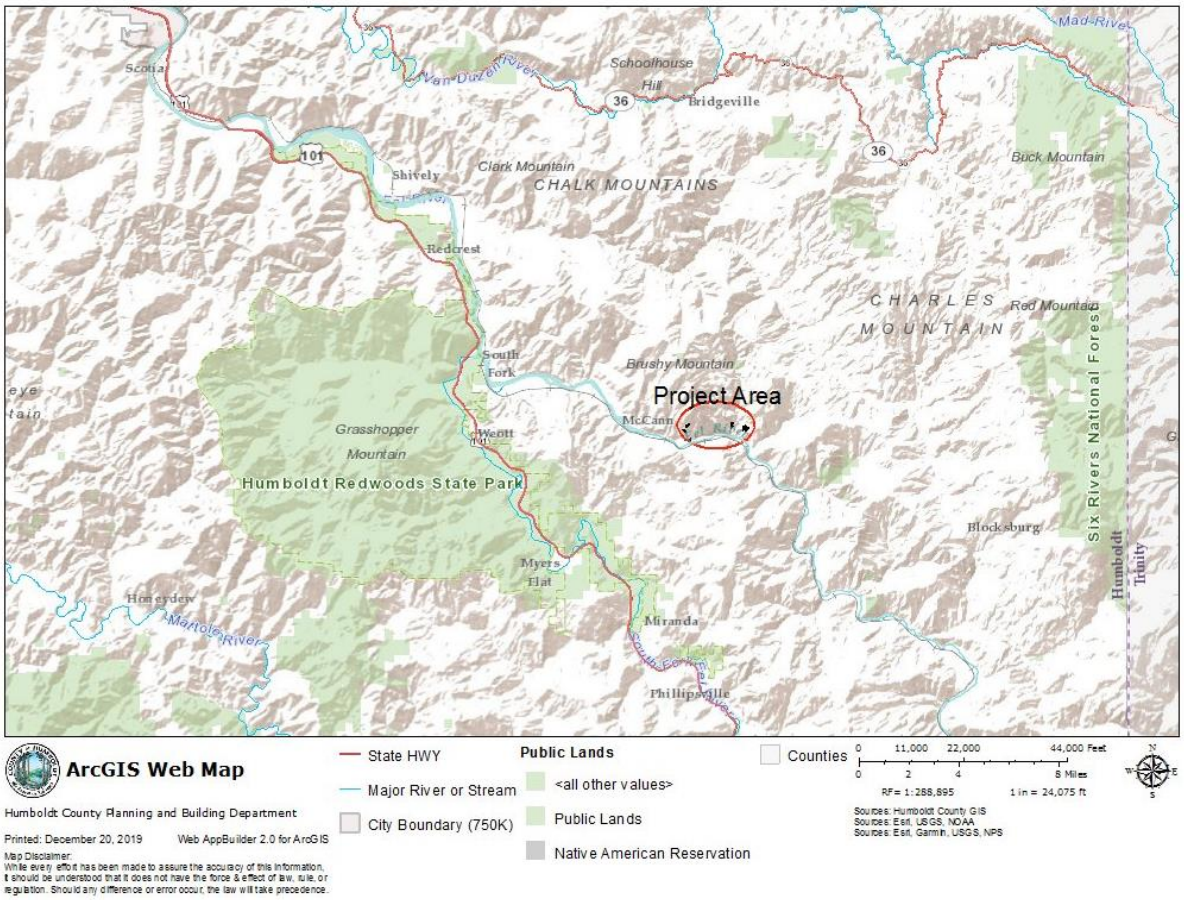

Figure 67. Public land in proximity to proposed Rolling Meadow Ranch project area; Humboldt Web GIS, accessed Dec 2019.

Discussion

a) No Impact. The project will 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. The project will not increase the use of surrounding recreational facilities such as the Eel River area or the Founder's Grove Nature Trail. The Eel River is around 260-feet from the nearest greenhouse (Facility #1 and #2) With 22 employees onsite per day and 16 greenhouses and six (6) processing buildings, the employees will be dispersed over miles with only several employees at each Facility per day. The Eel River provides only a scenic backdrop to the agricultural production and processing that takes place in the project. The employees of the project will be engaged in working and will not require recreational facilities to be built or expanded. The employees are expected to come from local people already living in the area and therefore there would not be any additional pressure on nearby parks for the Eel River.

b) No Impact. The projects do not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. The project does not include recreational facilities and will not require the construction or expansion of any recreational facilities within the area.

Cumulative Impact

The project will not increase the use of, nor would it require the construction or expansion of recreational facilities within the surrounding area. As discussed above, the project is located directly North of the Middle Main Eel River and no public access exists adjacent to or from the project area. Employees will be sourced from existing population of residents; it will not lead to increased use of the region's camping facilities. The project will not cause a cumulatively considerable addition to the use of recreational facilities in the surrounding area.

Mitigation None Proposed.

TRANSPORTATION

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with an applicable plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?				X
b) 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	

Setting

The project will have two main access points (north access and south access) that will be used as needed to ensure safe year-round access to the project areas.

The project's southern access will be Dyerville Loop Road to McCann Road. Both roads are maintained by the county. This document assumes that the traffic under consideration will be using the Dyerville Loop Road (between Humboldt Redwoods National Park) and McCann (McCann Bridge and McCann Road East) road instead of alternative routes (i.e: Dyerville Loop via Fruitland) because these road sections have the best capacity for traffic and are the most directly connected to Hwy 101. The length traveled on the Dyerville Loop Road from 101 to McCann Rd. is approximately 8 miles. The length of McCann Road to the property line is approximately 2.6 miles. From the end of the county road (McCann), the length of the private ranch road to the nearest project facility (Facility #1) is approximately 0.8 miles; the length of the private ranch road to the furthest project facility (Facility #16) is approximately 5 miles. The Dyerville Loop Rd., and the first 1.5 miles of McCann Road from its intersection from Dyerville Loop Road are approved for use by the Humboldt County Public Works Department for commercial cannabis operations as the roads meet the functional capacity of a Category 4 road with pull outs and offers sufficient room for emergency vehicle traffic to pass. According to *Access Assessment for Compliance with Humboldt County Code Section 3112-12 - Fire Safe Regulations* (North Point Consulting Group, 2020, Appendix C) the McCann road from 1.5 miles to its termination in Rolling Meadows Ranch meets Roadway Category 2 standard and is functionally equivalent to a Category 4 Road, with the recommended improvements included in the report and the extremely low traffic volumes. The improvement consists of Modifying a cattle guard/ currently unused gate to achieve a 14 foot width. Both roads are considered "local" roads and are not listed as roads that are above or projected to be above capacity (Humboldt County General Plan, Draft EIR, 2008). These roads are not rural collectors and per their local road designation, serve primarily as low speed (25mph) access to land or abutted businesses.

The project's northern access will be Alderpoint Road. Alderpoint Rd. is a paved county maintained road. This road is a major rural collector with a center line and speeds up to 45mph. The Alder Point road is approved for use by the Humboldt County Public Works Department for commercial cannabis operations as the roads meet the functional capacity of a Category 4 road with and offers sufficient room for emergency

vehicle traffic to pass. The length of travel on Alderpoint Rd. from 101 to the ranch property entrance is approximately 36.5 miles. From the intersection of Alderpoint Rd., project traffic accesses the project areas through a combination of travel on property roads and deeded easements. From Alderpoint Road, the length traveled on interior project roads and easements to the nearest Facility (Facility #16) is 8 miles; the length of the interior roads traveled to the furthest Facility (Facility #1) is approximately 12.3 miles.

- Construction

Construction traffic for the project would result in a short-term increase in construction-related vehicle trips. Construction activities will occur in the spring and summer seasons and will utilize the seasonal McCann bridge. Construction would result in vehicle trips by construction workers and haul-truck trips for delivery of construction materials and equipment to and from construction areas. See Table 17 below for details. Road, parking area and pathway improvement materials (gravel) will come from established onsite borrow pits accessed by the existing logging roads (Figure 13). The project will have some brush and limb/tree debris that may be chipped for pathways as an alternative to gravel. No fill materials will be hauled into the project site. A visual assessment by Oscar Larson and Associates (Appendix B) described the cut and fill as grading that could be balanced onsite. Due to their short-term nature, construction activities would not result in substantial adverse effects or conflicts with the local roadway system.

Table 21. Estimated Vehicle Miles Traveled – Project Construction

Vehicle Type / Trip Purpose	**Number of round trips**	**Total miles traveled** From Garberville = 60 miles roundtrip
Concrete Truck**	43	2,580
Gravel Delivery/ dump truck	10	600
Backhoe loader Delivered w/trailer or on semi/flat bed	1	60
Bulldozer Delivered w/trailer or on semi/flat bed	1	60
Compactor/roller Delivered w/trailer or on semi/flat bed	1	60
Excavator Delivered w/trailer or on semi/flat bed	1	60
Building Materials Delivery on flatbed truck	15	900
Dump truck	1	60
Water truck	1	60
Construction Employees*/ pickup truck	420	25,200
	Total Construction Miles Traveled:	**29,640**
	Total number of roundtrips:	**494**
	Average number of daily roundtrips:	**8.23**

* Construction employees (average of 5 onsite daily) will be onsite daily for 8- 12 weeks.

