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Cannabis Waste and Discharge Compliance Report

Prepared for: Jesse Parsons

APN: 211-261-016-000

Order No. R1-2015-0023 WDID: 1B171503CHUM

WQ-2017-0023-DWQ WDID: 1_12CC404181

Humboldt County, CA

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Compliant Farms Certified

October 28, 2019



COVER LETTER

Existing Water Resource Protection Plan

Implemented under ORDER No. R1-2015-0023, the Region 1 State Water Resources Control Board's Cannabis Cultivation Policy required that all Tier 1 and 2 Dischargers submit and implement a Water Resources Protection Plan (WRPP) that describes how best management practices (BMPs) would be implemented at the site for each of the outlined Standard Conditions contained in the order.

The subject parcel has been enrolled in R1-2015-0023 and working under a preexisting WRPP. The following updated WRPP will serve to fulfill the new requirements under ORDER WQ 2017-0023-DWQ, the State Water Resources Control Board's Cannabis Cultivation Policy which requires that all Tier 2 Dischargers submit and implement a Site Management Plan (SMP) that describes how best practical treatment or control (BPTC) measures are implemented at the site.

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Site Management Plan Details

- The following plan includes descriptions for each Standard Condition and each applicable subsection.
- Each applicable subsection includes recommendations for Best Management Practices (BMPs) and Best Practical Treatment or Control (BPTC) measures.
- Each applicable subsection includes Monitoring and Maintenance, Design, Winterization and Permanent Strategies to achieve compliance with the Standard Conditions.
- Each applicable subsection includes an action priority and expected completion date to achieve compliance.
- Attachments are included to support the BMP and BPTC measures.

Existing Project

- The project is located in Humboldt County, in the Lower Eel River Valley area, on the east side of State Highway 101, approximately 2-miles from the intersection of Newton Rd and State Highway 101, on the property known to be 211-261-016-000.
- Local Jurisdiction: Zoning Clearance Certificate for Interim Permit pursuant to the Humboldt County Commercial Medical Marijuana Land Use Ordinance (CMMLUO), Section 314-55.4.1 et seq., specifically Section 314-55.4.8.11, a Zoning Clearance Certificate for an interim Permit may be issued for an Existing Cannabis Cultivation and ancillary activities of existing outdoor cultivation.
- State Licensing: California Department of Food and Agriculture, Division of CalCannabis Provisional Cannabis Cultivation License.
- California Department of Fish and Wildlife: Streambed Alteration Agreement.
- Water Source: State of California, Division of Water Rights: Rainwater Catchment

Web Soil Survey

According to the Natural Resources Conservation Service's Web Soil Service, the site's soil type is identified as:

Feature	512	513
Slope	15-30%	30-50%
Depth to restrictive feature	80-inches	80-inches
Natural drainage class	Well Drained	Well Drained
Capacity to transmit water	Mod. High	Mod. High
Depth to water table	>80-inches	>80-inches
Frequency of flooding	None	None
Frequency of ponding	None	None
Available water storage in profile	Low, 5.7-inches	Moderate, 6.5-inches

See attached Soil Map, Map Unit Legend and Map Unit Descriptions.

Attachments

- Water Resource Protection Elements Site Map and Descriptions
- Water Resource Protection Plan: Standard Conditions Compliance Requirements
- Best Practical Treatments and Controls Site Map and Acronyms
- Site Management Plan: Best Practical Treatments and Controls
- Monitoring Timeline and Data Log
- Solid and Hazardous Waste Management Plan
- Soil Map, Map Unit Legend and Map Unit Descriptions
- SWRCB_WQ20170023DWC_Sec.2: Requirements and Best Practical Treatment and Control (BPTC) related to water diversions and waste discharge for cannabis cultivation.
- ORDER No. R1-2015-0023 Best Management Practices (BMP) for Site Maintenance and Operations
- Winterization Protocols for the Statewide Cannabis Order
- Various BMP and BPTC Documents

EXECUTIVE SUMMARY

ORDER No. R1-2015-0023 Site Characteristics

BBC1

1. Site Maintenance, Erosion Control and Drainage Features

i. Road Maintenance and Other Corridors

A short gravel and dirt road accesses the project site from the main community road. The road is well draining with sufficient radius turns and stable margins and was graded and surfaced within the last year. A steep ATV road accesses an upper cultivation site and water storage through the forested areas of the parcel.

ii. Discharge Points

Discharge points along the access roads are in good working condition and are maintained during the wet-season. Some upgrades are required.

iii. Hydrologic Disconnection

Regular road maintenance ensures that discharge is hydrologically disconnected from surface waters. Developed and cultivated sites are maintained and native vegetation along the margins is encourage.

iv. Stockpiled Materials

Materials are secured for the wet-season.

2. Stream Crossing Maintenance

There are no stream crossings.

3. Riparian and Wetland Protection and Management

Site meets minimum setbacks from surface water, is hydrologically disconnected and has well vegetated margins. Some buffer enhancements are recommended.

4. Spoils Management

Vegetative material is composted onsite, contained and set at a sufficient distance from surface water. Soil is reused within existing cultivation areas.

5. Water Storage and Use

i. Rainwater Catchment System

A rainwater catchment system in conjunction with a large metal building supplies the irrigation water for all cannabis cultivation.

ii. WS

Rigid storage with float valves, stable foundations and fire hookups. The operation has a surplus of storage beyond the forbearance period.

6. Irrigation Runoff

There is no runoff associated with irrigation. Irrigation system is maintained regularly to avoid leaks. Irrigation is done manually to avoid over watering and thus the discharge of nutrients. Soils are amended during the off-season to enhance the organic content and thus the water holding capacity. Soils are mulched and margins of cultivations sites are vegetated. Some buffer enhancements are recommended.

7. Fertilizers and Soil Amendments

Fertilizers and soil amendments are stored when not in use and applied per manufactures recommendations. Operation employs a living-soils style of cultivation utilizing compost, cover-crops and biology to provide plants with nutrition.

8. Pesticides and Herbicides

No restricted commercial pesticides or herbicides are used. Operation employs the use of compost teas and companion planting as part of an integrated pest management plan.

9. Petroleum Products and Other Chemicals

Petroleum products are present only for the purpose of property management. They are stored in a secure location with secondary containment.

10. Cultivation Related Wastes

Vegetative material is composted onsite, contained and set at a sufficient distance from surface water. Soil is reused within existing cultivation areas.

11. Refuse and Human Waste

Refuse is taken off-site on a regular basis to a licensed municipal waste facility. An onsite septic system and certified portable unit manages human waste.

ORDER WQ 2017-0023-DWQ Site Characteristics

The following summary addresses standard conditions not addressed in the preceding summary under Order No. R1-2015-0023.

1.1.3.1. Legacy Discharge Issues

There are no legacy discharge issues associated with this project.

5. Winterization Measures

See attached Standard Conditions Compliance Requirements Table for a complete list of winterization recommendations for each Standard Condition.

Appendix

Water Resource Protection Elements*
 Jesse Parsons
 APN: 211-261-016-000
 WDID: IB171503CHUM

- Legend**
- CBE: Cultivation Buffer Enhancement
 - CM: Culvert Maintenance
 - CS: Composting System
 - DIS: Discharge Infiltration System
 - EDP: Engineered Discharge Point
 - FM: Forest Management
 - IDM: Inboard Ditch Maintenance
 - MS: Materials Storage
 - RBZ: Riparian Buffer Zone
 - RM: Road Management
 - RRA: Realign Road Approach
 - RWCS: Rainwater Catchment System
 - SAR: Seasonal Access Road
 - SB: Setback
 - WE: Wetland Enhancement
 - WSU: Water System Upgrade



WRPPE* project descriptions are on the following page.
 Note: Locations are relative, use as reference only. Recommendations only, not prescriptions of method or manner.



ArcGIS Web Map

Humboldt County Planning and Building Department

Printed: October 7, 2019 Web AppBuilder 2.0 for ArcGIS

Map Disclaimer:
 While every effort has been made to assure the accuracy of this information, it should be understood that it does not have the force & effect of law, rule, or regulation. Should any difference or error occur, the law will take precedence.

Highways and Roads

- Private or Unclassified
- Principal Arterials
- Minor Arterials
- Major Collectors
- Minor Collectors
- Local Roads

Blue Line Streams

- Perennial 1-3
- Perennial >4

City Boundary

- County
- Parcels (no APN labels)

Water Storage Tank

- Culvert
- Point of Diversion

Intermittent

- Subsurface

0 87.5 175 350 Feet

0 0.015 0.03 0.06 Miles

1 in = 188 ft

RF = 1:2,257

Sources: Humboldt County GIS
 Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Recommendations for Identified Water Resources Protection Elements

Overview

The following recommendations are based on site specific conditions related to the management of waste discharge and water resources on cannabis farms in upland watersheds. The intention of these design elements is to protect water quality while enhancing ecologic resources.

Cultivation Buffer Enhancement (CBE)

Cultivation buffers, in conjunction with appropriate setbacks from water resources, serve to off-set and mitigate the surface and subsurface discharge from human-based activities. The first phase of a cultivation buffer are filter-strips of linear plantings of dense native grasses which serve as sediment traps, habitat for beneficial insects and biomass accumulators. The second phase is the transition zone along the forest margin that incorporates an herbaceous layer of native species. Lastly, a forest management plan must integrate endemic species with a mature forest matrix. Forest side cast material must be processed appropriately. Monitoring is required. For cultivation sites adjacent to riparian zones see Riparian Buffer Zone (RBZ) for more details.

Culvert Maintenance (CM)

Maintenance includes but is not limited to: clearing of head basin of built up sediment and debris, velocity dissipators, armoring of head and toe basin, and restoration of native vegetation.

Composting System (CS)

Permanent facility to process agricultural spoils (stems, roots, etc.) through a static compost system and soil to be reused during the following cultivation season. Static compost systems require passive, foundational airflow. Site requires containment, remediation and setbacks. All used soil piles must be contained and promote the infiltration of tailwater.

