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Site Management Plan

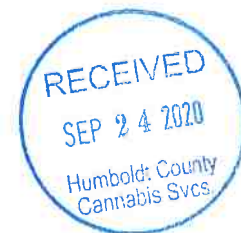
Implementation of Best Practical Treatment or Control Measures

In Fulfillment of Water Quality Order 2019-0001-DWQ

State Water Resources Control Board

Humboldt County APN 522-023-001

Application Number: 407328



May 2020

Prepared for:
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707-798-0947
Permit No. 11607
Case No. CUP16-302

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As a condition of approval for enrollment into the Water Quality Order 2017-0023-DWQ for the cultivation, processing, manufacture, or distribution of cannabis, the owner or permittee shall indemnify and hold harmless Mother Earth Engineering, Inc. and its agents and employees for any claims, damages, or injuries brought by affected property owners or other third parties due to the commercial cultivation, processing, manufacture, or distribution of cannabis for medicinal and recreational use and for any claims brought by any person for problems, injuries, damages, or liabilities of any kind that may arise out of the commercial cultivation, processing, manufacture, or distribution of cannabis for medicinal and recreational use. As the preparer, Mother Earth Engineering, Inc. is not responsible for any water quality violations.

I/we agree to be responsible to the stated terms and conditions of the Order, and release Mother Earth Engineering, Inc., its employees, contractors, and consultants from any defense costs, including attorneys' fees or other loss connected with any legal challenge which may arise from implementation of said Order.

Landowner Printed Name: David Cuevas

Signature: _____ Date: _____

Discharger Printed Name: David Cuevas

Signature: _____ Date: _____

Prepared by: Mother Earth Engineering, Inc.
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Site Management Plan prepared on: 7/27/2020

Signature: _____ Date: _____

GENERAL INFORMATION

Discharger: David Cuevas

P.O. Box 3521

Eureka CA, 95503

Site Address: New Three Creeks Road

Willow Creek, CA, 95573

Humboldt County

Parcel: APN: 522-023-001

Zoning: (TPZ) – Timberland Production Zone

Parel Size: 463 Acres

Cannabis Cultivation Area: 1 Acre

Disturbed Area: 1.19 Acres

HUC-12: 180102111205 – Supply Creek

SWB WDID: 1_12CC407328

Facility Status: Tier 2 – Low Risk

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1 INTRODUCTION & PURPOSE

This Site Management Plan (Plan) was developed to report how the discharger is complying with the Best Practicable Treatment or Controls (BPTC's) listed in Attachment A, Section 2 of the State Water Resources Control Board (SWB) Order 2019-0001-DWQ (Order). The purpose of this Order is to provide a regulatory structure to minimize adverse impacts to water quality due to cannabis cultivation. Cannabis cultivators that are enrolled under this Order and compliant with its regulations will receive a conditional waiver for the discharges associated with cannabis cultivation. Using data from on-site assessments and office analysis; this Plan provides an inventory of cannabis cultivation activities, land and resource management, and land stewardship practices to ensure the discharger is in compliance with the Order.

This site needs to be reassessed and likely moved up from Low Risk to a Moderate or High Risk designation due to existing slope characterization of disturbed area and proximity of disturbed areas near riparian areas.

1.1 SITE LOCATION

The 463-acre site is located in eastern Humboldt County on Old Three Creeks Road approximately 8 miles northeast from the intersection of Old Three Creeks Road and California State Route 299. The site is approximately 6 miles northwest of Willow Creek. The site is located in the Trinity River Hydrologic Unit, Horse Linto Creek – Trinity River watershed and the Supply Creek subwatershed. The site is located in Section 16, Township 7 North, Range 4 East, Humboldt Basin Meridian. The property is located on the Willow Creek USGS 7.5-minute quadrangle map.

1.2 SITE DESCRIPTION

The property is located on the a generally west-facing aspect of a mountainous terrain and ranges from 2,160 to 3,700 ft above mean sea level. The property is composed of a mixed montane hardwood-conifer forest dominated by Douglas fir (*Pseudotsuga menziesii*). The land is characterized as having medium sloped grades to high sloped grades up to 50-70% slopes. Project areas on the property are situated at the top of a hill and generally drains west into tributaries of Supply Creek.

Mean annual precipitation is 71.77 inches (Caltrans). According to NRCS Web Soil Survey, soils within the property are primarily composed of the Clallam-Hugo-Holland families association, deep, dry, 35 to 70 percent slopes (NRCS, 2019). The main component of the family association, Clallam, are considered moderately deep to densic materials, moderately well-drained soils that formed in compact glacial tills. The Hugo series consists of deep, well-drained soils that formed in material weathered from sandstone, shale, schist, and conglomerate. The Holland series formed in material weathered from granitic rock and are often found on foothills and low mountains. These soils occur on strongly dissected mountains with sharp ridges and drainages and are not considered hydric soils (NRCS, 2019).

A perennial watercourse (Class II) flows from south to north across the property and drains into Supply Creek, a tributary of the Trinity River. Ten ephemeral drainages (Class III) flow throughout the property and into the Class

II watercourse. The Supply Creek subwatershed is the habitat of the Upper Klamath – Trinity Spring and Fall Chinook Salmon (*Oncorhynchus tshawytscha*), which are special-status species (University of California at Davis, 2014). According to CDFW's California Natural Diversity Database (CNDDB), the following special-status species have been historically observed within one (1) mile of the property project area: Southern torrent salamander (*Rhyacotriton variegatus*) and white-flowered rein orchid (*Piperia candida*).