** Concrete truck estimate based on 4inch deep slab for six (6) processing buildings (34,600 sq. ft. will require approximately 425cubic yards of concrete) and assuming that each fully loaded concrete truck can carry 10 cubic yards of material.

- Operations

Traffic generated by long-term operation of the project is estimated in Table 22 and 23 below. It is anticipated that a box truck will be needed to haul out garbage and deliver project 1 time a week while bringing in supplies on the return trip. This truck will also be removing product for testing and packaging once a week.

Twenty-two employees will be traveling round trip to the site every day, 7 day a week. The operating hours will be, in general, from 7am to 6pm, Monday through Sunday. While the McCann entrance is the preferred access, the use of the southern or northern entrance will depend on weather conditions (time of year) until the permanent McCann Bridge is completed. The minimum project travel is calculated as exclusive use of the southern access via Dyerville and McCann Roads. The maximum project travel is calculated as exclusive use of the northern access via Alderpoint Road. All travel, for this analysis is calculated from the nearest population center (Garberville). Because project hiring cannot be accurately predicted, Garberville is chosen as the primary employee travel reference point because it is a stable and large source of regional employees.

Table 22. Estimated Annual Vehicle Miles Traveled – Project Operations, McCann Rd. Access

Task	**Type of vehicle**	**Number of round trips per year**	**Estimated distance of round trip miles/year** (Garberville 60 miles round trip)
Bring in supplies/ Remove garbage	17/18'Box truck, diesel;	1 times/week =ave 53 trips/yr	3,180 miles/year
Remove processed product / Bring in supplies	17/18'Box truck, diesel;	1 time/week =ave 53 trips/yr	3,180 miles/year
Employee travel to reach project	Passenger car, gas (22 employees on site/day)	22/day x 365 days/yr = 8030 trips/yr	481,800 miles/year
		Average Number of Round Trips per Day =	**22.29 trips**
		Total Annual Miles Traveled =	**488,160 miles**

Table 23. Estimated Annual Vehicle Miles Traveled – Project Operations, Alderpoint Rd. Access

Task	**Type of vehicle**	**Number of round trips per year**	**Estimated distance of round trip miles/year** (Garberville 98 miles round trip)
Bring in supplies/ Remove garbage	17/18'Box truck, diesel;	1 times/week =ave 53 trips/yr	5,194 miles/year
Remove processed product / Bring in supplies	17/18'Box truck, diesel;	1 time/week =ave 53 trips/yr	5,194 miles/year
Employee travel to reach project	Passenger car, gas (22 employees on site/day)	22/day x 365 days/yr = 8030 trips/yr	786,940 miles/year
		Average Number of Round Trips per Day =	**22.29 trips**
		Total Annual Miles Traveled =	**797,328 miles**

According to project expectations, the project will use the McCann Rd during dry times of year when the seasonal bridge is accessible and Alderpoint access when it is not. As the new McCann bridge is currently expected to be built in 2025, the northern/southern access combination will effectively cease in 2025 and the project will use the southern access via McCann Rd. as the primary access for all year-round operations.

Discussion

a) No Impact This project will not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation systems, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. The rural area in which the project is located does not have public transportation services, or bike lanes. The known measures of effectiveness include general performance standards.

Humboldt county requires that all access roads meet County Code Road standards of Category 4 or equivalent. The county has confirmed that the use of Dyerville Loop Road and the first 1.5 miles of McCann Road from its intersection from Dyerville Loop Road are approved for use by the Humboldt County Public Works Department for commercial cannabis operations as the roads meet the functional capacity of a Category 4 road. Alderpoint Road is a paved, two lane county road with a centerline that meets Category 4 standards.

The section of McCann Road from 1.5 miles to the project boundary was evaluated in Oct 2020 by Northpoint consulting with the conclusion that, "The entire roadway meets Roadway Category 2 standard and is functionally equivalent to a Category 4 Road, with the recommended improvements included in [the] report and the extremely low traffic volumes" (*Access Assessment for Compliance with Humboldt County Code Section 3112-12 - Fire Safe Regulations*, North Point Consulting Group, 2020, Appendix C). The recommended improvements included one specific work point, the removal or modification of a gate, as well as general maintenance of existing road width and sight distances. The gate if closed, would be an unauthorized obstruction of a county road. The project will work with the county to remove the gate and gate posts to allow for the required 14-feet of horizontal clearance.

The internal project roads were evaluated by Northpoint Consulting (*Access Assessment for Compliance with Humboldt County Code Section 3112-12 - Fire Safe Regulations*, North Point Consulting Group, 2020, Appendix C). The evaluation identified nine (9) specific work points and several other point where brushing and/or monitoring is required. The work will impact approximately 2,205 feet of road and an approximate total disturbance area of 13,350 square feet. Of the nine (9) work points, four (4) describe widening the road, one (1) is to install a turnout, and four (4) include work to realign the existing road to increase visibility and provide a safe, 50-foot turn radius. With the implementation of the recommendations described in the 2020 Northpoint Consulting evaluation and the extremely low traffic volumes, Northpoint Consulting concludes that the entire internal roadway will meet Roadway Category 2 standards and will be functionally equivalent to a Category 4 Road.

b) Less Than Significant. This project will not conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). For land use projects, it is generally understood that one of the largest impacts a project can have is the number of miles traveled. Because this is an agricultural production-based development, the greatest amount of miles traveled is made up of the employees and the delivery (in and out) of materials. Analyzed per day, the operational project rate is approximately 45 one-way trips (22.29

round trips). The daily construction rate is 8.23 roundtrips According to the Dec 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA from the California Governor's Office of Planning and Research, this number of trips is less than significant:

> *"Screening Threshold for Small Projects Many local agencies have developed screening thresholds to indicate when detailed analysis is needed. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than* ***110 trips per day*** *generally may be assumed to cause a less-than significant transportation impact."*

The daily one way trips for project operations is 45, which, according to screening threshold above, is a less than significant transportation impact. The construction trips (8.23 round trips, or 16.5 daily trips) are significantly less than 45 and are, therefore, also a less than significant transportation impact.

c) Less Than Significant This project will not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). This project would build facilities in very rural agricultural lands with existing roads that have been safely used to transport timber, cattle, and residents. Private roads are used to access the project sites. (Figure 14, in Project Description). The entire roadway meets Roadway Category 2 standard and is functionally equivalent to a Category 4 Road, with the recommended improvements included in [the] report and the extremely low traffic volumes (*Access Assessment for Compliance with Humboldt County Code Section 3112-12 - Fire Safe Regulations*, North Point Consulting Group, 2020, Appendix C) meeting CalFire Fire Safe standards. The existing county access roads and the improved internal private project roads are safe for the travel of construction related vehicles (trucks with flatbed trailers, concrete trucks.) as well as daily operational transportation: passenger vehicles, box truck, electric van transportation.

With the planned future addition of logging operations on the Ranch, some project roads may see logging truck traffic. The electric van driver and the logging trucks will communicate via handheld radio to avoid unplanned interactions. The presence of the pull outs on the project roads and the use of radios will maintain a safe traffic environment.

d) Less Than Significant Transportation/Traffic from the project will not result in inadequate emergency access. As the project is located in a State Responsibility Area (SRA), the project's access and internal roads are required to meet Humboldt County Fire Safe Regulations, Ch 2, Emergency Access (Ordinance 2540). The access roads, in meeting or having equivalency to Category 4 roads, meet the Emergency Access standards of the Fire Safe Ordinance. The internal project roads to be used for project facility access have been determined, by NorthPoint Consulting, to be "within conformance of Humboldt County Code Section 3112-12, the Fires Safe Regulations (Chapter 2 – Emergency Access), with the recommended improvements included in [the] report." By improving roads as specified by consulting engineers, the roads will meet the required standards described by Humboldt County (CMMLUO, Humboldt County Code, Fire Safe Ordinance). All access roads and interior roads will be brought up to firesafe standards. Additionally, a subscription to an emergency air ambulance such as Cal-Ore Life flight will be purchased to provide emergency medical services. There is adequate emergency access.

e) No Impact. The project will not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. The primary access roads for the project are Dyerville Loop Road, McCann Road, and Alderpoint Road. These

roads do not have public transit, bicycle, or pedestrian facilities. Therefore, this project will have no impact on these types of facilities.

Cumulative Effect

A review of the closest large project, Black Bear Farms LLC, will add an additional amount of cannabis related road traffic (APN 211-283-007; Application numbers: 12083, 12915, 12080, 12742). At full build out, the Cultivation and Operations Plan for Black Bear Farms LLC describes 14 to 23 employees that will carpooling to the site by leaving individual employee cars at public parking lots near exit 663 off of Hwy 101 or at other public carpooling locations; the car traffic is expected to be reduced from 23 individual vehicles to 5 vehicles. Considering both the Black Bear Ranch's maximum potential trips as 46 one way trips and adding the average daily one way trips for Rolling Meadow Ranch, 45, the cumulative total number of daily trips on McCann Road remains at less than 110 trips per day. The increase in traffic during construction and the overall operation increase of passenger vehicles and weekly delivery trucks may be noted by frequent travelers of the project access roads, but transportation impacts will not be cumulatively significant.