Discharge Infiltration System (DIS)

Stormwater from roads, developed sites and other areas of impacted soils must be directed to protected areas of discharge. When the point of discharge is a natural area such as a forest margin steps must be taken to prevent erosion, increase the infiltration capacity of the discharge point and promote the recharge of groundwater. Velocity dissipators (rock check-dams, logs on-contour), On-Contour Swales and Infiltration Basins in conjunction with appropriate native vegetation are examples of enhanced infiltration strategies.

Engineered Discharge Points (EDP)

The discharge points of roads (rolling dips, outsloping, inboard ditches) require protected points of discharge to prevent the sedimentation of surface waters and promote the recharge of groundwater supplies. Rolling dips are wide, broad humps that facilitate the discharge of stormwater from roads and flats. The wide, broad design prevents stormwater from concentrating by matching the sheet flow from the drainage area. Inboard ditches in conjunction with cross-drains (ditch relief culverts) must be

sized to facilitate localized storm events. Discharge points must include armoring, velocity dissipators and vegetation to promote the infiltration of runoff. The discharge point should be integrated with some form of groundwater recharge system.

Forest Management (FM)

The indicated area has been impacted by human activities. Grading must be managed to prevent erosion and promote the restoration of native vegetation. The forest should be managed for a healthy matrix of hard and soft woods as well as vertical integration from canopy to ground cover. The management of buffers beyond the impacted sites and prior to any riparian zone must be of natural slope and native vegetation. This will facilitate a tertiary system of discharge protection for surface waters. Utilize large woody debris as velocity dissipators and natural areas of depression as infiltration sites. The infiltration of rainwater is a key component in recharging groundwater supplies that can have positive, cumulative effects on forest health and in-stream flows. A professional restorationist is recommended for establishing a management plan and some sites may be within the *Stream Side Management Area* which requires specific protocols for management.

Inboard Ditch Maintenance (IDM)

Inboard ditches are designed to concentrate runoff from roads and convey it to appropriate points of discharge. By nature, concentrated flows of runoff are erosive and many discharge points of inboard ditches are at stream crossings where sediment can pose a threat to water quality. All inboard ditches must be routinely maintained in preparation for the wet-season and at regular intervals during the wet-season. Strategies for maintaining inboard ditches are: remove built up sediment deposits and debris to maintain hydrologic function, instal check dams to dissipate velocity and trap sediment within the ditch, assess cross-drains to ensure function, instal velocity dissipators and enhance areas of infiltration at the discharge point of cross-drains and ditches to protect slopes and streams.

Riparian Buffer Zone (RBZ)

A licensed professional is recommended for establishing a management plan. This management plan should include elements that protect bed and bank from erosion, manage invasive species and serve as an ecological offset to the loss of habitat as a result of cultivation activities. The plan should also include elements that promote riparian functionality that include but are not limited to: temperature, microclimate, filtration, nutrient cycling, woody debris recruitment, groundwater recharge, bank stability, flood attenuation and flood water storage.

Road Management (RM)

Roads must be managed to prevent the destabilization of slopes, the sedimentation of watercourses and minimize the footprint of forest disturbance. A road assessment by a licensed professional is recommended to identify discharge strategies (i.e. outsloping, rolling-dips, inboard ditch with relief culvert, etc.), frequency and location of discharge points and surfacing with high grade aggregate material. The discharge points of roads require protected points of discharge to prevent the destabilization of slopes and the sedimentation of surface waters while increasing the infiltration rate to recharge groundwater supplies. Discharge points should include velocity dissipators and

vegetation to promote the infiltration of runoff. All inboard ditches must be routinely maintained in preparation for the wet-season and at regular intervals during the wet-season. Strategies for maintaining inboard ditches are: remove built up sediment deposits and debris to maintain hydrologic function, instal check dams to dissipate velocity and trap sediment within the ditch, assess cross-drains to ensure function, instal velocity dissipators and enhance areas of infiltration at the discharge point of cross-drains and ditches to protect slopes and streams. All road approaches relative to stream crossings must direct the runoff of sediment into an engineered or vegetated sediment trap prior to entering the water course. Road margins and ceilings require fuel modification (see specific agency requirements governing the specs). Activities should be conducted in such a way so as to promote a healthy forest margin of understory species as well as promoting infiltration and slope stabilization from road and slope runoff. The byproduct material from this management can be chipped to provide soil protection (mulch), plant nutrition (compost) and the remediation of agricultural runoff (remediation buffer). The margins between the road and stream banks require discharge protection, revegetation and riparian zone management. See *Standard Conditions Compliance Requirements* for more recommendations and seek the advice of a professional restorationist.

Realign Road Approach (RRA)

The present road approach is steep, does not facilitate two-way egress and is a threat to water quality. The approach should be realigned to eliminate the listed factors. Decommissioning of the existing approach is required and must include regrading to preexisting slope grade and a native revegetation plan. An assessment by a licensed professional is recommended.

Seasonal Access Road (SAR)

Seasonal access roads service limited areas of rural properties during the dry season only. Prior to the wet-season, seasonal access roads should be "put-to-bed" to eliminate rutting, erosion and sediment discharge. The entrances/exits of seasonal access roads should be barricaded to prevent their use during the wet-season.

Wetland Enhancement (WE)

The identified site has elements that are consistent with wetland and/or spring habitat. An assessment by a professional is recommended to establish a management plan to enhance and protect this area. Minimum setbacks must be maintained in conjunction with development and cultivation.

Water System Upgrades (WSU)

The following elements relate to the reasonable use of surface water, its storage, protections from catastrophic failure and wildlife protections. Upgrades include but are not limited to:

- Transfer tanks and pumps must be 50-feet from the surface water course.
- Gas powered pumps, or generators to power electric pumps, must be 50-feet from surface water, in a secure structure with secondary containment and fire suppression equipment (i.e. extinguisher).
- Transfer tanks must have a float valve and a redundant overflow.

- All water storage must be maintained to prevent the catastrophic loss of stored water and its reasonable use. These elements include: float valves, manifolds, metal gate valves, armored conveyance, flexible connections at the tank bulkhead, stable foundations, pressure regulators, pressure gauges to monitor for leaks and water use meters.

Other Recommended Water Resource Protection Elements

Ecological Offsets

Soils compaction, forest fragmentation and water resource extraction are the results of roads, developed sites and cultivation activities. The loss of connectivity may have negative affects on native fauna. In the interest of offsetting the impacts to the natural environment it is recommended that forest management, groundwater recharge and habitat restoration plans be implemented by a ratio of 2:1 (two square feet of offsets for every one square foot of disturbance). An example of a simple offset is an *island(s) of refugia*. *IORs* provide habitat and protection for native fauna as they move across large clearings. *IORs* also provide beneficial aspects to cultivation actives in the form of Integrated Pest Management (IPM) by hosting beneficial species that target “pests” and microclimate management. They also provide shade for workers during the heat of the day.

Water Conservation

In an effort to reduce the irrigation requirements for the cultivation site and thus the forbearance storage and demand on surface water diversions the following water conservation strategies are recommended. Increase the organic material in the potting soil to enhance the water holding capacity of the medium. Protect the soil surface from direct insolation through the use of natural and/or living mulches. Irrigate less frequently and at a greater depth to encourage wide and deep root growth. Utilize offseason protocols such as living soil methods that increase the biological and moisture levels to facilitate plant growth with reduced irrigation requirements.

Integrated Pest Management - IPM

In an effort to reduce and ultimately eliminate the need for pesticides - chemical, natural, organic or otherwise - it is recommended that the cultivation site buffers be planted with native and analog plant species that attract and host pest predator species of invertebrates and birds. It is further recommended that habitat be created to attract and host reptile species that also prey on agricultural pests. Through the management of microclimates the need for fungicides can be reduced and ultimately eliminated.

The above are recommendations and not prescriptions of method and manner. Your WRPP provides short term strategies to prevent the discharge of sediment and cultivation related wastes from entering surface waters until permanent systems can be deployed during the appropriate time of year. All features should be engineered and implemented by licensed professionals where applicable.

Standard Conditions Compliance Requirements - 2019					
Jesse Parsons / WDID: 1B171503CHUM / APN: 211-261-016-000					
Site Code	Map Point Description	Standard Condition	Recommendations	Action Priority	Permanent Strategy
1. Site Maintenance, Erosion Control and Drainage Feature					
RM	Roads	Road Maintenance	Triage Items • Winterization Protocols. Monitoring and Maintenance • Hand-dig water bars at frequent intervals to discharge road runoff into protected discharge points. • Clear in-board ditches and the head of relief culverts of accumulated sediment dams and only enough vegetative debris to facilitate functionality. Design • See <i>Water Resources Protection Elements</i> document. • See attached documents for more information related to <i>short term strategies for protecting water quality</i>. • See attached documents for information related to <i>monitoring requirements</i>.	1	
CM	Ditch	Other Corridors			
EDP	Relief Culvert				
IDM					
SAR	Seasonal				
RRA	Access Road				
			Winterization Strategies • Mulch road margins and discharge points to encourage native vegetation recruitment. • Lay straw-flake checkdams or straw wattles at frequent intervals on road surface to discharge road runoff into protected discharge points along satellite roads. • Use large woody debris as velocity dissipators at points of discharge to prevent erosion and disperse flow to promote infiltration. Permanent Strategies • Implement road drainage, discharge and maintenance per licensed professional's assessment. • Road elements to include but not limited to: • Shape and grade road to outslope to continually shed stormwater so as not to overwhelm in-board drainage features. • Increase number of rolling dips and/or other discharge strategies. • Upgrade size of ditch relief culvert per assessment. • Install small, rock checkdams in in-board ditches as a sediment control device.		November 15, 2019