1.3 FIELD AND ASSESSMENT METHODS

Office analysis and field inventory were used to determine the status of the property for enrollment in the Order. Pre-field inspection using aerial footage of the property was used to identify existing infrastructure, cultivation areas, watercourses, and the general layout of the property. The field inventory was conducted by Mother Earth Engineering staff on 4/2/2020. The inventory included GPS mapping of structures, water tanks, ponds, roads, cultivation sites, and other infrastructure.

2 SEDIMENT DISCHARGE BPTC MEASURES

2.1 SITE CHARACTERISTICS

Included with this report is an up to date map showing access roads, vehicle parking areas, streams, stream crossings, cultivation site(s), disturbed areas, buildings, and other relevant site features. See Appendix A: Site Plan.

2.2 ROAD CONDITIONS

There are three private access road segments (RS) on the property that total approximately 2.5 miles and are accessed from Old Three Creeks Road behind two locked gates. An inventory of the private access roads on the property are given below in Table 1 and shown on the Site Map. Improvement measures needed for the road segments are addressed below.

Table 1: Inventory of access roads on site.

Road Segment #/Map ID	Approx. Distance (mi.)	Type	Condition	Improvements
RS1	1.1	Active-Seasonal	Fair	5 stream crossings (1 undersized culvert and 4 untreated crossings) need to be upgraded to accommodate 100 year storm flows
RS2	0.2	Active-Seasonal	Fair	Install rolling dips and water bars at MP1, MP2, MP3, MP4
RS3	1.2	Inactive-ATV Track Only	Good	None recommended



The property is only accessed by the owner and employees. The site is not lived on year-around and is only open during the growing season. Assuming 4 trips a day to the property the access roads are used roughly 8 times a day during the growing season and not at all during the winter season. All roadbeds consist of natural hardpacked soil and rock. In general roads appeared in good-fair condition, untreated stream crossings should be upgraded to rocked fords as these areas are currently discharging fine sediment into the associated water courses. Minor to moderate rutting and rilling was observed along road segment 2 rolling dips and waterbars should be installed to improve road drainage (MP1-4, see Section 3.1 of this report).

Erosion control cutsheets for installing rolling dips and straw wattles are in Appendix C: Selected Best Practicable Treatment or Control Measures, Data Logs and Measure Checklists.

2.3 CULTIVATION AREA

There are eight (8) distinct cultivation areas (CA) located on site. Five cultivation areas are currently used and three cultivation areas are legacy sites that will be decommissioned and remediated. The cultivation areas are inventoried in *Table 2*.

Most cannabis cultivation on the property is full-sun outdoor grown in smart pots. There is some in-ground planting and CA4 and CA5 are being grown in hoophouses with light deprivation techniques. Most cultivation areas are enclosed by fencing and drip irrigation is used.

Table 2: Inventory of the cultivation area and associated characteristics.

Map ID	Cultivation Area (ft ²)	Area Description	Cultivation Area Slope (%)	Distance to Water Body (ft)	Nearest Water Body Classification
CA1	11,100	Outdoor	<5	>150	Class III
CA2	15,038	Outdoor	<5	>200	Class III
CA3	5,000	Outdoor	<5	>200	Class III
CA4	5,659	Hoophouses	<5	>200	Class III
CA5	6,763	Hoophouses and Outdoor	<5	>200	Class III
CA6	3,550	Outdoor-legacy area (to be removed and remediated)	>50	>200	Class III
CA7	1,000	Outdoor-legacy area (to be removed and remediated)	10	>200	Class III
CA8	12,800	Outdoor-legacy area (to be removed and remediated)	38	35	Class III

2.4 WATER RESOURCES

Cannabis irrigation water is sourced from a ground water well that was established in 2020. The static water level of the completed well was measured at 115 feet below ground level. The estimated yield is 7 gallons per minute and the total depth of the completed well is 200 feet. Water storage on site consists of several HDPE tanks and water

bladders, ranging in size from 500 gallons to 50,000 gallons. Water bladders are to be removed or replaced. There is currently 140,750 gallons of storage onsite.

Water storage on site consists of several HDPE tanks and waterbags, ranging in size from 500 gallons to 50,000 gallons. There is currently 140,750 gallons of storage onsite. Two diversions will remain in use for domestic use only. Table 3 lists the recommended water resources BPTC corrective actions needed onsite.

Table 3: Inventory of recommended water resources BPTC corrective actions needed.

Map ID/Location	BPTC Measure Directive	Existing or Date to be Installed
All water storage tanks	Install float valves to all tanks to keep water from overflowing (Appendix B: Project Photos, #44)	Nov. 15, 2020
All Direct Use Irrigation Tanks	Install water meters on all direct use irrigation tanks and keep daily records of water used for cultivation	Nov. 15, 2020
All water Bladders	Remove all water bladders, replace with HDPE storage tanks if necessary	Nov. 15 2020
General	General: Remove all unused irrigation line	Nov. 15, 2020

2.5 STORAGE AREAS

There are three separate sheds used as harvest storage areas and one shed used for agricultural chemical storage. These sheds are listed below in Table 4.

Table 4: Inventory of all storage areas onsite.