Mitigation

None Proposed.

TRIBAL CULTURAL RESOURCES

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code §5020.1(k)?			X	
b) Cause a substantial adverse change in the significance of a tribal cultural resource determined by the lead agency to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1?			X	

Setting:

The projects site sits directly to the North of the Middle Main Eel River. As described in the project's Cultural Resources Report, conducted by archeologist, Nick Angeloff, the area was historically inhabited by native peoples who were considered to be part of the Sinkyone tribe. There are historical ethnographic records of a village within the project area at the mouth of either Cameron Creek or Beatty Creek and there have been findings of archeological significance in the vicinity of the project. All of the sites of archeological significance are outside of the area of direct impact. However, Angeloff states that, "the property itself could have and likely did sustain a complete seasonal round with winter residences on the river, transitional season hunting and gathering/specialized use areas" (Angeloff, 2017; 37). A pre-project meeting with special attention to inadvertent discovery possibilities and protocols will be followed for the earth moving activities. The earth moving activities include trenching for electrical lines, cut and fill operations for the establishment of the processing buildings, parking areas, septic systems, and greenhouses. See Cultural Resources Section for further discussion and inadvertent discovery protocols.

a)-b) Less Than Significant Impact The project will not cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code §5020.1(k). The project area is within the ethnographic territory of a tribal group associated with the so-called Sinkyone tribe and the Bear River Band of Rohnerville Rancheria (Angleoff, 2017). "*It appears that there were at least five small but distinct groups occupying the main Eel River from below Camp Grant to below Coleman Creek*" (Angleoff, Nick 2017). According to Cultural Resources Report it appears that a village called seda'dun was within the general project area near the mouth of Cameron Creek (Angleoff, 2017).

A Cultural Resources Investigation (Angleoff, Nick 2017) was completed by Nick Angleoff. The survey did not locate any new historic resources within the project area. According to the Report "*nine (9) pre-existing*

resources have been recorded on the property as a result of sixteen (16) previous surveys. None of the pre-existing resources will be impacted by this project" (Angleoff, Nick 2017). With none of the existing resources impacted by the project and no new resources documented, the project is not expected to cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing.

Archeologist, Nick Angeloff sent a request for information to the Bear River Band of Rohnerville Rancheria and the Sinkyone Intertribal Wilderness Council. With the Inadvertent Discovery Protocol included, proposed project will not cause a substantial adverse change in the significance of a tribal cultural resource.

Cumulative Impact:
The Eel River and its tributaries have hosted generations of human inhabitants: hunter gather societies like the Sinkyone tribe described above, and ranching families like Whitlow and McCann. This project proposes development on a site that may reveal historical findings from any of these past settlements. The Archeologist, Nick Angleoff, and the Bear River Tribe communicated their desire that the progress be carefully monitored for inadvertent discoveries. The discovery of any potentially significant cultural resources will be protected by these protocols. The cumulative impact on the tribal cultural resources is less than significant with the incorporated Inadvertent Discovery protocol (See the Cultural Resources section in this document).

Mitigation None Proposed.

UTILITIES AND SERVICE SYSTEMS

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities or expansion of existing 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	

Setting:

In Humboldt County, the majority of people live in unincorporated county areas. A 2014 Infrastructure Report Card from the American Society for Civil Engineers (ASCE) based on a 2013 California Dept of Finance Report stated that 72,113 people were living in the unincorporated county while only 67,881 people lived in incorporated cities (2014). The exclusion from incorporation does not necessitate exclusion from a community services district. The unincorporated community of Manila, for example, has a community services district that provides sewer collection and treatment as well as potable water for the residents. The nearest populated neighbor to the project is the community of Weott. Weott is an unincorporated community with a community services district that provides sewer collection and treatment, potable water, and fire protection to community members. The project area lies outside of the Weott district boundary.

Rolling Meadows Ranch site is in a very low population density area in rural Humboldt County in the Middle Main Eel River Planning Watershed. This area is not served by any community services district providing sewage treatment or potable water. The County of Humboldt has a Local Agency Management Program (LAMP) that is used to control permitting of Onsite Wastewater Treatment Systems (OWTS) for residential

and small development that occurs in the county outside of a community service area. There are several locations in rural Humboldt County that the county has identified to be of special concern and listed as "Variance Prohibition Areas" (February 2018, Humboldt County). These areas are those in which, for example, the density of OWTS is high, the soils are shallow/ poorly drained, or an exceptional amount of OWTS that predate the current standards. The Eel River Watershed is not included in a Variance Prohibition Areas. New OWTS in this Eel River Watershed are regulated by the LAMP and the Dept of Environmental Health to protect the individuals and the natural community in the area and the county. Residences in the project area are equally dependent on the natural environment for the supply of their domestic and agricultural water needs. Residents and business owners rely on wells or have permitted water rights for springs or other diversions as required by the State Water Resources Quality Control Board.

Discussion

a) Less Than Significant Impact. The project would not require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities or expansion of existing facilities, the construction or relocation of which could cause significant environmental effects.

There are no public wastewater or public water systems serving the site. The site is rural and no connection to a water system or wastewater treatment facility is currently possible. Consistent with the rural nature of the site, the project will employ a consultant to conduct site testing and septic system design at five (5) locations serving the five (5) drying and trimming buildings (Appendix A). Wastewater will be treated with onsite septic. They will be no impacts on wastewater treatment providers.

The project will not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. The project will establish five (5) septic systems, the septic systems will be designed to meet all specifications of onsite wastewater treatment systems (OWTS) under the County's Local Agency Management Program (LAMP) as approved by the Regional Water Quality Control Board in February of 2018.

The project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Runoff from greenhouses and processing structures will be captured through the installation of a connected gutter systems with capture in hard sided rainwater catchment tanks (20,000 gallons) at each greenhouse. Overflow from the gutter catchment and additional runoff from flats and parking areas will utilize French drains and/or infiltration trenches or other engineered solutions to allow the overflow to infiltrate. This method for containing storm water will be site specific and not connected to outside systems; it will have a less than significant environmental impact.

The project proposes to use electric power supplied from the grid. The project will employ PG&E power at the project sites through the expansion of existing power lines. The expansion of these power lines will be limited to the footprint of the improved Ranch Roads with all lines buried within the existing road prisms. The environmental impact of this grid connection is expected to be less than significant as the installation of underground power will follow ranch roads at all points (See Figure 14, Project Description).

The project will utilize electricity from the grid for its commercial production and processing needs. The project will not require expansion of natural gas pipeline systems. The telecommunication requirements are expected to be limited to personal and business calls as well reserving the possibility of 911 or other emergency calls. For these purposes, the project will employ satellite and/or cellular phones. The project will not require the expansion or construction of telecommunications facilities.

b) Less Than Significant Impact. The project will have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. All water used in cultivation, processing, and employee needs will be sourced on-site from wells. Water from each well will initially be pumped into a 5000 gallon transfer tank. There will be one tank for each well. All irrigation of cannabis will be done by drip irrigation, ensuring that plants are not over-watered. Water use for irrigation is estimated at 780 gallons per day for each greenhouse. It is estimated that an additional 40 gallons a day will be used by employees for personal use at each processing building.

- The total daily water use for project operations will be 12,680 gallons per day for all 16 greenhouses and employees.
- The total annual (365 days/year) water use for project operations will be approximately 4,628,200 gallons of water.

In June 2019, the applicant drilled three wells on Parcel 1 and tested for yield. Well #1 was drilled to a depth of 240-feet; it yielded 20gmp. Well #2 was drilled to a depth of 200-feet; it yielded 30gpm. Well #3 was drilled to a depth of 270-feet; it yielded 13gmp. Assuming year-round flow rates as tested, the project could produce a combined average of 63gpm; 63gpm would result in 90,720 gallons in 24hrs and a more than sufficient water supply for the projected project needs.

Apart from irrigation and domestic needs, the other use of water is the water that will be drawn from project wells and used for dust control during project construction. While there is no definitive rule for how much water to spray for dust abatement, one measure, provided at the Queensland Mining Industry Safety Conference (ADE, 2015), dictates that the optimal amount for dust and safety (for large truck traffic) is 300ml per square meter. For the greenhouse flats and powerline trenching operations (road footprint), the total square meters is approximately +/- 634,096sqft, or 58909 square meters which would require an estimated total of 17,672,700ml or 4,668 gallons.

The number, 4,668 gallons, is based on watering for the entire site and calculated using a number developed for large mining truck traffic. It can be assumed that this is the maximum total amount that would be applied the entire project in one pass if the entire project was undergoing construction at the same time. With that consideration, even applied up to three times, this amount of water for construction is still on par with the total daily amount required for irrigation once the project is operations. Given that the wells can produce up to 90K gallons in 24hours, the project will have adequate water supply onsite for dust control

The wells will be the extent of the water supplied to the project; no holding ponds nor any surface water diversions are included in the project proposal. The only other water source will be rainwater catchment collected from roof top gutters and stored in hard sided water tanks (totaling 320,000 gallons). This water will be used for fire suppression, landscaping, dust abatement, and irrigation.