Site Code	Map Point Description	Standard Condition	Recommendations	Action Priority	Permanent Strategy	Completion Date
RM	Roads	Discharge Points	Triage Items • Winterization Protocols. Monitoring and Maintenance • Hand-dig water bars at frequent intervals to discharge road runoff into protected discharge points. • Clear in-board ditches and the head of relief culverts of accumulated sediment dams and only enough vegetative debris to facilitate functionality. • Use large woody debris as velocity dissipators at points of discharge to prevent erosion and disperse flow to promote infiltration. • Establish revegetation protocol. Design • See <i>Water Resources Protection Elements</i> document. • See attached documents for more information related to <i>short term strategies for protecting water quality</i>. • See attached documents for information related to <i>monitoring requirements</i>. Winterization Strategies • Install straw bales or straw wattles along developed and cultivated site margins per erosion prevention protocol. • Mulch road margins, developed and cultivation site margins and slopes and discharge points to encourage native vegetation recruitment. • Lay straw-flake checkdams or straw wattles at frequent intervals on impervious surfaces to discharge road runoff into protected discharge points along satellite roads. • Protect discharge point with checkdam, straw flakes, large woody debris, etc. to slow the flow of discharge and allow sediment to fall out of suspension, prevent erosion and disperse flow to promote infiltration. Permanent Strategies • Implement discharge strategies per licensed professional's assessment. • Discharge elements to include but not limited to: • Armor the outflow end of discharge point and install a velocity dissipater. • Increase frequency of discharge points. • Install infiltration basins at points of discharge. • Implement revegetation protocol on road margins as well as margins slopes in association with cultivation and developed sites.	1		
CM	Ditch Relief Culvert					
DIS	Discharge					
EDP						
IDM						
SAR	Seasonal Access Road					
RRA						
CBE	Cultivation Sites					
					November 15, 2019	

Site Code	Map Point Description	Standard Condition	Recommendations	Action Priority	Permanent Strategy	Completion Date
RM	Roads	Hydrologic Disconnection	Triage Items • Winterization Protocols. Monitoring and Maintenance • Reestablish connectivity with designed discharge strategy (i.e. install waterbar to reconnect road runoff with an in-board ditch). • Hand-dig water bars at frequent intervals to discharge road runoff into protected discharge points. • Lay straw-flake checkdams or straw wattles at frequent intervals to discharge road runoff into protected discharge points. • Establish straw-flakes or straw wattles along the entire perimeter of developed or cultivated sites (flats) at all potential points of hydrologic connectivity. • Clear in-board ditches and the head of relief culverts of accumulated sediment dams and only enough vegetative debris to facilitate functionality. • Use large woody debris as velocity dissipators at points of discharge to prevent erosion and disperse flow to promote infiltration. • Establish revegetation protocol. Design • See <i>Water Resources Protection Elements</i> document. • Establish revegetation protocol. • See attached documents for more information related to <i>short term strategies for protecting water quality</i>. • See attached documents for information related to <i>monitoring requirements</i>.	1		
CM	Ditch Relief Culvert					
DIS	Discharge					
EDP						
IDM						
SAR	Seasonal Access Road					
RRA						
CBE	Cultivation Sites					

					On Going			
Winterization - Establish straw-flakes or straw wattles along the entire perimeter of developed or cultivated sites (flats) at all potential points of hydrologic connectivity. - Mulch all exposed and disturbed soil including pathways, slope faces and pads or deploy other forms of erosion prevention. Permanent Strategies - Cultivation Buffer Enhancement plan. - Implement riparian restoration plan.								
Site Code	Map Point Description	Standard Condition	Recommendations			Action Priority	Permanent Strategy	Completion Date
4. Spoils Management								
CS	Soil and Spoils Processing Site Cultivation Sites	Discharge Setbacks Side-Cast Material	Triage Items - Winterization Protocols. Monitoring and Maintenance - Maintain perimeter containment of soil and compost piles. - Maintain plastic cover, mulch or living cover crop. Design - Create an on-site resource plan for processing forest side-cast material based on seasonal prescriptions. - See <i>Cannabis Waste Management Plan</i> for more information. - See attached documents for more information related to <i>short term strategies for protecting water quality</i>. - See attached documents for information related to <i>monitoring requirements</i>.					Complete as of 10/8/19

			Winterization • Contain used soil pile with a straw bale or wattle perimeter. • Contain used compost pile with a straw bale or wattle perimeter. • Seed and mulch or tarp used soil pile. • Contain non-compostable byproducts, such as rock-wool rooting medium, to be disposed of properly offsite. Permanent Strategies • Establish a 3-tiered composting system for vegetative byproducts. • Rip compacted soils prior to placing spoils to promote the infiltration of tailwater. • Install remediation buffer at all downslope points of discharge to riparian zones. Terminate swale at an infiltration basin. • Plant remediation buffer berm and infiltration basin with appropriate management species. • Process forest side-cast material based on seasonal prescriptions and on-site resource planning.		On Going	
Site Code	Map Point Description	Standard Condition	Recommendations	Action Priority	Permanent Strategy	Completion Date
5. Water Storage and Use						
RWCS	Point of Diversion	Water Quality	Triage Items • Install a water meter and collect monthly data. Separate domestic use from agricultural use. • Install pressure gauge to monitor conveyance system for leaks. • Install back flow prevention device. Monitoring and Maintenance • Monitor take rates to not exceed 10-gallons per minute and 10% of the stream flow or as otherwise set forth in the LSAA. • Monitor diversion works as set forth in the Water Management Plan of the LSAA. • Check organism exclusion device for functionality. • Check pressure gauge to monitor conveyance system for leaks. Design • Assessment for <i>Living Soils</i> style of cultivation to reduce irrigation. • See attached documents for more information related to <i>short term strategies for protecting water quality</i>. • See attached documents for information related to <i>monitoring requirements</i>.			Complete as of 10/8/19
WSU	Water Storage	Water Quantity				
		Water Conservation				
	Cultivation Sites	Size and Scope Wetland Protection				

			Winterization • Prepare diversion works for wet-season: inspect organism exclusion device, pipe, fittings and meter for functionality. • Prepare water storage: inspect float valve, bulk-heads, overflow, and valves for functionality. • Inspect water storage foundations for stability. • Inspect water storage site for hazardous trees that pose a threat to storage tanks and conveyance. • Inspect pond features for functionality. Permanent Strategies • Armor valves and conveyance. • Install irrigation system so that water is applied at the root zone to promote deep, wide root growth. • Install float valve and redundant overflow at transfer tank. • Mulch all exposed soil to reduce evaporative rates. • Implement <i>Living Soils</i> design plan.		On Going	
Site Code	Map Point Description	Standard Condition	Recommendations	Action Priority	Permanent Strategy	Completion Date
6. Irrigation Runoff						
	Cultivation Sites	Discharge	Triage Items • Winterization Protocols. Monitoring and Maintenance • Monitor irrigation volumes to avoid runoff. • Soil nutrition testing to guide feeding regiment to prevent the overuse of fertilizers and amendments thus preventing excessive leaching. • Inspect irrigation system for leaks. • Employ rain-triggered shutoff devices for automated irrigation systems. Design • See attached documents for more information related to <i>short term strategies for protecting water quality</i>. • See attached documents for information related to <i>monitoring requirements</i>.			Complete as of 10/8/19

			Winterization • Mulch all exposed soil including planting areas, pathways and pads. • Plant cover crops in cultivation areas to lock-up nutrients and limit leaching during wet-season. • Clean-out and store fertigation system. Permanent Strategies • Mulch all exposed soil including planting areas, pathways and pads. • Install remediation buffer at all downslope points of discharge.		On Going	
Site Code	Map Point Description	Standard Condition	Recommendations	Action Priority	Permanent Strategy	Completion Date
7. Fertilizers and Soil Amendments						
	Cultivation Sites Fertigation Materials Storage	Discharge	Triage Items • Winterization Protocols. Monitoring and Maintenance • Products shall be labeled properly and applied according to the label. • Periodically calibrate application equipment. • Update application rates based on soil nutrition testing results to prevent the overuse of fertilizers and amendments thus preventing excessive leaching. Design • Develop a <i>Living Soils</i> program to replace packaged products. • See attached documents for more information related to <i>short term strategies for protecting water quality</i>. • See attached documents for information related to <i>monitoring requirements</i>.			Complete as of 10/8/19
			Winterization • Clean-out and store fertigation system. • Evaluate inventory and prepare fertilizers and amendments that are no longer used to be disposed of at an appropriate facility. • Inspect and secure storage facility. Permanent Strategies • Implement <i>Living Soils</i> program.		On Going	

Site Code	Map Point Description	Standard Condition	Recommendations	Action Priority	Permanent Strategy	Completion Date
8. Pesticides and Herbicides						
	Cultivation Sites	Discharge	Triage Items • Winterization Protocols. Monitoring and Maintenance • Products shall be labeled properly and applied according to the label. • Periodically calibrate application equipment. • Update application rates based on the presence of pests to prevent the overuse of pesticides. Design • Develop an <i>Integrated Pest Management</i> program to replace packaged products. • See attached documents for more information related to <i>short term strategies for protecting water quality</i>. • See attached documents for information related to <i>monitoring requirements</i>.			Complete as of 10/8/19
	Materials Storage		Winterization • Evaluate inventory and prepare fertilizers and amendments that are no longer used to be disposed of at an appropriate facility. • Inspect and secure storage facility. Permanent Strategies • Implement <i>Integrated Pest Management</i> program.		On Going	

Site Code	Map Point Description	Standard Condition	Recommendations	Action Priority	Permanent Strategy	Completion Date
9. Petroleum Products and Other Chemicals						
MS	Materials Storage	Discharge	Triage Items • Winterization Protocols. Monitoring and Maintenance • Place all liquid-based materials in secondary containment (totes). • Assess solar battery system for leaks. Design • Assess alternative sources of power such as solar, wind or propane. • See attached documents for more information related to <i>short term strategies for protecting water quality</i>. • See attached documents for information related to <i>monitoring requirements</i>. Winterization • Evaluate inventory and prepare used oil and gas or other petroleum-based products that are no longer used to be disposed of at an appropriate facility. • Inspect and secure storage facility. Permanent Strategies • . • .			Complete as of 10/8/19
					On Going	