Map ID	Lat	Long	Type/Size	Materials Stored or Use
Drying Shed	40.9891	-123.7275	Shed 16'x40'	Harvest storage and drying
Drying Shed	40.9932	-123.7204	Shed 16'x40'	Harvest storage and drying
Drying Shed	40.9871	-123.7243	Shed 16'x40'	Harvest storage and drying
Shed/Petroleum and Agricultural Chemical Storage	40.9896	-123.7229	Shed 13'x12'	Agricultural materials

2.6 WATERCOURSES AND STREAM CROSSINGS

There are ten (11) known watercourses running through the site. An inventory of watercourses can be found in Table 5.

Table 5: Inventory of watercourses that run through the site.

Map ID/Location	Type	Notes
WC1	Class III	Not observed during site visit, mapped on LandVision

WC2	Class II	Blue line stream mapped on HumGIS, not visited, tributary of Supply Creek
WC3	Class III	Main source of domestic water, from diversion
WC4	Class III	Relatively flat portion of property, stream channel mostly dry, possible underground stream
WC5	Class III	Stream channel diversion seen at time of MEE site visit
WC6	Class III	Stream channel diversion seen at time of MEE site visit
WC7	Class III	Stream channel diversion seen at time of MEE site visit. Near the existing road, the area appeared seepy, with a dry stream channel seen above and below the roadway
WC8	Class III	Dry at time of site visit, need to remove cultivation materials from channel, remediation and site of crossing
WC9	Class III	Dry at time of site visit, need to remove cultivation materials from channel, remediation and site of crossing
WC10	Class III	Water flowing over roadway, needs remediation, no clear stream channel above seep area
WC 11	Class III	Not observed during site visit, mapped on LandVision

There are five (5) stream crossings on site. An inventory of all stream crossings and the recommended improvements can be found in Table 6. The Hydrological Study summarizing the evaluation of the stream crossing infrastructure can be found in Appendix D.

Table 6: Inventory of all stream crossings on site.

Map ID/Location	Type	Size	Material	100 Year Size	Recommended Improvements
SC1/MP10	Culvert	18"	CMP	No	Install 24-inch diameter culvert
SC2/MP11	Untreated Crossing	NA	NA	No	Install rocked ford

SC3/MP12	Untreated Crossing	NA	NA	No	Install rocked ford
SC4/MP13	Untreated Crossing	NA	NA	No	Install rocked ford
SC5/MP14	Untreated Crossing	NA	NA	No	Install rocked ford

† Reference photos are located in Appendix B: Project Photos, #17-30

2.7 LEGACY WASTE DISCHARGE ISSUES

Due to in the site's location within Regional Water Quality Control Board Region 1, legacy waste discharge issues must be identified and discussed in the Site Management Plan. There are three legacy cultivation areas and six onstream impoundments needing remediation, these are listed in Table 6 with the recommended improvement. Detailed descriptions and remediations of the legacy waste discharge issues are described below.

Table 6: Inventory of Legacy Waste Discharge Issues on site.

Map ID/Location	Type	Size	BPTC Measure Directive	Date to be Installed
CA8/ MP7	Outdoor cultivation	±12,800 SQ FT	Remove all cultivation materials, install erosion and sediment control measures, as needed (such as mulch and fiber rolls) and restore vegetation cover. Remove cultivation materials from streamside management area and revegetate disturbed area. (Appendix B: Project Photos, #13)	Nov. 15, 2021
CA6/MP15	Outdoor Cultivation	±3,550 SQ FT	Remove all cultivation materials, install erosion and sediment control measures, as needed (such as mulch and fiber rolls) and restore vegetation cover. (Appendix B: Project Photos, #31-35)	Nov. 15, 2021
CA7/MP19	Outdoor Cultivation	±1,000 SQ FT	Remove all cultivation materials, install erosion and sediment control measures, as needed (such as mulch and fiber rolls) and restore vegetation cover. (Appendix B: Project Photos, #47)	Nov. 15, 2021
MP8	Stream Impoundments	NA	Remove stream impoundments (Appendix B: Project Photos, #14-16)	Nov. 15, 2021



MP9	Stream Impoundments	NA	Remove stream impoundments (Appendix B: Project Photos, #45-47)	Nov. 15, 2021
All watercourses	Watercourses	NA	Keep watercourses free of cultivation related materials and trash. (Appendix B: Project Photos, #40)	Nov. 15, 2021
MP17	Stream Impoundment	NA	Remove stream impoundment and recontour to match natural channel (Appendix B: Project Photos, #37-38)	Nov. 15, 2021
MP18	Stream Impoundment	NA	Remove stream impoundment and recontour to match natural channel (Appendix B: Project Photos, #39)	Nov. 15, 2021

† Reference photos are located in Appendix B: Project Photos

CA8/MP7 Cultivation Area 8 is a roughly 12,800 square foot cultivation area that is located on a 38% slope. A small portion of the cultivation area, about 50 square feet is located within the streamside management area of a Class III stream (WC10). Map Point 7 marks the area needing remediation for both the streamside management area as well removing and remediating the former cultivation area. The streamside management area should be remediated by removing all cultivation materials including pots, stakes, irrigation line and plastic trellis. The cultivation area should be remediated by removing all cultivation materials including pots, stakes, irrigation line and plastic trellis. All areas of exposed earth should be treated with temporary erosion and sediment control measures, if necessary, including straw wattles, mulch and/or silt fencing. Areas of exposed earth should be revegetated with primary seeding in the fall and winter months to take advantage of seasonal rainfall and cooler temperatures. Reseed with native seed mixes. We recommend a grassland mix, King Range Mix from Native Ecosystems, which contains lightly competitive grasses for initial stabilization and perennial grasses and herbs for long term establishment while attracting native pollinators. The landowner may choose to vegetate the area with orchard trees for domestic purposes.