Water will be used by the proposed cannabis facility for several reasons including: 1) irrigation of cannabis plants; 2) restrooms, and sinks, and 3) watering of landscaping at the site. The proposed project will be served by the following sources of water: 1) rainwater catchment which will be used primarily for landscaping, dust control, fire defense, and irrigation; 2) Ground water wells will supply ground water for dust control, irrigation needs, restrooms and sinks. The project will have a sufficient amount of water.

c) No Impact. The project site is rural and no connection to a water system or wastewater treatment facility is currently possible. Consistent with the rural nature of the site, the project will employ a consultant to conduct site testing and septic system design for five (5) locations serving the processing buildings (see Plot Plans). Wastewater will be treated with onsite septic. They will be no impacts on wastewater treatment providers.

d) No Impact. The project will not 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. The project will produce solid waste (garbage) and will be served by a landfill (Eel River Recology in Fortuna) with sufficient permitted capacity to accommodate the project's solid waste disposal needs (personal communication, P. Moore, 2017). Waste will be taken to Eel River Recology in Fortuna CA. The project estimates that solid waste produced by employees and project operations will be removed from the site approximately once a week. In an average office building, serving 18 employees, the monthly volume of garbage is approximately 256 gallons of waste (NRM, personal observation, B. Kalson, 2019). For a work setting, serving 30 employees, the solid waste produced can be approximated at double that amount, resulting in a total approximate waste of 512 gallons a month of garbage or 2.5 cubic yards. For comparison, an average family of five in Arcata produces approximately 128 gallons of garbage per month (survey of local families and standard Recology collection container dimensions). Recycling will also be collected and removed once a week with the garbage. The recycling will come from the employees (cans, bottles, paper) and nutrient containers. The recycling volume is expected to be approximately double that of the solid waste, around 5 cubic yards. A 15-foot long box truck can carry approximately 28 cubic yards and has capacity for one weekly garbage and recycling trip. Three different landfills are used by the Recology transfer facilities; they include Anderson, Dry Creek, and Potrero Hills. This project will be served by landfills with sufficient permitted capacity to accommodate the project's solid waste disposal needs as the solid waste produced by the project will be generally equivalent to the waste produced by four families, a less than significant burden on a facility tasked with regional waste collection.

e) No Impact. The project will comply with federal, state, and local management and reduction statutes and regulations related to solid waste. Solid waste for this project includes the following: 1) The stalks and stems from the cannabis plants and other green waste and plant material used in the manufacturing process will be composted on-site. The composting areas (as shown on Site Plan, Appendix A) will have concrete floors and be covered on three sides and roofed. Composting will be permitted with the Regional Water Board and meet all the required standards to keep storm water from mixing in with the composting material and to eliminate runoff from the site. 2) All soil used for cultivation activities will be reused with no soil disposal occurring during long-term operation of the project. 3) Human waste and wastewater will be processed onsite within six permitted septic systems. 4) Garbage and recycling will be removed as needed to the nearby facility in Fortuna. The proposed project will not violate any federal, state, and local statutes and regulations related to solid waste.

Cumulative Impact

The project is located in rural Humboldt County in an area without a community services district to provide water or sewer. In the absence of this option, the project has three wells and will develop six septic systems to provide the crop and the employees with a water and wastewater system. The area is an area of relative low population (8 people per square mile) and not in an area of special concern for surface water pollution by wastewater treatment systems (as identified by the County's LAMP). The area is used for agriculture and ranching; wells and septic systems are a typical and permitted source of water and wastewater disposal for these rural economic engines. There will not be a cumulative impact on utilities and service systems.

Mitigation

None Proposed.

WILDFIRE

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project**:**				
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

Setting

The proposed project is located in a State Responsibility Area (SRA) and is designated by Cal Fire as a 'Very High Fire Hazard Severity' area (Figure 68). The very high hazard rating is characteristic of the Southeastern portion of Humboldt county where the terrain is often steep, and the climate tends to by dry. Cal Fire is the designated agency responsible for the wildland fires on SRAs. The October 23, 2017 Humboldt County General Plan (14-7) describes an SRA designation as very common, comprising the majority of the rural privately owned lands in the county.

While the project area experiences higher temperature than the coastal communities in the North Coast, the project area, directly to the North of the Eel River, has an abundant supply of redwood forest, indicating a prevalence of fog during the year. Fog on redwood forest can supply a significant input of water to the ecosystem that may not be reflected in the Cal Fire severity zone designation. In 1998, T.E. Dawson from Cornell University, published his research on fog, "Fog in the California redwood forest: ecosystem inputs and use by plants" in the journal, *Oecologia*. Here, he describes how fog contributed 34% of the study area's annual hydrologic input. The presence of redwood trees (Sequoia sempervirens) in the project area indicates that the area experiences a greater amount of fog and captures more moisture than the environments to the north and south of the project and out of the river valley.

The project proposes to develop less than 1% of a 7,110 acre ranch, but otherwise maintain the historical use

of the ranch as timber land. The project proposes zero residential structures but will provide onsite employment for approximately 22 employees daily, seven days per week. The project facilities will be composed of flame resistant materials. The processing buildings will be steel beams and steel roofing and siding. The greenhouses will have steel beams with polycarbonate roofs and siding. Polycarbonate melts at 155°C; it will not carry or propagate flame (ACP Noxtat, 2004). All buildings will be located in open grasslands on low slopes with road access, water supply, and building setbacks that conform to Cal Fire Firesafe Standards. The project facilities will be built to conform to standards established by the California building code.

In addition to the California Building codes, the California Fire Code, and the Cal Fire, Fire Safe Regulations, the Humboldt General Plan also describes a Community Wildfire Protection Plan (CWPP) that is in the process of being reviewed by the Humboldt County Fire Safe Council, the Humboldt-Del Norte California Department of Forestry and Fire Protection (CAL FIRE) Unit Chief, the Humboldt County Fire Chiefs' Association, and the Humboldt County Board of Supervisors. The review is to determine whether the CWPP, that is developed collaboratively, identifies and prioritizes fuel reduction projects and recommends measures to reduce the ignitability of structures. Within the countywide CWPP, there are 14 "mini-CWPPs" for each of the planning units within Humboldt County. The project is located at the south end of Unit 11, the Mad – Van Duzen Planning Unit. The evacuation plan in Unit 11's mini CWPP specifically mentions Highway 36, Kneeland Road, and Alderpoint Road as potential evacuation routes, but it describes evacuation points and routes as dependent on the path of the wildfire and other factors. The emphasis of the evacuation description in the planning unit is on ingress and egress for firefighters and evacuees. The Plan describes a very large geographic area with narrow roads and limited connectivity in which residents will need to have a plan and evacuate early.

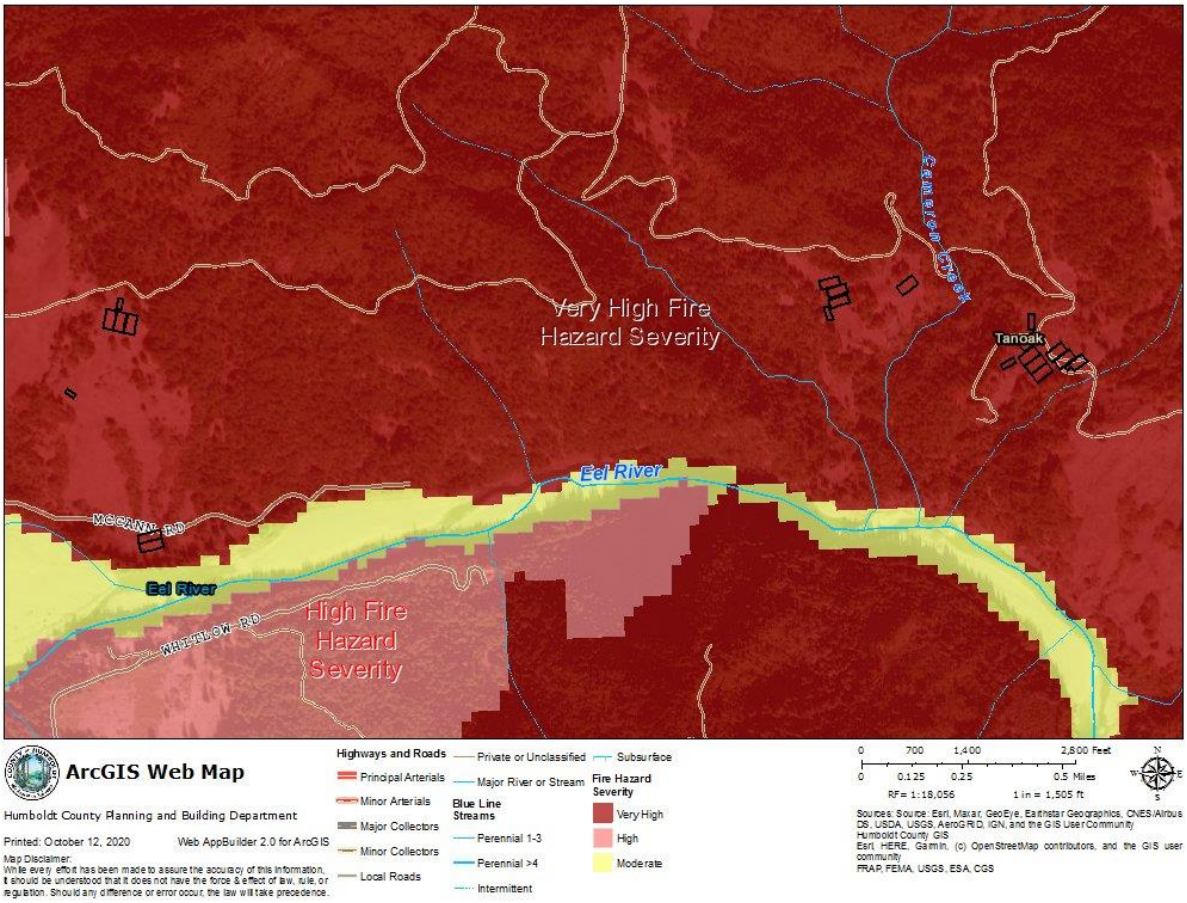

Figure 68. Project facilities located in Very High Fire Hazard Severity area; Humboldt WebGIS, accessed October, 2020