Site Code	Map Point Description	Standard Condition	Recommendations	Action Priority	Permanent Strategy	Completion Date
10. Cultivation Related Wastes						
CS	Soil and Spoils Processing Site Cultivation Sites	Discharge	Triage Items • Winterization Protocols. Monitoring and Maintenance • Maintain perimeter containment of soil and compost piles. • Maintain plastic cover, mulch or living cover crop. Design • Establish a soil management plan for the purpose of reducing off-site soil. • See <i>Cannabis Waste Management Plan</i> for more information. • See attached documents for more information related to <i>short term strategies for protecting water quality</i>. • See attached documents for information related to <i>monitoring requirements</i>. Winterization • Contain used soil pile with a straw bale or wattle perimeter. • Contain used compost pile with a straw bale or wattle perimeter. • Seed and mulch or tarp used soil pile. • Contain non-compostable byproducts, such as rock-wool rooting medium, to be disposed of properly offsite. Permanent Strategies • Establish a 3-tiered composting system for vegetative byproducts. • Rip compacted soils prior to placing spoils to promote the infiltration of tailwater. • Install remediation buffer at all downslope points of discharge to riparian zones. Terminate swale at an infiltration basin. • Plant remediation buffer berm and infiltration basin with appropriate management species. • Implement <i>living-soils</i> management for the purpose of eliminating the need for off-site soil.			Complete as of 10/8/19
					On Going	

Site Code	Map Point Description	Standard Condition	Recommendations	Action Priority	Permanent Strategy	Completion Date
11. Refuse and Human Waste						
MS	Materials Storage	Discharge	Triage Items • Winterization Protocols. Design • See attached documents for more information related to <i>short term strategies for protecting water quality</i>. • See attached documents for information related to <i>monitoring requirements</i>. Monitoring and Maintenance • Ensure that refuse and stockpiled materials are organized, secured, covered and not a threat to water quality or wildlife. • Inspect and maintain septic system based on system requirements. Winterization • Utilize secure structure for potentially hazardous materials (materials that pose a threat to water quality). • Organize benign materials (materials that do not pose a threat to water quality). • Remove refuse and other unwanted materials from the property and dispose of offsite at an appropriate disposal facility. Permanent Strategies •			Complete as of 10/8/19
					On Going	

These are recommendations only and not prescriptions for method or manner. All work should be designed and implemented by licensed professionals. We accept no liability for owner-build work based on this management plan.

Best Practical Treatment and Control Measures*
 Jesse Parsons
 APN: 211-261-016-000
 WDID: 1B171503CEUM

Developed Areas
 SD5M57-62
 WCU96-99
 IR100-103
 FPPP104-111
 FS112-114
 PHT5-116
 PPOC117-119
 CRW120-121
 RDW122-124

Access Roads
 ARLDD15-29
 LE1-5
 CEUL6-7
 DC30-31

Water Storage
 WSDS 68-73, 83-84, 91-94
 WCU96-99

Throughout Subject Parcel
 EC8-14
 CRM32-37
 RWPM63-64
 W125-133

BPTC* acronyms are on the following page.
 Note: Locations are relative, use as reference only. Recommendations only, not prescriptions of method or manner.



ArcGIS Web Map

Humboldt County Planning and Building Department

Printed: October 7, 2019 Web AppBuilder 2.0 for ArcGIS

Map Disclaimer:
 While every effort has been made to assure the accuracy of this information, it should be understood that it does not have the force & effect of law, rule, or regulation. Should any difference or error occur, the law will take precedence.

Highways and Roads

- Principal Arterials
- Minor Arterials
- Major Collectors
- Minor Collectors
- Local Roads

Blue Line Streams

- Private or Unclassified
- Major River or Stream
- Perennial 1-3
- Perennial >4

City Boundary

- City Boundary
- Counties
- Parcels (no APN labels)

Water Storage Tank

- Water Storage Tank
- Culvert
- Point of Diversion

Legend

- Intermittent
- Subsurface

Scale

0 87.5 175 350 Feet
 0 0.015 0.03 0.06 Miles
 1 in = 188 ft
 RF = 1:2,257

North Arrow

Sources: Humboldt County GIS
 Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Acronyms for Best Practical Treatment and Control Measures

ARLDD: Access Road/Land Development and Drainage
CEUL: Construction Equipment Use and Limitations
CRM: Cleanup, Restoration and Mitigation
CRW: Cultivation Related Waste
DC: Drainage Culverts
EC: Erosion Control
FPPP: Fertilizers, Pesticides and Petroleum Products
FS: Fertilizers and Soils
IR: Irrigation Runoff
LE: Limitations on Earthmoving
LWWPPA: Limitations on Work in Watercourses and Permanently Poned Areas
PH: Pesticides and Herbicides
PPOC: Petroleum Products and Other Chemicals
RDW: Refuse and Domestic Waste
RWPM: Riparian and Wetland Protection and Management
SDSM: Soil Disposal and Spoils Management
W: Winterization
WC: Water Course Crossings
WCU: Water Conservation and Use
WSDS: Water Supply, Diversion and Storage

State Water Resources Control Board - Order WQ 2017-0023-DWQ Site Management Plan - 2019			
Jesse Parsons / WDID: 1B171503CHUM / APN: 211-261-016-000			
1. Sediment Discharge BPTC Measures			
1.1 Site Characteristics			
1.1.1. Site Map	Recommendations	Monitoring	
Provide a map showing access roads, vehicle parking areas, streams, stream crossings, cultivation site(s), disturbed areas, buildings, and other relevant site features.			
See attached Property Diagram.			
1.1.2. Access Road			
	Description	Recommendations	Monitoring
Describe the access road conditions including estimating vehicle traffic, road surface (e.g., paved, rocked, or bare ground), and maintenance activities. Describe how storm water is drained from the access road (e.g., crowned, out slope, armored ditch, culverts, rolling dips, etc.).			
Community roads are graded annually and aggregate is employed where necessary. Roads are outslopped where possible with rollings dips to provide drainage. Where outslopping is not possible an inboard ditch is utilized. Inboard ditches are cleared annually and as needed. These roads service many parcels within the community with an estimated 5 vehicles daily during the summer and fall months. Road maintenance is shared amongst many members of the community.			Seasonal and As Needed.
Access roads are graded as needed and aggregate is employed where necessary. Roads are outslopped where possible and where outslopping is not possible an inboard ditch is utilized. There are no cross drains. Inboard ditches discharge at corners into protected discharge points. Inboard ditches are cleared annually and as needed. These roads only service the subject parcel with daily traffic of one vehicle per day and two vehicles seasonally (summer and fall months)			Seasonal and As Needed.
Season access road is utilized only by ATV and foot traffic. It is maintained by hand. Seasonal access road needs to be "put-to-bed" for the winter months to prevent erosion. Maintenance is required. A new realignment is recommended to decrease the steep slope and lack of discharge points. See requirements 1.1.2. New Construction.			Seasonal and As Needed.

1.1.2. Requirements		
Subsection	Description	Deployment
17. Access Road / Land Development and Drainage	Cannabis cultivators shall ensure that all access roads are hydrologically disconnected to receiving waters to the extent possible by installing disconnecting drainage features, increasing the frequency of (inside) ditch drain relief as needed, constructing out-sloped roads, constructing energy dissipating structures, avoiding concentrating flows in unstable areas, and performing inspection and maintenance as needed to optimize the access road performance.	On-Going.
19. Access Road / Land Development and Drainage	Cannabis cultivators shall decommission or relocate existing roads away from riparian setbacks whenever possible. Roads that are proposed for decommissioning shall be abandoned and left in a condition that provides for long-term, maintenance-free function of drainage and erosion controls. Abandoned roads shall be blocked to prevent unauthorized vehicle traffic.	Per Project Protocols
22. Access Road / Land Development and Drainage	Cannabis cultivators shall ensure that access road surfacing, especially within a segment leading to a waterbody, is sufficient to minimize sediment delivery to the wetland or waterbody and maximize access road integrity. Road surfacing may include pavement, chip-seal, lignin, rock, or other material appropriate for timing and nature of use. All access roads that will be used for winter or wet weather hauling/traffic shall be surfaced. Steeper access road grades require higher quality rock (e.g., crushed angular versus river-run) to remain in place. The use of asphalt grindings is prohibited.	On-Going.
23. Access Road / Land Development and Drainage	Cannabis cultivators shall install erosion control measures on all access road approaches to surface water diversion sites to reduce the generation and transport of sediment to streams.	Prior to wet-season.
24. Access Road / Land Development and Drainage	Cannabis cultivators shall ensure that access roads are out-sloped whenever possible to promote even drainage of the access road surface, prevent the concentration of storm water flow within an inboard or inside ditch, and to minimize disruption of the natural sheet flow pattern off a hill slope to a stream.	Per Project Protocols
26. Access Road / Land Development and Drainage	Cannabis cultivators shall ensure that access roads are not allowed to develop or show evidence of significant surface rutting or gullying. Cannabis cultivators shall use water bars and rolling dips as designed by a qualified professional to minimize access road surface erosion and dissipate runoff.	On-Going.