CA6/MP15 Cultivation Area 6 is a roughly 3,550 square foot cultivation area that is located on an old skid road. The existing native slope above and below the road bench is greater than 50% in some areas. The recommended remediation is to remove all cultivation materials including pots, stakes, irrigation line and plastic trellis. Once cultivation materials have been removed the logging road should be fully decommissioned by ripping the road. Disturbed area should be treated with temporary erosion and sediment control including straw wattles and mulching at a rate of two tons per acre. Before mulch is placed, the road area should be seeded with native grass in the fall and winter months to take advantage of seasonal rainfall and cooler temperatures. Reseed with native seed mixes. We recommend a grassland mix, King Range Mix from Native Ecosystems, which contains lightly competitive grasses for initial stabilization and perennial grasses and herbs for long term establishment while attracting native pollinators. The landowner may choose to vegetate the area with orchard trees for domestic purposes.

CA7/MP19 Cultivation Area 6 is a roughly 1,000 square foot cultivation area that is located on an old skid road. The existing native slope above and below the road bench is 10% in some areas. The recommended remediation is to remove all cultivation materials including pots, stakes, irrigation line and plastic trellis. Once cultivation materials have been removed the logging road should be fully decommissioned by ripping the road. Disturbed area should be treated with temporary erosion and sediment control including straw wattles and mulching at a rate of two tons per acre. Before mulch is placed, the road area should be seeded with native grass in the fall and winter months to take advantage of seasonal rainfall and cooler temperatures. Reseed with native seed mixes. We recommend a

grassland mix, King Range Mix from Native Ecosystems, which contains lightly competitive grasses for initial stabilization and perennial grasses and herbs for long term establishment while attracting native pollinators. The landowner may choose to vegetate the area with orchard trees for domestic purposes.

MP8 Map Point 8 is the site of two separate stream impoundments that served as legacy points of diversion. One impoundment is a plastic-lined box about 10 feet by 12 feet. The other impoundment consists of a two-walled plywood frame. Both impoundments need to be removed and all plastic, boards, plywood, trash, debris, waterline and water tanks removed from the 50 foot riparian zone setback. Streambanks should be stabilized and disturbed area should be treated with temporary erosion and sediment control measures, if necessary, and revegetated with native seed/plants.

MP9 Map Point 9 is the site of two separate stream impoundments that served as legacy points of diversion. Both impoundments are dug out low points in a riparian area. One impoundment has a small (about 3-foot width) berm to contain water. The impoundment should be removed and all trash, debris, boards, plastic, waterline and water tanks removed from the streamside management area. Streambanks should be stabilized, if necessary. Disturbed area should be treated with temporary erosion and sediment control measures, if necessary, and revegetated with native seed/plants.

All Watercourses During the MEE site visit cultivation materials and debris was seen in watercourse channels. All trash, cultivation related plant material, grow bags, used soil, plastic and debris must be removed from ALL streamside management areas and disposed of properly.

MP17 Map Point 17 is the site of two separate stream impoundments that served as legacy points of diversion. This site is registered with the Department of Water Resources as Application No. S027565. Both impoundments are constructed with small berms, one constructed from native soil and the other constructed with cement. The impoundment should be removed and all trash, debris, boards, plastic, waterline and water tanks removed from the streamside management area. Streambanks should be stabilized, if necessary. Disturbed area should be treated with temporary erosion and sediment control measures, if necessary, and revegetated with native seed/plants.

MP18 Map Point 18 is a single stream impoundment that served as legacy points of diversion. The impoundment is constructed with a small berm of native soil. The impoundment should be removed and all trash, debris, boards, plastic, waterline and water tanks removed from the streamside management area. Streambanks should be stabilized, if necessary. Disturbed area should be treated with temporary erosion and sediment control measures, if necessary, and revegetated with native seed/plants.

3 EROSION PREVENTION & SEDIMENT CAPTURE

3.1 EROSION PREVENTION BPTC MEASURES

Erosion prevention controls such as straw mulch, plastic covers, slope stabilization, soil binders, culvert outlet armoring, and revegetation efforts shall be inventoried and monitored to ensure their effectiveness. A complete inventory of existing and pending erosion prevention controls is listed in Table 7.

Table 7: Inventory of all existing and pending erosion prevention controls on site.

Map ID	BPTC Measure Directive	Existing or Date to be Installed
MP1	Existing erosion on roadway, install rolling dip to limit erosion (Appendix B: Project Photos, #1-3)	Nov. 15, 2021
MP2	Existing erosion on roadway, install rolling dip to limit erosion (Appendix B: Project Photos, #4-5)	Nov. 15, 2021
MP3	Existing erosion on roadway, install water bar and armoring at outfall to limit erosion (Appendix B: Project Photos, #6)	Nov. 15, 2021
MP4	Existing erosion on roadway, install water bar and armoring at outfall to limit erosion (Appendix B: Project Photos, #7)	Nov. 15, 2021
All Cultivation Areas	Utilize weed-free straw mulch at a rate of 2 tons per acre for exposed earth around cultivation areas	Nov. 15, 2020
All Cultivation Areas	Cover cultivation beds and contain soils over winter (Appendix B: Project Photos, #43)	Nov. 15, 2020
MP5	Former roadway is being used for cultivation and appears unstable in some sections. Pull plants from transitional road surface and stabilize with erosion control measures such as seed free mulch and straw wattles, seed with native erosion control grass mix. (Appendix B: Project Photos, #8-11)	Nov. 15, 2021
MP7	Remove all cultivation materials, install erosion and sediment control measures, as needed (such as mulch and fiber rolls) and restore vegetation cover. Remove cultivation materials from streamside management area and revegetate disturbed area. (Appendix B: Project Photos, #13)	Nov. 15, 2020

3.2 SEDIMENT CONTROL BPTC MEASURES

Sediment controls such as silt fences, fiber rolls, settling basins, vegetated outfalls, and hydroseeding shall be inventoried and monitored to ensure their effectiveness. A complete inventory of existing and pending erosion prevention controls is listed in Table 8.