Discussion

a) No Impact. The project would not substantially impair an adopted emergency response plan or emergency evacuation plan. The project is not in an area with a clearly defined emergency response or emergency evacuation plan. The area of proposed development is rural and largely vacant, with emergency response (including fires and medical) provided by Cal Fire and dependent on the fire location and road access. The project would not have a significant impact on an adopted emergency response plan or emergency evacuation plan.

b) Less Than Significant Impact. The project, due to slope, prevailing winds, and other factors, has the potential to significantly exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. However, because the project design includes water storage (320,000 gallon of rainwater storage), emergency generators for running fire water pumps, and because the project will improve internal roads to meet Humboldt County Fire Safe regulations, the project will be improving evacuation success in case of fire and the impact is reduced to less than significant.

The project facilities will be built in an area that combines multiple factors that could increase wildfire impact on the project and the project employees. 1) The project facilities will be built on low slope 'shelfs' in a generally high slope area on and above the Eel River. Fire is understood to travel more quickly uphill due to the action of convection drying and 'preheating' the area ahead of it. 2) The project areas have generally southern aspects. Areas with southern aspects are generally drier than areas with other dominate aspects. Fire ignites more quickly in drier areas. 3) The area experiences wind from the West and East that travels through the river corridor with, at times, high wind speeds. Winds can push fire at high speeds and cause additional fires (spotting and crown fires) that pose additional risk. 4) the area immediately north of Facilities #1-#5 has burned multiple times, with the most fires occurring in the 1950s. Most recent was the Peaks Fire that burned 1,226 acres in 1990 (fire data from Hum Web GIS (Figure 69)). The area is an area with established fire risk.

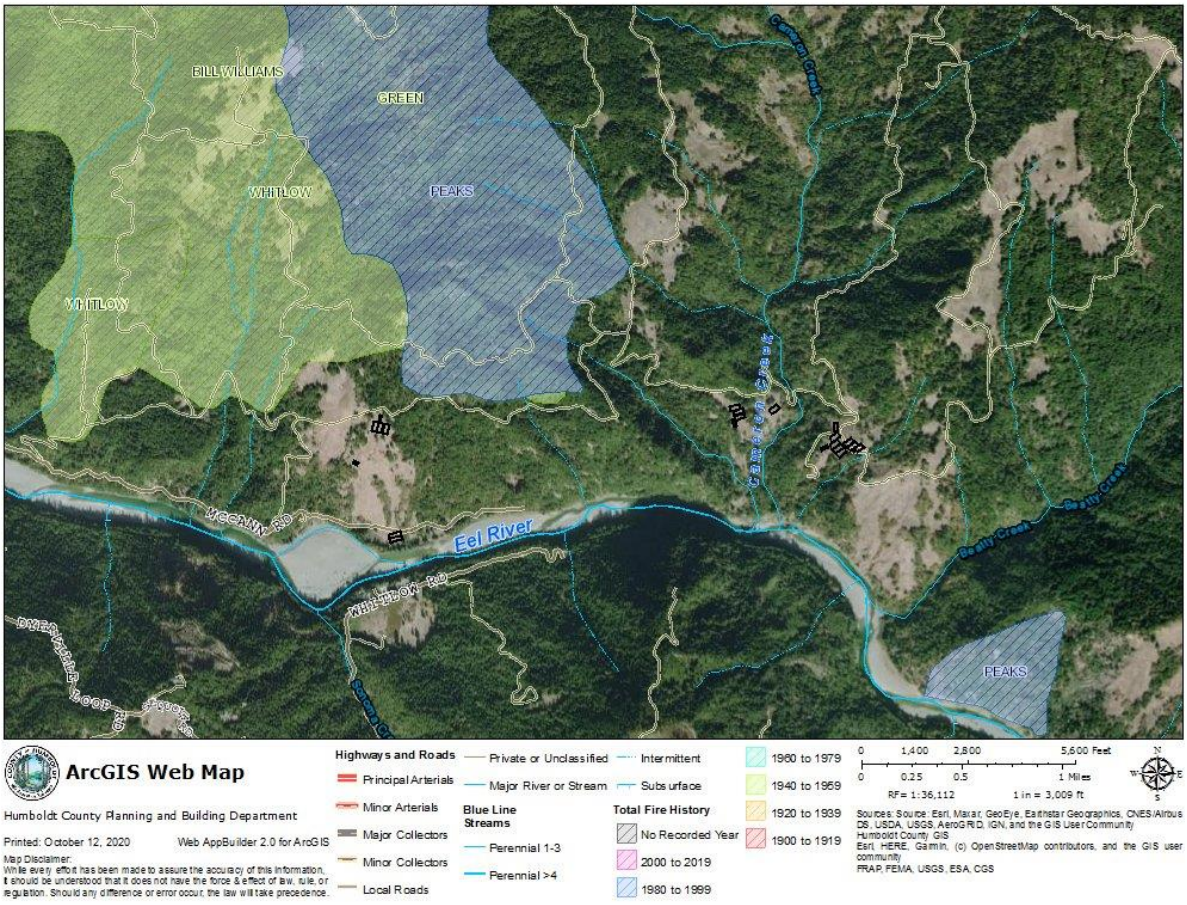

Figure 69. Fire History in project vicinity; Hum WebGIS, accessed October, 2020.

The project facilities will be located in grasslands near the Eel River, none of which have burned in the last century of recorded fire incident data. The 1958 Whitlow Fire, that burned almost 2,000 acres, came up to the northern border of the grassland on which Facilities #3-#5 are located; the grassland appears to have acted as an effective fire break. The natural fire breaks from the grasslands on which the project facilities will be built, the fire resistant materials that will be used in construction (metal and polycarbonate panels) and the project design that includes firefighting infrastructure in the form of emergency generators and emergency water pumps for fire suppression will contribute to reduce the risk of wildfire. These project

components combined with the options for northern and southern emergency evacuation routes and the generally wetter microclimate of the river valley make the wildfire risk less than significant.

c) Less Than Significant Impact. The project will expand electric power into the project area in the form of PG&E power lines under the roadbed. PG&E will conduct a site-specific review of the project and create a site specific construction plan. The project will comply with PG&E's site-specific safety and installation requirements and thereby reduce the potential of the project to exacerbate fire risk and associated environmental impacts to less than significant. The associated fire risk from electric power line installation is less than significant.

d) No Impact. The project will not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. The areas proposed for development are low slope, open grassland areas surrounded by vacant timber and range land. Were a fire to occur, the resulting runoff, slope instability or drainage changes would not impact additional people or structures.

Cumulative Impact

This project will mean greater impacts from wildfire because the project will put structures and people in areas that have experienced multiple wildfires and are generally at high risk for wildfire. However, the project, as designed, will not contribute to the risk of wildfire or the spread of wildfire. And, as the unincorporated locations of Humboldt county are expected to gain less than 1,000 people (Table 24), this project won't significantly add to the risk of loss of life or property due to an expanding Wildland Urban Interface (WUI). This project will have a less than significant cumulative impact on Wildfire.

Table 24. Population projection for Selected Humboldt County areas
(https://humboldtcountygov.org/1216/Population)

Location	1998 Population	2010 Population	2020 Population
Eureka	27,750	28,870	29,830
Arcata	16,330	18,180	20,000
Fortuna	10,140	12,560	15,000
Humboldt County	124,000	131,600	140,000
Unincorporated	67,400	67,800	68,140

Population Growth

Mitigation

None Proposed.

MANDATORY FINDINGS OF SIGNIFICANCE

Issues and Supporting Information	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Does the project have:				
a) 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 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) impacts that are individually limited, but cumulatively considerable?			X	
c) environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

Discussion

a) Environmental Impacts – plant/animal species

Potential impacts identified by this project are identified in the Agricultural and Forestry and Biological Resources sections of this document. In all other sections: Aesthetics, Air Quality, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, Utilities, And Wildfire, the project was determined to have no potential to significantly degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

In the Agricultural and Forest and Biological Resources sections, several potentially significant impacts are identified. These impacts are reduced to **Less Than Significant with Mitigation Incorporated**. The potentially significant impacts and mitigations are discussed in the text below.