27. Access Road / Land Development and Drainage	Cannabis cultivators shall only grade ditches when necessary to prevent erosion of the ditch, undermining of the banks, or exposure of the toe of the cut slope to erosion. Cannabis cultivators shall not remove more vegetation than necessary to keep water moving, as vegetation prevents scour and filters out sediment.	Seasonally.
29. Access Road / Land Development and Drainage	Sediment control devices (e.g., check dams, sand/gravel bag barriers, etc.) shall be used when it is not practical to disperse storm water before discharge to a waterbody. Where potential discharge to a wetland or waterbody exists (e.g., within 200 feet of a waterbody) access road surface drainage shall be filtered through vegetation, slash, other appropriate material, or settled into a depression with an outlet with adequate drainage. Sediment basins shall be engineered and properly sized to allow sediment settling, spillway stability, and maintenance activities.	Per Project Protocols
30. Drainage Culverts	Cannabis cultivators shall regularly inspect ditch-relief culverts and clear them of any debris or sediment. To reduce ditch-relief culvert plugging by debris, cannabis cultivators shall use 15- to 24-inch diameter pipes, at minimum. In forested areas with a potential for woody debris, a minimum 18-inch diameter pipe shall be used to reduce clogging. Ditch relief culverts shall be designed by a qualified professional based on site-specific conditions.	Seasonally.
1.1.2. Requirements - New Construction - Seasonal Access Road		
Subsection		Deployment
1. Limitations on Earthmoving	Cannabis cultivators shall not conduct grading activities for cannabis cultivation land development or alteration on slopes exceeding 50 percent grade, or as restricted by local county or city permits, ordinances, or regulations for grading, agriculture, or cannabis cultivation; whichever is more stringent shall apply. The grading prohibition on slopes exceeding 50 percent does not apply to site mitigation or remediation if the cannabis cultivator is issued separate WDRs or an enforcement order for the activity by the Regional Water Board Executive Officer.	Per Project Protocols
2. Limitations on Earthmoving	Finished cut and fill slopes, including side slopes between terraces, shall not exceed slopes of 50 percent and should conform to the natural pre-grade slope whenever possible.	Per Project Protocols
3. Limitations on Earthmoving	Cannabis cultivators shall not drive or operate vehicles or equipment within the riparian setbacks or within waters of the state unless authorized under 404/401 CWA permits, a CDFW LSA Agreement, coverage under the Cannabis General Order water quality certification, or site-specific WDRs issued by the Regional Water Board. This requirement does not prohibit driving on established, maintained access roads that are in compliance with this Policy.	Per Project Protocols

4. Limitations on Earthmoving	Cannabis cultivation land development and access road construction shall be designed by qualified professionals. Cannabis cultivators shall conduct all construction or land development activities to minimize grading, soil disturbance, and disturbance to aquatic and terrestrial habitat.	Per Project Protocols
5. Limitations on Earthmoving	The cannabis cultivator shall control all dust related to cannabis cultivation activities to ensure dust does not produce sediment-laden runoff. The cannabis cultivator shall implement dust control measures, including, but not limited to, pre-watering of excavation or grading sites, use of water trucks, track-out prevention, washing down vehicles or equipment before leaving a site, and prohibiting land disturbance activities when instantaneous wind speeds (gusts) exceed 25 miles per hour. Cannabis cultivators shall grade access roads in dry weather while moisture is still present in soil to minimize dust and to achieve design soil compaction, or when needed use a water truck to control dust and soil moisture.	Per Project Protocols
6. Limitations on Earthmoving	Cannabis cultivators shall employ spill control and containment practices to prevent the discharge of fuels, oils, solvents and other chemicals to soils and waters of the state.	Per Project Protocols
7. Construction Equipment Use and Limitations	Cannabis cultivators shall stage and store equipment, materials, fuels, lubricants, solvents, or hazardous or toxic materials in locations that minimize the potential for discharge to waters of the state. At a minimum, the following measures shall be implemented: 1. Designate an area outside the riparian setback for equipment storage, short-term maintenance, and refueling. Cannabis cultivator shall not conduct any maintenance activity or refuel equipment in any location where the petroleum products or other pollutants may enter waters of the state as per Fish and Game Code section 5650 (a)(1). 2. Frequently inspect equipment and vehicles for leaks. 3. Immediately clean up leaks, drips, and spills. Except for emergency repairs that are necessary for safe transport of equipment or vehicles to an appropriate repair facility, equipment or vehicle repairs, maintenance, and washing onsite is prohibited. 4. If emergency repairs generate waste fluids, ensure they are contained and properly disposed or recycled off-site. 5. Properly dispose of all construction debris off-site. 6. Use dry cleanup methods (e.g., absorbent materials, cat litter, and/or rags) whenever possible. Sweep up, contain, and properly dispose of spilled dry materials.	Per Project Protocols

15. Access Road / Land Development and Drainage	Access roads shall be constructed consistent with the requirements of California Code of Regulations Title 14, Chapter 4. The Road Handbook describes how to implement the regulations and is available at < http://www.pacificwatershed.com/pWA-publications-library >. Existing access roads shall be upgraded to comply with the Road Handbook.	Per Project Protocols
16. Access Road / Land Development and Drainage	Cannabis cultivators shall obtain all required permits and approvals prior to the construction of any access road constructed for cannabis cultivation activities. Permits may include section 404/401 CWA permits, Regional Water Board WDRs (when applicable), CDFW LSA Agreement, and county or local agency permits.	Per Project Protocols
18. Access Road / Land Development and Drainage	New access road alignments should be constructed with grades (slopes) of 3- to 8-percent, or less, wherever possible. Forest access roads should generally be kept below 12-percent except for short pitches of 500 feet or less where road slopes may go up to 20-percent. These steeper access road slopes should be paved or rock surfaced and equipped with adequate drainage. Existing access roads that do not comply with these limits shall be inspected by a qualified professional to determine if improvements are needed.	Per Project Protocols
19. Access Road / Land Development and Drainage	Cannabis cultivators shall decommission or relocate existing roads away from riparian setbacks whenever possible. Roads that are proposed for decommissioning shall be abandoned and left in a condition that provides for long-term, maintenance-free function of drainage and erosion controls. Abandoned roads shall be blocked to prevent unauthorized vehicle traffic.	Per Project Protocols
32. Cleanup, Restoration and Mitigation	Cannabis cultivators shall limit disturbance to existing grades and vegetation to the actual site of the cleanup or remediation and any necessary access routes.	Per Project Protocols
33. Cleanup, Restoration and Mitigation	Cannabis cultivators shall avoid damage to native riparian vegetation. All exposed or disturbed land and access points within the stream and riparian setback with damaged vegetation shall be restored with regional native vegetation of similar native species. Riparian trees over four inches diameter at breast height shall be replaced by similar native species at a ratio of three to one (3:1). Restored areas must be mulched, using at least 2 to 4 inches of weed-free, clean straw or similar biodegradable mulch over the seeded area. Mulching shall be completed within 30 days after land disturbance activities in the areas cease. Revegetation planting shall occur at a seasonally appropriate time until vegetation is restored to pre-cannabis or pre-Legacy condition or better. Cannabis cultivators shall stabilize and restore any temporary work areas with native vegetation to pre-cannabis cultivation or pre-Legacy conditions or better. Vegetation shall be planted at an adequate density and variety to control surface erosion and re-generate a diverse composition of regional native vegetation of similar native species.	On-Going and Seasonally.

34. Cleanup, Restoration and Mitigation	Cannabis cultivators shall avoid damage to oak woodlands. Cannabis cultivator shall plant three oak trees for every one oak tree damaged or removed. Trees may be planted in groves in order to maximize wildlife benefits and shall be native to the local county.	On-Going and Seasonally.
35. Cleanup, Restoration and Mitigation	Cannabis cultivators shall develop a revegetation plan for: • All exposed or disturbed riparian vegetation areas, • any oak trees that are damaged or removed, and • temporary work areas. Cannabis cultivators shall develop a monitoring plan that evaluates the revegetation plan for five years. Cannabis cultivators shall maintain annual inspections for the purpose of assessing an 85 percent survival and growth of revegetated areas within a five-year period. The presence of exposed soil shall be documented for three years following revegetation work. If the revegetation results in less than an 85 percent success rate, the unsuccessful vegetation areas shall be replanted. Cannabis cultivators shall identify the location and extent of exposed soil associated with the site; pre- and post-revegetation work photos; diagram of all areas revegetated, the planting methods, and plants used; and an assessment of the success of the revegetation program. Cannabis cultivators shall maintain a copy of the revegetation plan and monitoring results onsite and make them available, upon request, to Water Boards staff or authorized representatives. An electronic copy of monitoring results is acceptable in Portable Document Format (PDF).	On-Going and Seasonally.
36. Cleanup, Restoration and Mitigation	Cannabis cultivators shall revegetate soil exposed as a result of cannabis cultivation activities with native vegetation by live planting, seed casting, or hydroseeding within seven days of exposure.	On-Going and Seasonally.
37. Cleanup, Restoration and Mitigation	Cannabis cultivators shall prevent the spread or introduction of exotic plant species to the maximum extent possible by cleaning equipment before delivery to the cannabis cultivation Site and before removal, restoring land disturbance with appropriate native species, and post-cannabis cultivation activities monitoring and control of exotic species. Nothing in this term may be construed as a ban on cannabis cultivation that complies with the terms of this Policy.	On-Going and Seasonally.

1.1.3 Stream Crossings			
Description		Recommendations	Monitoring
Describe any vehicle stream crossing including the type of crossing (e.g., bridge, culvert, low water, etc.).			
There are no stream crossings on the subject parcel.		See cross-drain/drainage culverts for details related to non-stream crossing culverts. However, due to the proximity to a riparian area any new development that would require stream crossings must follow the following requirements.	Seasonally.
1.1.3. Requirements - Monitoring			
Subsection		Description	Deployment
51. Watercourse Crossings		Cannabis cultivators shall conduct regular inspection and maintenance of stream crossings to ensure crossings are not blocked by debris. Refer to California Board of Forestry Technical Rule No. 5 available at: http://www.calforests.org/wp-content/uploads/2013/10/Adopted-TRA5.pdf .	On-Going and Seasonally.
52. Watercourse Crossings		Cannabis cultivators shall only use rock fords for temporary seasonal crossings on small watercourses where aquatic life passage is not required during the time period of use. Rock fords shall be oriented perpendicular to the flow of the watercourse and designed to maintain the range of surface flows that occur in the watercourse. When constructed, rock shall be sized to withstand the range of flow events that occur at the crossing and rock shall be maintained at the rock ford to completely cover the channel bed and bank surfaces to minimize soil compaction, rutting, and erosion. Rock must extend on either side of the ford up to the break in slope. The use of rock fords as watercourse crossings for all-weather access road use is prohibited.	Seasonally.
53. Watercourse Crossings		Cannabis cultivators shall ensure that culverts used at watercourse crossings are designed to direct flow and debris toward the inlet (e.g., use of wing-walls, pipe beveling, rock armoring, etc.) to prevent erosion of road fill, debris blocking the culvert, and watercourses from eroding a new channel.	Seasonally.