Table 8: Inventory of all existing and pending sediment controls on site.

Map ID	BPTC Measure Directive	Existing or Date to be Installed
All Cultivation Areas	Contain cultivation area runoff with strawbales or fiber rolls	Nov. 15, 2020
MP6	Install fiber rolls across cut-slope and at toe of cultivation area 4 (Appendix B: Project Photos, #12)	Nov. 15, 2020

4 AGRICULTURAL CHEMICAL BPTC MEASURES

4.1 INVENTORY OF AGRICULTURAL CHEMICALS

Table 9 lists all off the agricultural chemicals in use on site. All chemical usage is in accordance with the label instructions. Agricultural chemicals are applied at agronomic rates. No restricted pesticides are allowed on the site.

Table 9: Inventory of all agricultural chemicals in use on site.

Agricultural Chemical Name	Agricultural Chemical Type	Method of Storage	Storage Location	Description of Use
Plant Therapy	Pesticide/Fungicide	In manufacturers container	Shed adjacent to Residence	Applied at agronomic rates when needed.
Green Clean	Pesticide/Fungicide	In manufacturers container	Shed adjacent to Residence	Applied at agronomic rates when needed.
Heavy 16.primr	Nutrient	In manufacturers container	Shed adjacent to Residence	Applied at agronomic rates when needed.
Veg A and B	Nutrient	In manufacturers container	Shed adjacent to Residence	Applied at agronomic rates when needed.
Bud A and B	Nutrient	In manufacturers container	Shed adjacent to Residence	Applied at agronomic rates when needed.
Fire	Nutrient	In manufacturers container	Shed adjacent to Residence	Applied at agronomic rates when needed.
Hydro Enzymes	Nutrient	In manufacturers container	Shed adjacent to Residence	Applied at agronomic rates when needed.
Compost Tea	Fertilizer	In manufacturers container	Shed adjacent to Residence	Applied at agronomic rates when needed.
Tierra Vasco	Fertilizer	In manufacturers container	Shed adjacent to Residence	Applied at agronomic rates when needed.
Worm Castings	Fertilizer	In manufacturers container	Shed adjacent to Residence	Applied at agronomic rates when needed.
Insect Frass	Fertilizer	In manufacturers container	Shed adjacent to Residence	Applied at agronomic rates when needed.
Hydro Fish and Shrimp	Fertilizer	In manufacturers container	Shed adjacent to Residence	Applied at agronomic rates when needed.

4.2 AGRICULTURAL CHEMICAL STORAGE, APPLICATION & DISPOSAL

All agricultural chemicals are currently stored in a shed adjacent to the cabin. It is required that a designated agricultural chemical and pesticide storage location be designated so that it prevents those chemicals from entering the riparian setbacks or waters of the State. Empty agricultural chemical containers are disposed of per their label instruction. If the discharger is unsure of proper disposal method, they will contact their local Waste Management or Transfer Center Facility for instruction. Until proper disposal, empty containers will be kept in heavy-duty plastic totes or heavy-duty contractor bags stored in weatherproof shelter.

5 PETROLEUM PRODUCT BPTC MEASURE

5.1 INVENTORY OF PETROLEUM PRODUCTS

Table 10 lists all off the petroleum products in use on site. Owner shall take all necessary measures to establish a designated fuel storage location. All petroleum product usage is in accordance with the label instructions.

Table 10: Inventory of all petroleum products used on site.

Petroleum Product	Associated Equipment	Method of Storage	Storage Location	Description of Use
Gasoline	Generator	5-gallon plastic cans with secondary containment	Shed	Domestic
Propane	Generator/Domestic	5-gal manufacturer's tank	Shed	Domestic

5.2 PETROLEUM PRODUCT STORAGE, USE & DISPOSAL

All petroleum products shall be used and stored in a manner that prevents those chemicals from entering the riparian setbacks or waters of the State. Empty petroleum product containers are stored, used and disposed of per label instruction. If the discharger is unsure of proper disposal method, they will contact their local Waste Management or Transfer Center Facility for instruction. Until proper disposal, empty containers will be kept in heavy duty plastic totes or contractor bags stored in weatherproof shelter. All petroleum products are stored in a shed adjacent to the cabin. The recommended BPTC remediation for petroleum product storage is listed in

Table 11: Inventory of recommended petroleum product storage BPTC corrective actions needed

Map ID	BPTC Measure Directive	Existing or Date to be Installed
MP20	Separate petroleum product and agricultural chemical products and store in separate locations	Nov. 15, 2020

6 SPILL PREVENTION AND CLEANUP

Spill kits shall be located in the Agricultural Chemical and Fertilizer storage shed for immediate use to clean up any agricultural chemical or petroleum product spills. At the time of field visit, no spill kits were present on site. A corrective measure for this is inventoried in Table 12. Discharger will maintain spill kits by restocking whenever any materials are used, deteriorated or expired.