Agricultural and Forest Resources

The analysis contained in the Agricultural and Forest Resources section of this document concludes that the project does have the potential to degrade the quality of the environment in that this project will permanently remove mature, native trees.

The project will remove:

(2) California Bay trees (*Umbellularia californica*)
(3) Big Leaf Maple Trees (*Acer macrophyllum*)
(2) Madrone (*Arbutus menziesii)*
(9) White Oak (*Quercus alba*)
(11) Doug fir (*Pseudotsuga menziesii*)
(1) Red Alder (Alnus rubra)
(3) Bay Laurel (*Laurus nobilis*).

The project proposes to incorporate a Replanting and Monitoring Plan known as "***Mitigation Measure (MM) – Agriculture and Forest Resources 1"*** that requires the trees be replanted at a rate of 3 new trees to 1 removed tree (up to 93 new trees planted) and to monitor the successes of the planted seedlings. HCP&BD will confirm implementation and receive annual monitoring results. With the incorporation of the aforementioned mitigation measure, the proposed project would not substantially degrade the quality of the environment and impacts would be less than significant.

Biological Resources
The analysis contained in the Biological Resources section of this document concludes that the project does have the potential to degrade the quality of the environment, substantially reduce the habitat of a wildlife species, to threaten to eliminate a plant or reduce the number or restrict the range of a rare or endangered plant or animal.

The Biological Resources analysis demonstrated areas in which botanical surveys were incomplete. These areas could contain rare plant species. In order to reduce the potentially significant impact to the species and/or sensitive habitats that may be in the unsurveyed areas, the project will incorporate mitigations, ***Mitigation Measure-Bio-1***. This mitigation require Protocol level Botanical Preconstruction Surveys all areas of the project footprint that were not surveyed.

Mitigation Measure-Bio-2, Bio-3, and Bio-4 outline methods to mitigate impacts to *Pacific Gilia (Gilia capitata ssp. Pacifica)* and *Tracy's tarplant* (*Hemizonia congesta ssp. Tracy*i) by outlining timing restrictions for road construction and rock removal, altering construction BMPs to ensure habitat is available following road work completion, and using ESA fencing to protect occurrences.

As described in the Biological Resources section of this document, there are many species that make Rolling Meadow Ranch their home. To protect these species, this project has included many standardized preconstruction surveys. The project will continue to check for Northern Spotted Owl, ***MM-Bio 7***. If construction will take place during nesting or denning seasons for sensitive species, the project will perform the appropriate Preconstruction nesting/denning surveys. The sensitive species in question are: Golden Eagle, Coopers hawk, Sharp-shinned hawk, American peregrine falcon, osprey, Grasshopper Sparrow, Bryant's Savannah Sparrow, all migratory birds, Fisher, Western Pond Turtle, red-legged frog, foothill yellow-legged frog, and red- bellied newt work, Townsend's big-eared bat, western bumble bee, migratory birds, Black-tailed Jack Rabbit. The surveys for individual species are described in ***Mitigation Measure Bio-8, 9, 10, 11, 12, 13, 14, 15 and 16.***

Inclusion of these standardized preconstructions surveys with a clear mandate for follow up by CDFW in case of a positive animal, nest, or den find reduces the potentially significant risk of the project construction on sensitive species in the area.

Sensitive Plant Communities are mapped in the project footprint. The native grass sensitive communities, *Danthonia californica* and *Elymus glaucus*, were found in the footprints of the proposed facilities (see Figures 23-26) and the project will include a mitigation, **Mitigation Measure-Bio-5,** that will reduce the impact on these native species. The mitigation measure will guide the successful enhancement and restoration of a total of approximately 0.97 acres (42,446 square feet) of *Danthonia californica* prairie and approximately 0.89 acres (38,925 square feet) of *Elymus glaucus* prairie.

Mitigation Measure-Bio-6 will Mitigate for direct impacts to 0.239 acres of seasonal wetland by creating between 0.36 and 0.717 acres of 3-parameter seasonal wetland on the ranch, as described in the mitigation measure.

b) Cumulatively Considerable Impacts

The project's individual impacts would not add appreciably to existing or foreseeable future significant cumulative impacts. In each section of this document, Aesthetics, Agricultural and Forest Resources, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, Utilities, And Wildfire, cumulative impacts are evaluated. Due to the large size of the ranch and the localized impacts of the project, the project is determined to have **Less Than Significant** cumulatively considerable impacts.

c) Substantial Adverse Effects on Humans

The project's proposed changes to the environment and effects on humans are analyzed throughout this document in the following sections: Aesthetics, Agricultural and Forest Resources, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, Utilities, And Wildfire. In each section, the analysis concludes that project changes will not result in substantial adverse effect on humans. Therefore, potential project impacts to humans would be **Less Than Significant**.

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HUMBOLDT COUNTY PLANNING & BUILDING DEPARTMENT

MITIGATION MONITORING REPORT

For the Rolling Meadow Ranch, LLC, Conditional Use Permits

APNs 217-022-004, 217-181-028, 217-201-001, 211-281-006, 217-181-017; Record Number: PLN-12520-CUP; Apps No. 12529.

Record Number: PLN-12529-CUP

Assessor Parcel Numbers: 217-022-004, 217-181-028, 217-201-001, 211-281-006, 217-181-017

Mitigation measures were incorporated into conditions of project approval for the above referenced project. The following is a list of these measures and a verification form that the conditions have been met. For conditions that require on-going monitoring, attach the Monitoring Form for Continuing Requirements for subsequent verifications.

Mitigation Measures and Applicant Proposed Operating Restrictions:

Aesthetics

Mitigation Measure – Aesthetics 1: Retaining walls proposed for Facilities 1 and 2 shall include an architectural treatment, such as in-wall plantings or an equivalent treatment, to soften the visual impact of the walls.

Implementation Time Frame	Monitoring Frequency	Date Verified	To Be Verified By	Compliance Yes | No	Comments / Action Taken
During construction activity and project operations.	Continuous		HCP&BD**		

Agriculture and Forestry Resources

Mitigation Measure – Agriculture and Forest Resources 1: Revegetation and Monitoring adapted from the 2019 State Water Board Order WQ 2019-0001-DWQ; Attachment A, Section 2, number 33-35. This is a Proposed Native Trees – Replanting and Monitoring Plan; the final Replanting Plan will be approved by Humboldt County Planning and Building Department (HCP&BD) prior to implementation.

NATIVE TREES - Replanting and Monitoring Plan:

8. The cultivator will plant three native trees for every one native tree damaged or removed.
    a. The project will plant up to 72 trees.
        i. The trees removed from meadows and other non-riparian locations will be replanted on the ranch in a similar environment to that from which they were removed:
        (6) California Bay trees (*Umbellularia californica*)
        (6) Big Leaf Maple Trees (*Acer macrophyllum*)
        (3) Madrone (*Arbutus menziesii)*
        (9) White Oak (*Quercus alba*)
        (18) Doug fir (*Pseudotsuga menziesii*),

        ii. The trees that are removed as a result of stream crossing improvements will be replanted along the same riparian corridor from which they were removed, but not within or immediately adjacent to the roadbed:
        (9) Doug fir (*Pseudotsuga menziesii*)
        (3) White Oak (*Quercus alba*)
        (3) Red Alder (Alnus rubra)
        (3) Madrone (*Arbutus menziesii*)
        (3) Big Leafed Maple (*Acer macrophyllum*)
        (9) Bay Laurel (*Laurus nobilis*).

    b. Trees will be planted in groves in order to maximize wildlife benefits and will be derived from local stock.
    c. Trees will be planted 10-foot on center.

9. Growth and success of planted saplings will be monitored by a qualified professional for two (2) years.
    d. After two (2) years, an 85% survival rate is required.
    e. If success rate is less than 85%, the planting and monitoring steps will be repeated.

10. The project proponent shall maintain a copy of the **Native Trees Replanting and Monitoring Plan** and monitoring results onsite; HCP&BD will confirm implementation and monitoring results will be submitted annually (by December 31) to HCP&BD and made available, upon request, to additional Responsible Agencies under CEQA.

Implementation Time Frame	Monitoring Frequency	Date Verified	To Be Verified By	Compliance Yes | No	Comments / Action Taken
During construction activity and project operations.	Continuous		HCP&BD**		

Biological Resources

Mitigation Measure- Biology -1: A full early season botanical survey has not been completed on Facilities #6-#9. Prior to construction an early season survey will be completed. If any sensitive species are found that portion of the project will not be constructed. A survey was done on April 9th, 2019 but it was too early for some special status species. Results of the survey will be Submitted to Humboldt County prior to construction of Facilities #6-#9.

MM-Bio-2: To avoid the potential for significant impacts to ***Pacific Gilia (Gilia capitata ssp. Pacifica)*** populations, improvements to- and maintenance of the road shall occur after August 15th and before October 15th, in areas where Pacific gilia is impacted (Table 6b&c, Figure 29 & 31). Seed for erosion control mix will not be used in these areas and instead weed-free straw will be laid. Straw will be removed by May of the following year. In addition, these areas will also be assessed by a qualified botanist for a period of five (5) years, following project implementation. These findings will be incorporated into a larger monitoring report of all proposed activities (facilities developments, etc.), which will be submitted to CDFW annually. Monitoring results will be used in an adaptive management process aimed at maintaining the Pacific gilia population.