54. Watercourse Crossings	Cannabis cultivators shall regularly inspect and maintain the condition of access roads, access road drainage features, and watercourse crossings. At a minimum, cannabis cultivators shall perform inspections prior to the onset of fall and winter precipitation and following storm events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation. Cannabis cultivators are required to perform all of the following maintenance: • Remove any wood debris that may restrict flow in a culvert. • Remove sediment that impacts access road or drainage feature performance. Place any removed sediment in a location outside the riparian setbacks and stabilize the sediment. • Maintain records of access road and drainage feature maintenance and consider redesigning the access road to improve performance and reduce maintenance needs.	On-going and Seasonally. 0.5 in/day or 1.0 inch/7 days of precipitation.
17. Access Road / Land Development and Drainage	Cannabis cultivators shall ensure that all access roads are hydrologically disconnected to receiving waters to the extent possible by installing disconnecting drainage features, increasing the frequency of (inside) ditch drain relief as needed, constructing out-sloped roads, constructing energy dissipating structures, avoiding concentrating flows in unstable areas, and performing inspection and maintenance as needed to optimize the access road performance.	On-Going.
22. Access Road / Land Development and Drainage	Cannabis cultivators shall ensure that access road surfacing, especially within a segment leading to a waterbody, is sufficient to minimize sediment delivery to the wetland or waterbody and maximize access road integrity. Road surfacing may include pavement, chip-seal, lignin, rock, or other material appropriate for timing and nature of use. All access roads that will be used for winter or wet weather hauling/traffic shall be surfaced. Steeper access road grades require higher quality rock (e.g., crushed angular versus river-run) to remain in place. The use of asphalt grindings is prohibited.	On-Going.
23. Access Road / Land Development and Drainage	Cannabis cultivators shall install erosion control measures on all access road approaches to surface water diversion sites to reduce the generation and transport of sediment to streams.	Prior to wet-season.
63. Riparian and Wetland Protection and Management	Cannabis cultivators shall not disturb aquatic or riparian habitat, such as pools, spawning sites, large wood, or shading vegetation unless authorized under a CWA section 404 permit, CWA section 401 certification, Regional Water Board WDRs (when applicable), or a CDFW LSA Agreement.	On-Going.

64. Riparian and Wetland Protection and Management	Cannabis cultivators shall maintain existing, naturally occurring, riparian vegetative cover (e.g., trees, shrubs, and grasses) in aquatic habitat areas to the maximum extent possible to maintain riparian areas for streambank stabilization, erosion control, stream shading and temperature control, sediment and chemical filtration, aquatic life support, wildlife support, and to minimize waste discharge.	On-Going.
1.1.3. Requirements - Crossing Installation and Maintenance		
	Subsection	Description
1. Limitations on Earthmoving	Cannabis cultivators shall not conduct grading activities for cannabis cultivation land development or alteration on slopes exceeding 50 percent grade, or as restricted by local county or city permits, ordinances, or regulations for grading, agriculture, or cannabis cultivation; whichever is more stringent shall apply. The grading prohibition on slopes exceeding 50 percent does not apply to site mitigation or remediation if the cannabis cultivator is issued separate WDRs or an enforcement order for the activity by the Regional Water Board Executive Officer.	Per Project Protocols
2. Limitations on Earthmoving	Finished cut and fill slopes, including side slopes between terraces, shall not exceed slopes of 50 percent and should conform to the natural pre-grade slope whenever possible.	Per Project Protocols
3. Limitations on Earthmoving	Cannabis cultivators shall not drive or operate vehicles or equipment within the riparian setbacks or within waters of the state unless authorized under 404/401 CWA permits, a CDFW LSA Agreement, coverage under the Cannabis General Order water quality certification, or site-specific WDRs issued by the Regional Water Board. This requirement does not prohibit driving on established, maintained access roads that are in compliance with this Policy.	Per Project Protocols
4. Limitations on Earthmoving	Cannabis cultivation land development and access road construction shall be designed by qualified professionals. Cannabis cultivators shall conduct all construction or land development activities to minimize grading, soil disturbance, and disturbance to aquatic and terrestrial habitat.	Per Project Protocols

5. Limitations on Earthmoving	The cannabis cultivator shall control all dust related to cannabis cultivation activities to ensure dust does not produce sediment-laden runoff. The cannabis cultivator shall implement dust control measures, including, but not limited to, pre-watering of excavation or grading sites, use of water trucks, track-out prevention, washing down vehicles or equipment before leaving a site, and prohibiting land disturbance activities when instantaneous wind speeds (gusts) exceed 25 miles per hour. Cannabis cultivators shall grade access roads in dry weather while moisture is still present in soil to minimize dust and to achieve design soil compaction, or when needed use a water truck to control dust and soil moisture.	Per Project Protocols
6. Construction Equipment Use and Limitations	Cannabis cultivators shall employ spill control and containment practices to prevent the discharge of fuels, oils, solvents and other chemicals to soils and waters of the state.	Per Project Protocols
7. Construction Equipment Use and Limitations	Cannabis cultivators shall stage and store equipment, materials, fuels, lubricants, solvents, or hazardous or toxic materials in locations that minimize the potential for discharge to waters of the state. At a minimum, the following measures shall be implemented: 1. Designate an area outside the riparian setback for equipment storage, short-term maintenance, and refueling. Cannabis cultivator shall not conduct any maintenance activity or refuel equipment in any location where the petroleum products or other pollutants may enter waters of the state as per Fish and Game Code section 5650 (a)(1). 2. Frequently inspect equipment and vehicles for leaks. 3. Immediately clean up leaks, drips, and spills. Except for emergency repairs that are necessary for safe transport of equipment or vehicles to an appropriate repair facility, equipment or vehicle repairs, maintenance, and washing onsite is prohibited. 4. If emergency repairs generate waste fluids, ensure they are contained and properly disposed or recycled off-site. 5. Properly dispose of all construction debris off-site. 6. Use dry cleanup methods (e.g., absorbent materials, cat litter, and/or rags) whenever possible. Sweep up, contain, and properly dispose of spilled dry materials.	Per Project Protocols
32. Cleanup, Restoration and Mitigation	Cannabis cultivators shall limit disturbance to existing grades and vegetation to the actual site of the cleanup or remediation and any necessary access routes.	Per Project Protocols

33. Cleanup, Restoration and Mitigation	Cannabis cultivators shall avoid damage to native riparian vegetation. All exposed or disturbed land and access points within the stream and riparian setback with damaged vegetation shall be restored with regional native vegetation of similar native species. Riparian trees over four inches diameter at breast height shall be replaced by similar native species at a ratio of three to one (3:1). Restored areas must be mulched, using at least 2 to 4 inches of weed-free, clean straw or similar biodegradable mulch over the seeded area. Mulching shall be completed within 30 days after land disturbance activities in the areas cease. Revegetation planting shall occur at a seasonally appropriate time until vegetation is restored to pre-cannabis or pre-Legacy condition or better. Cannabis cultivators shall stabilize and restore any temporary work areas with native vegetation to pre-cannabis cultivation or pre-Legacy conditions or better. Vegetation shall be planted at an adequate density and variety to control surface erosion and re-generate a diverse composition of regional native vegetation of similar native species.	On-Going and Seasonally.
34. Cleanup, Restoration and Mitigation	Cannabis cultivators shall avoid damage to oak woodlands. Cannabis cultivator shall plant three oak trees for every one oak tree damaged or removed. Trees may be planted in groves in order to maximize wildlife benefits and shall be native to the local county.	On-Going and Seasonally.
35. Cleanup, Restoration and Mitigation	Cannabis cultivators shall develop a revegetation plan for: • All exposed or disturbed riparian vegetation areas, • any oak trees that are damaged or removed, and • temporary work areas. Cannabis cultivators shall develop a monitoring plan that evaluates the revegetation plan for five years. Cannabis cultivators shall maintain annual inspections for the purpose of assessing an 85 percent survival and growth of revegetated areas within a five-year period. The presence of exposed soil shall be documented for three years following revegetation work. If the revegetation results in less than an 85 percent success rate, the unsuccessful vegetation areas shall be replanted. Cannabis cultivators shall identify the location and extent of exposed soil associated with the site; pre- and post-revegetation work photos; diagram of all areas revegetated, the planting methods, and plants used; and an assessment of the success of the revegetation program. Cannabis cultivators shall maintain a copy of the revegetation plan and monitoring results onsite and make them available, upon request, to Water Boards staff or authorized representatives. An electronic copy of monitoring results is acceptable in Portable Document Format (PDF).	On-Going and Seasonally.

36. Cleanup, Restoration and Mitigation	Cannabis cultivators shall revegetate soil exposed as a result of cannabis cultivation activities with native vegetation by live planting, seed castings, or hydroseeding within seven days of exposure.	On-Going and Seasonally.
37. Cleanup, Restoration and Mitigation	Cannabis cultivators shall prevent the spread or introduction of exotic plant species to the maximum extent possible by cleaning equipment before delivery to the cannabis cultivation Site and before removal, restoring land disturbance with appropriate native species, and post-cannabis cultivation activities monitoring and control of exotic species. Nothing in this term may be construed as a ban on cannabis cultivation that complies with the terms of this Policy.	On-Going and Seasonally.
32. Cleanup, Restoration and Mitigation	Cannabis cultivators shall limit disturbance to existing grades and vegetation to the actual site of the cleanup or remediation and any necessary access routes.	Per Project Protocols
38. Limitations on Work in Watercourses/Ponded Area	Cannabis cultivators shall obtain all applicable permits and approvals prior to doing any work in or around waterbodies or within the riparian setbacks. Permits may include section 404/401 CWA permits, Regional Water Board WDRs (when applicable), and a CDFW LSA Agreement.	Per Project Protocols
39. Limitations on Work in Watercourses/Ponded Area	Cannabis cultivators shall avoid or minimize temporary stream crossings. When necessary, temporary stream crossings shall be located in areas where erosion potential and damage to the existing habitat is low. Cannabis cultivators shall avoid areas where runoff from access roadway side slopes and natural hillsides will drain and flow into the temporary crossing. Temporary stream crossings that impede fish passage are strictly prohibited on permanent or seasonal fish-bearing streams.	Per Project Protocols
40. Limitations on Work in Watercourses/Ponded Area	Cannabis cultivators shall avoid or minimize use of heavy equipment ¹³ in a watercourse. If use is unavoidable, heavy equipment may only travel or work in a waterbody with a rocky or cobbled channel. Wood, rubber, or clean native rock temporary work pads shall be used on the channel bottom prior to use of heavy equipment to protect channel bed and preserve channel morphology. Temporary work pads and other channel protection shall be removed as soon as possible once the use of heavy equipment is complete.	Per Project Protocols