Table 12: Inventory of all petroleum corrective measures needed on site.

Map ID	BPTC Measure Directive	Existing or Date to be Installed
Ag Chem & Pesticide Storage Shed	Install spill kit	Nov. 15, 2020



The following procedure is to be used in the event of a hazardous material spill:

- I. **Risk Assessment:** The moment a spill occurs and throughout the response, risks will be determined that may affect human health, the environment, and property. The spilled material and quantity released will be and determined.
- II. **Selection of Personal Protective Equipment:** The appropriate Personal Protective Equipment (PPE) is selected to safely respond to the spill will be determined. MSDS and literature from Chemical and PPE manufacturers will be used to make this determination. If there is uncertainty of the danger and the spilled material is unknown, the worst will be assumed and the highest level of protection will be implemented.
- III. **Spill Confinement:** As quickly as possible the spill area will be confined. Use of contained absorbents such as socks and booms will be implemented. Priority will be given to stop the flow of the liquid before it has a chance to contaminate a water source. Spill kits will be used to facilitate a quick, effective response.
- IV. **Stopping the Source:** After the spill has been confined, the source of the spill will be stopped. This may simply involve turning a container upright or plugging a leak from a damaged drum or container. Putty, barrel patches, and cone plugs will be used to stop leaks. Material will be transferred from the damaged container to a new one.
- V. **Incident evaluation and cleanup implementation:** Once the spill has been confined and the leak has been stopped, the incident will be assessed and a plan of action for implementing the spill clean-up will be developed. Pillows and mat pads will be used to absorb the remainder of the spill. Once the absorbents are saturated they will be considered hazardous waste and disposed of accordingly.
- VI. **Decontamination:** Site, personnel and equipment will be decontaminated by removing or neutralizing the hazardous materials that have accumulated during the spill. This may involve removing and disposing of contaminated media such as soil that was exposed during the spill incident.

7 TRASH/REFUSE AND DOMESTIC WASTEWATER BPTC MEASURES

Trash and refuse are generated from cannabis cultivation and domestic-related activities. There are no permanent residences located on site. There are 4 full-time seasonal employees who work on the site with 4 additional employees at peak operation. Employees are expected to commute to the site.

7.1 INVENTORY OF REFUSE SOURCES ON SITE

Inventory of refuse sources are listed in Table 13.

Table 13: Inventory of Refuse Sources on site.

Refuse Source	Type	Storage Location	Disposal Process
Agricultural activities	Agricultural waste	Compost Areas	Bagged and delivered by residents to transfer station weekly or composted in designated waste areas.
Residential	Food waste/domestic waste	Kitchen Shed	Bagged and delivered by residents to transfer station weekly or composted in designated waste areas.

Table 14 lists the recommended improvements for trash/refuse management on site.

Table 14: Inventory of recommended improvements for trash/refuse management.

Map ID/Location	BPTC Measure Directive	Existing or Date to be Installed
General	Remove trash at minimum weekly during seasonal operations and during winterization yearly	Nov. 15, 2020
MP16	Remove trash pile (Appendix B: Project Photos, #36)	Nov. 15, 2020
All Cultivation Areas	Designate areas for contained compost piles on stables slopes. Remove synthetic materials from composted waste. (Appendix B: Project Photos, #38-39)	Nov. 15, 2020

7.2 INVENTORY OF WASTEWATER SOURCES ON SITE

Currently there is no permitted septic system onsite. It is anticipated that a permitted septic system will be installed in the future. There are (2) outhouse/pit toilets on site, listed in Table 15.

Table 15: Inventory of Wastewater Sources on site

Wastewater Source	Treatment Type	Map ID	Additional Notes
Residential	Outhouse/pit privy	Outhouse 1	Replace pit privy with permitted septic or porta potties.
Residential	Outhouse/pit privy	Outhouse 2	Replace pit privy with permitted septic or porta potties.

Table 16 lists the recommended improvements for wastewater sources on site.

Table 16: Inventory of recommended improvements for wastewater sources on site.

Map ID/Location	BPTC Measure Directive	Existing or Date to be Installed
MP21	Discontinue use and remediate with lime-material. Install permitted on-site wastewater treatment system or implement use of regularly serviced portable toilets	Nov. 15, 2021
MP22	Discontinue use and remediate with lime-material. Install permitted on-site wastewater treatment system or implement use of regularly serviced portable toilets	Nov. 15, 2021

8 WINTERIZATION BPTC MEASURES

The winter period has been defined by the General Order as the calendar dates from November 15th to April 1st. The goal of implementing winterization best management practices is to limit an erosion or sediment transport during the rainy season. All applicable erosion control and sediment prevention measures shall be implemented prior to the beginning of the winter period, November 15. All soil stockpiles and spoils must either be properly disposed of or fully contained and weatherproofed before the winter period. Any seasonal roads shall be blocked off and no heavy equipment will be used during the winter period. All road drainage features shall be maintained

and inspected prior to the winter season. All disturbed areas must be stabilized and erosion repair and control measures must be applied to bare ground to prevent discharge of sediment to waters of the state. All refuse should be removed from site. Hydroseed any exposed earth areas with native plant seed to revegetate and stabilize those areas.

9 STATE WATER RESOURCES CONTROL BOARD (SWRCB) REPORTING

Full SWRCB monitoring and reporting guidelines can be found in Attachment B: Monitoring and Reporting Program of the General Order. Important specific guidelines from Attachment B of the General Order have been highlighted here.