MM-Bio-3: To avoid the potential for significant impacts to ***Pacific Gilia (Gilia capitata ssp. Pacifica)*** all extraction of rock from the rock quarry (Map ID #4, Figures 27 and 30) shall occur after August 15th and before October 15th and occur no more frequently than every two (2) years (i.e. allowing two years between extraction events). Additionally, monitoring will occur every two (2) years following any rock extraction, within a period of ten (10) years following project implementation. Monitoring shall entail annual inventory and mapping of the extent of the Pacific gilia population on roads accessing project areas and within the rock quarry area. A monitoring report shall be submitted to CDFW annually within the above described monitoring period. Monitoring results shall be used in an adaptive management process aimed at maintaining the Pacific gilia population. For instance, if it appears that rock extraction is negatively impacting the population, a different plan shall be developed and implemented.

Implementation Time Frame	**Monitoring Frequency**	**Date Verified**	**To Be Verified By**	**Compliance** **Yes | No**	**Comments / Action Taken**
Prior to issuance of the building permit, during construction activity, and during project operations.	Annually		HCP&BD** and CDFW*		

MM-Bio-4: The densest portion of ***Tracy's tarplant* (*Hemizonia congesta ssp. Tracy*i)** population, the patch largely outside the project footprint (Map Point 8, Figure 30, Table 6b), will be protected during construction by the placement of construction fencing at the periphery of the population, to keep equipment operators out of the area. A qualified Botanist will oversee the construction of the fencing. The Botanist will

prepare A report that will be submitted to the Humboldt County Planning Department which will include photos of the fence.

Implementation Time Frame	Monitoring Frequency	Date Verified	To Be Verified By	Compliance Yes | No	Comments / Action Taken
Prior to construction activity, fence will be installed.	Once		HCP&BD** and CDFW*		

MM-Bio-5: The mitigation measure will guide the successful enhancement and restoration of a total of approximately 0.97 acres (42,446 square feet) of ***Danthonia californica*** **prairie** and approximately 0.89 acres (38,925 square feet) of ***Elymus glaucus*** **prairie.**

Many parts of the project parcel (ranch) have grasslands that have been severely degraded by historic grazing and are currently dominated by nonnative grasses and forbs. However, in some areas, large stands of native grassland (including *Danthonia californica* prairie and *Elymus glaucus* prairie) persist. These stands vary in the degree to which they are currently invaded by nonnative species. Several of these stands will be mapped and evaluated as part of the mitigation site selection process. Stands will be categorized as:

- High quality: ~0-30% non-native,
- Moderately invaded: ~31-60% non-native, and
- Heavily invaded: ~61-90% non-native.

These categories will be assigned using stand data collected according to the California Native Plant Society releve protocol (CNPS 2000). Mitigation sites will be created within stands that are moderately to heavily invaded and have the potential to be restored to a category of "high quality" by a combination of weeding and planting.

Fifty percent (50%) of the mitigation area will be within "moderately invaded" stands, and fifty percent (50%) will be within "heavily invaded" stands. Implementing mitigation via the restoration of existing stands is a better guarantee for success than planting into areas currently unoccupied by the target species, as these sites are more likely to have suitable environmental conditions for high quality prairie development. Once the mitigation areas have been identified, they will be mapped and visually demarcated in the field. The baseline stand conditions over the mitigation areas will be documented and mapped.

Mitigation areas will then be planted with 'plug' size *Danthonia californica* and *Elymus glaucus* plants, grown from seed collected on site (on the ranch). Plugs will be planted on 2-ft centers or as needed. After planting, the sites may also be seeded with additional *Danthonia California* and *Elymus glaucus* seed collected on site or purchased.

Across the mitigation sites, invasive plants (and non-native plant species that threaten to prevent the project from meeting the Success Criteria) shall be intensively managed. Management emphasis will be placed on

any invasive species with a Cal-IPC rank of High or Moderate, and on any non-native plants threatening the successful establishment of any native plantings or natural recruits, herein referred to as weedy species (Cal-IPC 2018). Non-native species without a Cal-IPC rating and that do not threaten the establishment of native plantings or recruits will not be a management priority. Species meeting the criteria for removal are herein referred to as target species. At this site, target species are expected to include yellow star thistle and weedy perennial grasses.

Each year for the five years following planting in the month of April, an individual qualified to identify target species (as described above) will visit the site, and all occurrences of target species within the prairie mitigation site shall be recorded and mapped. All mapped species will be targeted for mechanical removal during a maintenance visit, which will occur within one month. If feasible, the mapping and maintenance can happen in the same visit. Any mechanically removed invasive plant parts shall be properly disposed of to reduce the chance of spread. This may include hauling off-site. If invasive plants are shipped off site for disposal they shall be transported in closed or covered containers and delivered to a suitable destination such as a waste disposal facility.

Success Criteria

The Project will be considered successful if by Monitoring Year 5:

11. A total of approximately 0.97 acres (42,446 square feet) *Danthonia californica* prairie and approximately 0.89 acres (38,925 square feet) of *Elymus glaucus* prairie have been established, which meet the 'high quality' category defined below and the membership rules of these vegetation alliance types as described by the Manual of California Vegetation (MCV) (MCV 2020).
    a. 'High quality' stands will be defined as being between 0% and 30% invaded by non-native plants with a Cal-IPC rank.
    b. For the *Danthonia californica* Herbaceous Alliance (California oat grass prairie) the membership rules include:
        - *Danthonia californica* > 50% relative cover in the herbaceous canopy.
        - *Danthonia californica* generally > 25% absolute cover in the herbaceous layer.
    c. For the *Bromus carinatus* - *Elymus glaucus* Herbaceous Alliance (California brome - blue wildrye prairie), membership rules include:
        - *Elymus glaucus* > 30% relative cover in the herbaceous layer.
        - *Bromus carinatus*, *Elymus glaucus*, or *Pteridium aquilinum* > 30% relative cover in the herbaceous layer.
12. Total absolute cover (Section 6.1) by invasive species with a Cal-IPC rank of "High" shall be less than 10% at the site.
13.

Monitoring

Annual Monitoring and Maintenance site visits shall occur every year beginning in the first growing season after construction for at least five (5) years or until Success Criteria are met (see Adaptive Management Section 10). Monitoring visits shall be conducted within the same three-week period in end of April-beginning of May each monitoring year to maintain seasonal consistency between surveys, and to allow time for needed maintenance or replacement plantings to be arranged for. Qualified botanists or restoration specialists shall perform annual monitoring.

Reporting

The results of the annual monitoring will be used to create an Annual Monitoring report which tracks progress toward meeting Success Criteria and recommends adaptive management and contingency plans for any problems, issues, additional maintenance needs etc. An Annual Monitoring Report will be submitted to Humboldt County and CDFW by December 31 of each monitoring year.

Appendix L_ Contains additional detail for the restoration plan and is incorporated here by refence.

MM-Bio-6: Mitigate for direct impacts to 0.255 acres of ***seasonal wetland and 0.277 acres of seasonal wetland within 100 feet of Facilities. A total of 0.48 acres of wetland will be mitigated for***

Goals and Objectives

The MMP shall be created to address requirements for wetland impact mitigation required by the USACE and California State Water Resources Control Board permits needed to complete the Project as designed. The goal is to create new, 3-pararmeter wetland at a ratio of3:1.. Equally, mitigation may entail quality and function enhancement of existing wetlands at similar ratios. The mitigation goals of this project are as follows:

3. Create 1.4 acres of 3-parameter seasonal wetland;
4. Mitigate project impacts to potential jurisdictional Waters of the US, resulting in no net loss of wetland habitat or hydrologic function within the watershed;

Success Criteria

The following performance criteria will be used to evaluate project success.

The Project will be considered successful if by Monitoring Year 5:

14. 1.4 acres of 3-parameter wetland have been established in the Mitigation Area, as defined by USACE methodology.
15. 85% of container plantings or an equivalent number of appropriate native recruits have survived, or planted areas have achieved greater than or equal to 85% total absolute vegetative cover.
16. Total absolute cover by invasive species with a Cal-IPC rank of "High" shall be less than 10% at the site.
17. Site hydrology is favorable for the development of wetland soils.

Monitoring

Overview

Annual Monitoring and Maintenance site visits shall occur every year beginning in the first growing season after construction for at least five (5) years or until Success Criteria are met. Maintenance Visits shall occur in April and Monitoring visits shall be conducted within the same three-week period in August each monitoring year to maintain seasonal consistency between surveys, and to allow time for needed maintenance or replacement plantings to be arranged for. The 3-paramter wetland delineations required in years 3-5 should occur in early April, and the Hydrology Check site visits should occur sometime between December and March. Qualified botanists or restoration specialists shall perform annual monitoring.

Methods

All Monitoring Years

1. Monitor survival of all container plantings:

All planted stock will be inspected during the monitoring visit, and the following data recorded:

- Plant Species;
- Plant Survival: Dead or Alive;
- Any native recruits established in the Area will be counted.