41. Limitations on Work in Watercourses/Ponded Area	Cannabis cultivators shall avoid or minimize work in or near a stream, creek, river, lake, pond, or other waterbody. If work in a waterbody cannot be avoided, activities and associated workspace shall be isolated from flowing water by directing the water around the work site. If water is present, then the cannabis cultivator shall develop a site-specific plan prepared by a qualified professional. The plan shall consider partial or full stream diversion and dewatering. The plan shall consider the use of coffer dams upstream and downstream of the work site and the diversion of all flow from upstream of the upstream dam to downstream of the downstream dam, through a suitably sized pipe with intake screens that protect and prevent impacts to fish and wildlife. Cannabis cultivation activities and associated work shall be performed outside the waterbody from the top of the bank to the maximum extent possible.	Per Project Protocols
48. Watercourse Crossings	Cannabis cultivators shall ensure that watercourse crossings are designed by a qualified professional.	Per Project Protocols
49. Watercourse Crossings	Cannabis cultivators shall ensure that all access road watercourse crossing structures allow for the unrestricted passage of water and shall be designed to accommodate the estimated 100-year flood flow and associated debris (based upon an assessment of the streams potential to generate debris during high flow events). Consult CAL FIRE 100 year Watercourse Crossings document for examples and design calculations, available at: http://calfire.ca.gov/resource_mgt/downloads/100%20yr%20revised%208-08-17%20(final-a).pdf .	Per Project Protocols
50. Watercourse Crossings	Cannabis cultivators shall ensure that watercourse crossings allow migration of aquatic life during all life stages supported or potentially supported by that stream reach. Design measures shall be incorporated to ensure water depth and velocity does not inhibit migration of aquatic life. Any access road crossing structure on watercourses that supports fish shall be constructed for the unrestricted passage of fish at all life stages, and should use the following design guidelines: • CDFW's Culvert Criteria for Fish Passage; • CDFW's Salmonid Stream Habitat Restoration Manual, Volume 2, Part IX: Fish Passage Evaluation at Stream Crossings; and • National Marine Fisheries Service, Southwest Region Guidelines for Salmonid Passage at Stream Crossings.	Per Project Protocols

55. Watercourse Crossings	Cannabis cultivators shall compact access road crossing approaches and fill slopes during installation and shall stabilize them with rock or other appropriate surface protection to minimize surface erosion. When possible, cannabis cultivators shall ensure that access roads over culverts are equipped with a critical dip to ensure that, if the culvert becomes blocked or plugged, water can flow over the access road surface without washing away the fill prism. Access road crossings where specific conditions do not allow for a critical dip or in areas with potential for significant debris accumulation, shall include additional measures such as emergency overflow culverts or oversized culverts that are designed by a qualified professional.	Per Project Protocols
56. Watercourse Crossings	Cannabis cultivators shall ensure that culverts used at watercourse crossings are: 1) installed parallel to the watercourse alignment to the extent possible, 2) of sufficient length to extend beyond stabilized fill/sidecast material, and 3) embedded or installed at the same level and gradient of the streambed in which they are being placed to prevent erosion.	Per Project Protocols
1.1.3.1. Legacy Discharge Issues		
Description		Monitoring
For Region 1 Dischargers, identify, discuss, and locate on the site map any legacy waste discharge issues that exist on the property.		
There are no legacy discharge issues associated with this subject parcel.	NA	NA
1.2 Sediment Erosion Prevention and Sediment Capture		
1.2.1. Erosion Prevention BPTC Measures		Monitoring
Description		Recommendations
1.2.1.1. Describe the BPTC measures that have been, or will be implemented to prevent or limit erosion. Provide an implementation schedule for BPTC measures that have not yet been implemented. Identify the erosion prevention BPTC measures on a site map.		
See attached documents: Water Resource Protection Elements Site Map and Project Descriptions, Water Resource Protection Plan: Standard Conditions Compliance Requirements, Best Practical Treatments and Controls Site Map, Monitoring Timeline and Data Log, and Winterization Protocols for Statewide Cannabis Order.		Per Document
Roads: Construction and regular maintenance ensure that road discharge does not threaten water quality. Discharge points are associated with stable slopes and well vegetated areas. Culverts will be maintained per standard conditions. Winterization protocols will be deployed by the onset of the wet-season (November 15) of each year.		On-Going and Seasonally.

Developed Areas: Margins are well vegetated and surfaces are maintained. Winterization protocols will be deployed by the onset of the wet-season (November 15) of each year.	On-Going and Seasonally.
Cultivation Sites: Margins are well vegetated and sites meet the minimum setbacks from surface water. Winterization protocols will be deployed by the onset of the wet-season (November 15) of each year.	On-Going and Seasonally.
1.2.1.1.1. The description shall address physical BPTC measures and biological BPTC measures.	
See attached documents: Water Resource Protection Elements Site Map and Project Descriptions, Water Resource Protection Plan: Standard Conditions Compliance Requirements, Best Practical Treatments and Controls Site Map, Monitoring Timeline and Data Log, and Winterization Protocols for Statewide Cannabis Order.	Per Document
1.2.2. Sediment Control BPTC Measures	
Description	
1.2.2.1. Describe the BPTC measures that have been, or will be implemented to capture sediment that has been eroded. Provide an implementation schedule for BPTC measures that have not yet been implemented. Identify the sediment control BPTC measures on a site map.	
See attached documents: Water Resource Protection Elements Site Map and Project Descriptions, Water Resource Protection Plan: Standard Conditions Compliance Requirements, Best Practical Treatments and Controls Site Map, Monitoring Timeline and Data Log, and Winterization Protocols for Statewide Cannabis Order.	Per Document
1.2.2.1.1. The description shall address physical BPTC measures and biological measures.	
See attached documents: Water Resource Protection Elements Site Map and Project Descriptions, Water Resource Protection Plan: Standard Conditions Compliance Requirements, Best Practical Treatments and Controls Site Map, Monitoring Timeline and Data Log, and Winterization Protocols for Statewide Cannabis Order.	Per Document
1.2.3. Maintenance Activities - Erosion Prevention and Sediment Control	
Description	
1.2.3.1. Describe how the erosion prevention and sediment control BPTC measures will be monitored and maintained to protect water quality.	
See attached documents: Water Resource Protection Plan: Standard Conditions Compliance Requirements, Monitoring Timeline and Data Log, and Winterization Protocols for Statewide Cannabis Order.	Per Document
1.2.3.2. Describe how any captured sediment will be either stabilized in place, excavated and stabilized on-site, or removed from site.	

Captured sediment is mostly in association with road discharge. Inboard ditches and discharge points will be maintained regularly and excavated sediment will be taken to a nearby site to be stabilized through grading and revegetation.		On-Going and Seasonally.
1.2.1. - 1.2.3. Requirements		
Subsection	Description	Deployment
8. Erosion Control	The cannabis cultivator shall use appropriate erosion control measures to minimize erosion of disturbed areas, potting soil, or bulk soil amendments to prevent discharges of waste. Fill soil shall not be placed where it may discharge into surface water. If used, weed-free straw mulch shall be applied at a rate of two tons per acre of exposed soils and, if warranted by site conditions, shall be secured to the ground.	On-Going.
9. Erosion Control	The cannabis cultivator shall not plant or seed noxious weeds. Prohibited plant species include those identified in the California Invasive Pest Plant Council's database, available at: www.cal-ipc.org/paf/ . Locally native, non-invasive, and non-persistent grass species may be used for temporary erosion control benefits to stabilize disturbed land and prevent exposure of disturbed land to rainfall. Nothing in this term may be construed as a ban on cannabis cultivation that complies with the terms of this Policy.	Seasonally.
10.a. Erosion Control	Cannabis cultivators shall incorporate erosion control and sediment detention devices and materials into the design, work schedule, and implementation of the cannabis cultivation activities. The erosion prevention and sediment capture measures shall be effective in protecting water quality.	In conjunction with earthwork.
10.b. Erosion Control	Interim erosion prevention and sediment capture measures shall be implemented within seven days of completion of grading and land disturbance activities, and shall consist of erosion prevention measures and sediment capture measures including: Erosion prevention measures are required for any earthwork that uses heavy equipment (e.g., bulldozer, compactor, excavator, etc.). Erosion prevention measures may include surface contouring, slope roughening, and upslope storm water diversion. Other types of erosion prevention measures may include mulching, hydroseeding, tarp placement, revegetation, and rock slope protection. Sediment capture measures include the implementation of measures such as gravel bag berms, fiber rolls, straw bale barriers, properly installed silt fences, and sediment settling basins.	In conjunction with earthwork.