The Discharger shall retain records of all monitoring information, including copies of all reports required by the General Order and records of all data used to complete the application for the General Order. Records shall be maintained for a minimum of three years from the date of the report or application. Records may be maintained electronically. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Water Board Executive Officer.

Table 8 lists the technical reports required for Tier 1 and Tier 2 dischargers.

Table 8: Technical Report Requirements by Tier (SWRCB 2019).

Tier	Risk Level	Technical Reports
Conditionally Exempt	N/A	Site Closure Report
Tier 1	All	Site Management Plan
Tier 1	Moderate	Site Erosion Sediment Control Plan
Tier 1	High	Disturbed Area Stabilization Plan
Tier 1	All	Site Closure Report
Tier 2	All	Site Management Plan
Tier 2	Moderate	Site Erosion Sediment Control Plan
Tier 2	High	Disturbed Area Stabilization Plan
Tier 2	All	Nitrogen Management Plan
Tier 2	All	Site Closure Report

The monitoring requirements for Tier 1 or Tier 2 facilities are shown in Table 9.

Table 9: Monitoring Requirements (SWRCB 2019).

Monitoring Requirement	Description
Winterization Measures Implemented	Report winterization procedures implemented, any outstanding measures, and the schedule for completion.
Tier Status Confirmation	Report any change in the tier status. (Stabilization of disturbed areas may change the tier status of a facility. Contact the Regional Water Board if a change in status is appropriate.)
Third Party Identification	Report any change in third party status as appropriate.
Nitrogen Application (if cultivation area or aggregate of cultivation areas exceeds one acre)	Report monthly and annual total nitrogen use for bulk, solid, and liquid forms of nitrogen. Provide the data as pounds per canopy acre per time (month or year) as described in Attachment D, Nitrogen Management Plan. If plant tissue was collected to determine limited nitrogen availability, the results shall be submitted.

Dischargers that are classified as Tier 1 or Tier 2, and are characterized as a moderate or high risk, shall perform the following additional monitoring as shown in Table 10.

Table 10: Monitoring Requirements for Moderate or High-Risk Dischargers (SWRCB 2019).

Observations	Description	Monitoring Frequency
Surface Water Runoff	Report any conditions of surface water runoff, including location, duration, source of runoff (irrigation water, storm water, etc.).	Monthly
Soil Erosion Control	Report any indications of soil erosion (e.g., gully, turbid water discharge, landslide, etc.).	Monthly
Sediment Capture	Report the status of sediment capture measures (e.g., silt fence, fiber rolls, settling basin, etc.).	Monthly
Erosion/Sediment Capture Maintenance	Report maintenance activities to maintain the effectiveness of erosion control and sediment capture measures (e.g., reinstallation of straw mulch, hydroseeding, tarp placement, removal or stabilization of sediment captured, removal of settled sediment in a basin, etc.).	Monthly
Stabilization of Disturbed Areas	Dischargers characterized as high risk (with any portion of the disturbed area within the setbacks), shall provide a status report describing activities performed to stabilize the disturbed area within the setback.	Monthly
Material(s) Storage Erosion/Spills Prevention	Report materials delivered or stored at the site that could degrade water quality if discharged offsite (e.g., potting soil, manure, chemical fertilizer, gasoline, herbicides, pesticides, etc.).	Monthly
Holding Tank, Septic Tank, or Chemical Toilet Servicing	Report the dates, activity, and name of the servicing company for servicing holding tanks or chemical toilets.	Monthly

Annual Reports shall be submitted to the Regional Water Board by March 1 following the year being monitored. For example, the monitoring report for activities conducted in the year 2018 is due on March 1, 2019. The Annual Report

shall include the following: 1.) Facility Status, Site Maintenance Status, and Storm Water Runoff Monitoring. 2.) The name and contact information for the person responsible for operation, maintenance, and monitoring.

A letter transmitting the annual report shall accompany each report. The letter shall summarize the numbers and severity of violations found during the reporting period, and actions taken or planned to correct the violations and prevent future violations. The transmittal letter shall contain the following penalty of perjury statement and shall be signed by the Discharger or the Discharger's authorized agent:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

The Discharger shall submit notices, technical reports, and annual reports to appropriate Regional Water Board where the permitted activity is taking place. The appropriate Regional Water Board office and e-mail information is provided on the application receipt (e.g., notice of exemption, Notice of Receipt, Notice of Applicability, etc.). The North Coast Regional Water Board Cannabis Office Contact Information is:

North Coast Regional Water Board**55550 Skylane Blvd., Suite A****Santa Rosa, CA 95403**Northcoast.cannabis@waterboards.ca.gov

10 MAINTENANCE ACTIVITIES

The discharger will maintain logs of daily water diversion, daily water usage, land disturbance weather and road & drainage feature maintenance, as applicable. The discharger will implement winterization measures, erosion control measures and soil disposal & management measures, as applicable. Example pages of the data logs and measure checklists have been added to this document as Appendix C: Selected Best Practicable Treatment or Control Measures, Data Logs and Measure Checklists.

Storms that produce 0.5 inches of precipitation within 24 hours or over 1 inch over the course of 7 days shall trigger an inspection of all roads, ditches, culverts and their outfalls, and any other drainage features. This same inspection shall occur prior to the onset of the wet season (e.g. September before regular rain events begin). Dischargers shall inspect the condition of the roads and drainage features. Any woody debris that is found at drainage inlets shall be removed to prevent any blockages. Any sediment buildup that impacts access road or drainage feature performance shall be removed and stabilized outside of the riparian setbacks. Stabilization of sediment will be achieved by one of the following methods:

- Reused in contained vegetable or ornamental gardening beds that are located outside of the riparian setbacks.
- In contained stockpiles that are covered when not in use. These stockpiles can then be used when amending/reusing cultivation medium.
- Transported contained and covered to the closest transfer station as green waste.