2. Monitor absolute vegetative cover in the Mitigation Area;

- Randomly selected 1-square meter plots will be established within the Wetland Basin portion of the Mitigation Area. Within each plot, total absolute vegetative cover and absolute cover for each species present (including plantings and natural /seeded recruits) will be ocularly estimated;
- The Mitigation Area will be visually assessed for areas of low survivorship, in case these areas are missed in plot monitoring. Any such areas will be mapped and described.

3. Monitor and report Cal-IPC rank High species and other weedy species.

- All occurrences of Cal-IPC rank High invasive species shall be recorded and mapped within the Mitigation Area. The results will be used to develop a concise maintenance plan, if needed. Any other non-native, weedy species that are impacting plantings or the character of the site shall also be addressed.

4. Report pertinent site conditions:

- Any pertinent ecological conditions (outside of those outlined specifically in the Success Criteria) shall be recorded for reporting in the Annual Monitoring report. Adaptive management shall be utilized to determine a corrective course of action for any conditions that may impact project success, create water quality issues or otherwise negatively impact the site. Examples of such conditions include animal impacts, illegal dumping or camping, flood events, or wildfire. These observations will enhance the representation of site conditions in the Monitoring Reports.

5. Establishment of photo points around the project area:

- Initial photos shall be taken before restoration implementation, then once annually following restoration for each monitoring year. Photo point locations shall be permanently established and described, mapped, and images included in Annual Monitoring Reports. Photo point protocols shall conform to methods of the USDA Photo Point Monitoring Handbook (Hall, 2002).

Monitoring Years 3-5 Only:

3. Establish three (3) Wetland Survey Plots;

- Three plots will be subjectively selected within the Wetland Basin portion of the Mitigation Area. At each plot, a USACE methodology 3-Parameter survey will be conducted.
- A winter Hydrology Check should be conducted to survey and document hydrology of the site

Monitoring Year 5 Only:

- A full USACE 3-paramter method wetland delineation will be performed within the Mitigation Area.

Reporting

Appropriate statistical methods will be utilized to determine survivorship of plantings and the contribution of natural recruits/seeded species to survival each monitoring year. Change in total cover of native trees, shrubs and herbaceous species over time will be analyzed. This data will be useful in characterizing vegetation development over the site.

Each monitoring year an Annual Report (and at the end of year 5 a final report) detailing information collected during the monitoring will be submitted to CDFW and Humboldt County Planning Department.

Implementation Time Frame	Monitoring Frequency	Date Verified	To Be Verified By	Compliance Yes | No	Comments / Action Taken
Prior to issuance of the building permit, during construction activity, and during project operations.	Annually		HCP&BD** and CDFW*		

MM – Bio-7: Protocol level surveys (Spot Checks) need to be conducted for the fourth year (2021) for ***Northern Spotted Owl.*** As per protocol if nesting NSOs are found within 0.25 miles of a project area, no construction will take place in the 0.25-mile buffer around the nest until after August 31. Survey results will be submitted to Humboldt County Planning Department.

MM – Bio-8: If construction takes place during the breeding season for ***Coopers hawk, Sharp-shinned hawk, American peregrine falcon,*** **and** ***osprey*** pre-construction surveys for these species will take in the forested habitat in the 1000-foot buffer around each project location. If a nest is found, CDFW will be contacted and the agency will determine the appropriate no work buffer to remain around the nest until it has fledged. This is standard practice and often CDFW considers specific local factors when making buffer size decisions. In the past when working with CDFW on road construction projects a buffer of 500 feet has been placed on active raptor nests. Survey results shall be submitted to Humboldt County Planning Department. If work takes place outside of the breeding season, no surveys are necessary.

MM – Bio-9: If construction takes place during the denning season, then preconstruction surveys for ***Fisher*** den sites and structures will be completed in the more densely forested areas that occur within 1000 feet of facilities #6-#9 to determine presence or absence of denning potential for this species. Should evidence of denning be found, no work will take place at the facilities #6-#9 location until after the denning season has ended. Survey results shall be submitted to Humboldt County Planning Department. If work takes place at Facilities #6-#9 outside of the denning season, no surveys are necessary.

MM – Bio-10: If construction takes place during the nesting season for ***grasshopper sparrow*** **and** ***Bryant's savannah sparrow*** than 3 consecutive preconstruction surveys for these species will take place the within the grassland portions of all project footprints as well as a 500-foot buffer around the footprint. Survey will be completed no more than seven days before the start of construction in that area. If a nest is found, a 'no work' buffer will be flagged around the nest. The buffer will be maintained until the nest has fledged. This is standard practice and often CDFW considers specific local factors when making buffer size decisions. In the past when working with CDFW on road construction projects buffers ranging from 100 to 200 feet has been placed on active ground nesters nests. Survey results shall be submitted to Humboldt County Planning Department. If work takes place outside of the breeding season no surveys are necessary.

MM – Bio-11: Although pre-project surveys showed the barn is not being used as anything other than a temporary night roost, Removal of the barn could have an effect on ***Townsend's big-eared bats*** if they start using it for anything other than a temporary night roost. Preconstruction surveys of the barn should occur during breeding season to ensure no bats are using this structure for anything other than a temporary night roost. Survey results shall be submitted to Humboldt County Planning Department.

MM – Bio-12: If construction of the infrastructure at facilities #1, and #2, takes place during the nesting season, preconstruction surveys ***western pond turtle*** nests will be conducted. If nests are found, they will be buffered and undisturbed until turtles have hatched and left the nest. As is standard practice CDFW will be consulted to help with buffer sizing. Often CDFW considers specific local factors when making buffer size decisions. Survey results shall be submitted to Humboldt County Planning Department. If work takes place outside of the breeding season no surveys are necessary.

MM – Bio-13: To mitigate for potential impacts to ***migratory birds and black-tailed jackrabbit*** three consecutive preconstruction surveys for these species should take place no more the one week prior to the start of construction at EACH location of vegetation removal or ground disturbance. The footprint of the disturbance area and a 300-foot buffer will be surveyed. Should any nests be found CDFW will be consulted for appropriate actions going forward, such as buffers or the delaying of work until nestlings have fledged. Survey results shall be submitted to Humboldt County Planning Department. Alternatively, no ground disturbing events should occur until August, when these species will have completed breeding for the season.

MM-Bio-14: To mitigate for potential impacts to ***western bumble bee*****.** The project will first determine presence/absence. This can be achieved with three (3) nest seeking queen surveys or three (3) flight season surveys

- Nest-seeking queen surveys will target suspected preferred nesting areas (linear features with emphasis on forest transition zones). These surveys will be evenly spaced (approx. every two weeks) over the span of two months (Feb/March or March/April) depending on the expected emergence of the bee at the project area (weather dependent – queens are active after top layer of soil is consistently warm). The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Surveyors will spend approximately one person hour per every three (3) acres surveyed. Searches will be conducted by a qualified biologist and use photography as means of positive identification of Bombus species unless a permit for handling bees is secured.

- Flight season surveys will target the optimal habitat in the project area and consist of a minimum of one (1) person hour per 3 acres of optimal habitat. Habitat that does not offer floral resources will not be surveyed. These three (3) surveys will be 'free searches.' They will be evenly spaced (one week apart) in the month of July (June/Aug depending on site conditions/season). The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Searches will be conducted by a qualified biologist and use photography as means of positive identification of Bombus species unless a permit for handling bees is secured.

If present presence is determined during the nest seeking queen surveys or three flight season surveys, the project will conduct nest searches in the impacted (earth disturbance) area.

- These will be conducted during the flight season using a modified version of the transect methodology presented by Osborne, J. et al. (2008). Qualified surveyors will utilize compass and pacing to walk a grid of the impact area (the impact area is the project footprint plus a 100 ft buffer). In general, surveyors will spend 5 minutes nest searching (watching for bees entering or exiting nest) for every 6m x 6m area. The surveys will take place during warm sunny days over 70°F (21°C) without fog/rain or wind over 15mph. Any nests that are found will be flagged and mapped and surveyor will consult with CDFW to determine appropriate action/nest buffer areas.

If nests are found the area will be buffered and construction will not proceed until the nest has been abandoned. A report of survey results will be submitted to CDFW and Humboldt County.

MM-Bio-15: To ensure less than significant impacts to northern ***red-legged frog, foothill yellow-legged frog, and red- bellied newt*** work to upgrade 34 stream crossings on the project roads will be done during the summer and fall season when the streams should be dry with no frogs or newts are present. As per standard construction process, IF any streams are found to have water in them at the time of crossing reconstruction, preconstruction surveys for amphibians will be completed no more 2 days prior to construction. If frogs are found they will be relocated, CDFW will be notified, and a biological construction monitor will be on site for the duration of the construction of that crossing. A copy of the preconstruction survey report and construction monitoring (if needed) report will be submitted to CDFW and Humboldt County Planning within 7 days of the completion of work on the wet crossing.

MM- Bio -16: Construction shall occur outside of the Golden Eagle breeding season unless pre-construction Golden Eagle surveys have been conducted which demonstrate that no active nests are present within a 660-foot radius of the Project, which is the setback recommended by the United States Fish and Wildlife Service. The surveys shall be completed during at least two separate non-consecutive days, with at least one survey occurring between January 15 and February 15.

VIII. APPENDIXES