11 SUMMARY OF CORRECTIVE ACTIONS

Table 17 is a summary of Corrective Actions and BPTC measures that are either underway or yet to be implemented. These measures must be completed prior to the start of the winter period, November 15.

Table 17: Table of Corrective Actions

Map ID/Location	BPTC Measure Directive	Date to be Installed
MP1	Install rolling dip	Nov. 15, 2020
MP2	Install rolling dip	Nov. 15, 2020
MP3	Install water bar and armoring at outfall	Nov. 15, 2020
MP4	Install waterbar and armoring at outfall	Nov. 15, 2020
All Cultivation Areas	Utilize weed-free straw mulch (2 tons per acre) for exposed soils around cultivation areas	Nov. 15, 2020
All Cultivation Areas	Contain cultivation area runoff with strawbales or fiber rolls	Nov. 15, 2020
All Cultivation Areas	Cover cultivation beds and contain soils over winter	Nov. 15, 2020
MP5	Pull cultivation pots from road surface and stabilize with erosion control measures such as seed free straw and straw wattles, seed with native erosion control grass mix	Nov. 15, 2020
MP6	Install fiber rolls across cut-slope and at toe of cultivation area 4	Nov. 15, 2020
MP7	Remove all cultivation materials, install erosion and sediment control measures, as needed (such as mulch and fiber rolls) and restore vegetation cover. Remove cultivation materials from streamside management area and revegetate disturbed area	Nov. 15, 2021
All Water Tanks	Install float valves to keep water from overflowing	Nov. 15, 2020
All Direct Use Irrigation Tanks	Install water meters and keep daily records of water used for cultivation	Nov. 15, 2020
All water Bladders	Remove all water bladders, replace with HDPE storage tanks if necessary	Nov. 15, 2020
General	Remove all unused irrigation line	Nov. 15, 2021
MP8	Remove stream impoundments	Nov. 15, 2021
MP9	Remove stream impoundment	Nov. 15, 2021
All Watercourses	Keep watercourses free of cultivation related materials and trash	Nov. 15, 2020
MP10	Install 24-inch diameter culvert	Nov. 15, 2021
MP11	Install rocked ford	Nov. 15, 2021
MP12	Install rocked ford	Nov. 15, 2021
MP13	Install rocked ford	Nov. 15, 2021
MP14	Install rocked ford	Nov. 15, 2021
MP15	Remove all cultivation materials, install erosion and sediment control measures, as needed (such as mulch and fiber rolls) and restore vegetation cover	Nov. 15, 2021
General	Remove trash at minimum weekly during seasonal operations and during winterization yearly	Nov. 15, 2020
MP16	Remove trash pile	Nov. 15, 2020
All Cultivation Areas	Designate areas for contained compost piles on stable slopes. Remove synthetic materials from composted waste.	Nov. 15, 2020

MP17	Remove stream impoundment and recontour to match natural channel (Under LSAA and 401 programs)	Nov. 15, 2021
MP18	Remove stream impoundment and recontour to match natural channel (Under LSAA and 401 programs)	Nov. 15, 2021
MP19	Remove all cultivation materials and recontour slope to stabilize and match natural shape (Under LSAA and 401 programs)	Nov. 15, 2021
MP20	Separate petroleum product and agricultural chemical products and store in separate locations	Nov. 15, 2020
Ag Chem & Pesticide Storage Shed	Install spill kit	Nov. 15, 2020
MP21	Discontinue use and remediate with lime-material. Install permitted on- site wastewater treatment system or implement use of regularly serviced portable toilets	Nov. 15, 2021
MP22	Discontinue use and remediate with lime-material. Install permitted on- site wastewater treatment system or implement use of regularly serviced portable toilets	Nov. 15, 2021

† Reference photos are located in Appendix B: Project Photos

12 REFERENCES

EcoAtlas. (n.d.) CALVEG Habitat Types Layer. <<https://www.ecoatlas.org/regions/ecoregion/statewide/>> (Feb. 17, 2020).

Google Earth. (1993). Image U.S. Geological Survey Image NASA.

NRCS, UC Davis. (1990). SoilWeb. <<https://casoilresource.lawr.ucdavis.edu/gmap/>> (Feb. 17, 2020).

SWRCB (State Water Resources Control Board). (2019). Order WQ 2019-0001-DWQ. General Waste Discharge Requirements for Discharges of Waste Associated With Cannabis Cultivation Activities.

SWRCB (State Water Resources Control Board). (2019). Order WQ 2019-0001-DWQ. General Waste Discharge Requirements for Discharges of Waste Associated With Cannabis Cultivation Activities. Attachment A: Cannabis Cultivation Policy Attachment A.

SWRCB (State Water Resources Control Board). (2019). Order WQ 2019-0001-DWQ. General Waste Discharge Requirements for Discharges of Waste Associated With Cannabis Cultivation Activities. Attachment B: Monitoring and Reporting Program.

US Climate Data (1981-2010). Climate Garberville -California.

<<https://www.usclimatedata.com/climate/garberville/california/united-states/usca1898>> (Feb. 17 2020).

USGS. (1979). Willow Creek, CA. 7.5 Minute Series Quadrangle Map.