10.c. Erosion Control	Long-term erosion prevention and sediment capture measures shall be implemented as soon as possible and prior to the onset of fall and winter precipitation. Long-term measures may include the use of heavy equipment to reconfigure access roads or improve access road drainage, installation of properly-sized culverts, gravel placement on steeper grades, and stabilization of previously disturbed land.	Prior to wet-season.
10.d. Erosion Control	Maintenance of all erosion protection and sediment capture measures is required year round. Early monitoring allows for identification of problem areas or underperforming erosion or sediment control measures. Verification of the effectiveness of all erosion prevention and sediment capture measures is required as part of winterization activities.	On-Going.
11. Erosion Control	Cannabis cultivators shall only use geotextiles, fiber rolls, and other erosion control measures made of loose-weave mesh (e.g., jute, coconut (coir) fiber, or from other products without welded weaves). To minimize the risk of ensnaring and strangling wildlife, cannabis cultivators shall not use synthetic (e.g., plastic or nylon) monofilament netting materials for erosion control for any cannabis cultivation activities. This prohibition includes photo- or bio-degradable plastic netting.	On-Going.
12. Erosion Control	Cultivation sites constructed on or near slopes with a slope greater than or equal to 30 percent shall be inspected for indications of instability. Indications of instability include the occurrence of slope failures at nearby similar sites, weak soil layers, geologic bedding parallel to slope surface, hillside creep (trees, fence posts, etc. leaning downslope), tension cracks in the slope surface, bulging soil at the base of the slope, and groundwater discharge from the slope. If indicators of instability are present, the cannabis cultivator shall consult with a qualified professional to design measures to stabilize the slope to prevent sediment discharge to surface waters.	Seasonally.
13. Erosion Control	For areas outside of riparian setbacks or for upland areas, cannabis cultivators shall ensure that rock placed for slope protection is the minimum amount necessary and is part of a design that provides for native plant revegetation. If retaining walls or other structures are required to provide slope stability, they shall be designed by a qualified professional.	In conjunction with earthwork.
14. Erosion Control	Cannabis cultivators shall monitor erosion control measures during and after each storm event that produces at least 0.5 in/day or 1.0 inch/7 days of precipitation, and repair or replace, as needed, ineffective erosion control measures immediately.	0.5in/day or 1.0in/7-days of precip.

1.2.4. Erosion Control BPTC Measures			
Description		Recommendations	Monitoring
Describe the interim soil stabilization, if applicable and long-term BPTC measures implemented to prevent sediment transport at each identified disturbed area(s) and improperly constructed features.			
See attached documents: Water Resource Protection Plan: Standard Conditions Compliance Requirements, Monitoring Timeline and Data Log, and Winterization Protocols for Statewide Cannabis Order.			
2. Fertilizer, Pesticide, Herbicide and Rodenticide BPTC Measures			
2.1. Summary Table		Recommendations	Monitoring
Provide a summary table that identifies the products used at the site, when they are delivered to the site, how they are stored, and used at the site. If products are not consumed during the growing season, describe how they are removed from the site or stored to prevent discharge over the winter season.			
See attached documents: Water Resource Protection Plan: Standard Conditions Compliance Requirements, Cultivation Activities Product Descriptions, Cannabis Waste Management Plan, Pest Management Plan, and Solid and Hazardous Waste Management Plan.			Per Document
2.2. Site Map		Recommendations	Monitoring
Provide a site map that locates storage locations.			
See attached Property Diagram.			
2.3. Storage, Application and Disposal			
Description		Recommendations	Monitoring
Describe how bulk fertilizers and chemical concentrates are stored, mixed, applied and how empty containers are disposed.			
See attached documents: Water Resource Protection Plan: Standard Conditions Compliance Requirements, Cultivation Activities Product Descriptions, Cannabis Waste Management Plan, Pest Management Plan, and Solid and Hazardous Waste Management Plan.			Per Document
2.4. Spill Prevention and Cleanup			
Description		Recommendations	Monitoring
Describe procedures for spill prevention and cleanup.			

See attached documents: Water Resource Protection Plan: Standard Conditions Compliance Requirements, Cultivation Activities Product Descriptions, Cannabis Waste Management Plan, Pest Management Plan, and Solid and Hazardous Waste Management Plan.			Per Document
2.3. - 2.4. Requirements			
	Subsection	Description	Deployment
57. Soil Disposal and Spoils Management		Cannabis cultivators shall store soil, construction, and waste materials outside the riparian setback except as needed for immediate construction needs. Such materials shall not be stored in locations of known slope instability or where the storage of construction or waste material could reduce slope stability.	On-Going.
58. Soil Disposal and Spoils Management		Cannabis cultivators shall separate large organic material (e.g., roots, woody debris, etc.) from soil materials. Cannabis cultivators shall either place the large organic material in long-term, upland storage sites, or properly dispose of these materials offsite.	On-Going.
59. Soil Disposal and Spoils Management		Cannabis cultivators shall store erodible soil, soil amendments, and spoil piles to prevent sediment discharges in storm water. Storage practices may include use of tarps, upslope land contouring to divert surface flow around the material, or use of sediment control devices (e.g., silt fences, straw wattles, etc.).	On-Going.
60. Soil Disposal and Spoils Management		Cannabis cultivators shall contour and stabilize stored spoils to mimic natural slope contours and drainage patterns (as appropriate) to reduce the potential for fill saturation and slope failure.	On-Going.
61. Soil Disposal and Spoils Management		For soil disposal sites cannabis cultivators shall: • revegetate soil disposal sites with a mix of native plant species, • cover the seeded and planted areas with mulched straw at a rate of two tons per acre, and • apply non-synthetic netting or similar erosion control fabric (e.g., jute) on slopes greater than 2:1 if the site is erodible.	On-Going.
62. Soil Disposal and Spoils Management		Cannabis cultivators shall haul away and properly dispose of excess soil and other debris as needed to prevent discharge to waters of the state.	On-Going.

104. Fertilizers, Pesticides and Petroleum Products	Cannabis cultivators shall not mix, prepare, over apply, or dispose of agricultural chemicals/products (e.g., fertilizers, pesticides ²² , and other chemicals as defined in the applicable water quality control plan) in any location where they could enter the riparian setback or waters of the state. The use of agricultural chemicals inconsistently with product labeling, storage instructions, or DPR requirements for pesticide applications ²³ is prohibited. Disposal of unused product and containers shall be consistent with labels.	On-Going.
105. Fertilizers, Pesticides and Petroleum Products	Cannabis cultivators shall keep and use absorbent materials designated for spill containment and spill cleanup equipment on-site for use in an accidental spill of fertilizers, petroleum products, hazardous materials, and other substances which may degrade waters of the state. The cannabis cultivator shall immediately notify the California Office of Emergency Services at 1-800-852-7550 and immediately initiate cleanup activities for all spills that could enter a waterbody or degrade groundwater.	On-Going.
106. Fertilizers, Pesticides and Petroleum Products	Cannabis cultivators shall establish and use a separate storage area for pesticides, and fertilizers, and another storage area for petroleum or other liquid chemicals (including diesel, gasoline, oils, etc.). All such storage areas shall comply with the riparian setback Requirements, be in a secured location in compliance with label instructions, outside of areas of known slope instability, and be protected from accidental ignition, weather, and wildlife. All storage areas shall have appropriate secondary containment structures, as necessary, to protect water quality and prevent spillage, mixing, discharge, or seepage. Storage tanks and containers must be of suitable material and construction to be compatible with the substances stored and conditions of storage, such as pressure and temperature.	On-Going.
107. Fertilizers, Pesticides and Petroleum Products	Throughout the wet season, Cannabis Cultivators shall ensure that any temporary storage areas have a permanent cover and side-wind protection or be covered during non-working days and prior to and during rain events.	Prior to and during wet-season.
108. Fertilizers, Pesticides and Petroleum Products	Cannabis cultivators shall only use hazardous materials ²⁴ in a manner consistent with the product's label.	On-Going.
109. Fertilizers, Pesticides and Petroleum Products	Cannabis cultivators shall only keep hazardous materials in their original containers with labels intact, and shall store hazardous materials to prevent exposure to sunlight, excessive heat, and precipitation. Cannabis cultivators shall provide secondary containment for hazardous materials to prevent possible exposure to the environment. Disposal of unused hazardous materials and containers shall be consistent with the label.	On-Going.

110. Fertilizers, Pesticides and Petroleum Products	Cannabis cultivators shall only mix, prepare, apply, or load hazardous materials outside of the riparian setbacks.	On-Going.
111. Fertilizers, Pesticides and Petroleum Products	Cannabis cultivators shall not apply agricultural chemicals within 48 hours of a predicted rainfall event of 0.25 inches or greater with a probability greater than 50-percent.	Prior to any rain event.
112. Fertilizers and Soils	To minimize infiltration and water quality degradation, Cannabis cultivators shall irrigate and apply fertilizer to consistent with the crop need (i.e., agronomic rate).	On-Going.
113. Fertilizers and Soils	When used, cannabis cultivators shall apply nitrogen to cannabis cultivation areas consistent with crop need (i.e., agronomic rate). Cannabis cultivators shall not apply nitrogen at a rate that may result in a discharge to surface water or groundwater that causes or contributes to exceedance of water quality objectives, and no greater than 319 pounds/acre/year unless plant tissue analysis performed by a qualified individual demonstrates the need for additional nitrogen application. The analysis shall be performed by an agricultural laboratory certified by the State Water Board's Environmental Laboratory Accreditation Program.	On-Going.
114. Fertilizers and Soils	Cannabis cultivators shall ensure that potting soil or soil amendments, when not in use, are placed and stored with covers, when needed, to protect from rainfall and erosion, to prevent discharge to waters of the state, and to minimize leaching of waste constituents into groundwater.	On-Going.
115. Pesticides and Herbicides	Cannabis cultivators shall not apply restricted materials, including restricted pesticides, or allow restricted materials to be stored at the cannabis cultivation site.	On-Going.
116. Pesticides and Herbicides	Cannabis cultivators shall implement integrated pest management strategies where possible to reduce the need and use of pesticides and the potential for discharges to waters of the state. ²⁵	On-Going.
3. Petroleum Product BPTC Measures		
3.1. Summary Table	Recommendations	Monitoring
Provide a summary table that identifies the products used at the site, when they are delivered to the site, how they are stored, and used at the site. If products are not consumed during the growing season, describe how they are removed from the site or stored to prevent discharge over the winter season.		

See attached documents: Water Resource Protection Plan: Standard Conditions Compliance Requirements, Cultivation Activities Product Descriptions, Cannabis Waste Management Plan, Pest Management Plan, and Solid and Hazardous Waste Management Plan.		Per Document
3.2. Site Map	Recommendations	Monitoring
Provide a site map that locates storage locations.		
See attached Property Diagram.		
3.3. Storage, Application and Disposal		
	Recommendations	Monitoring
Describe how fuels, lubricants and other petroleum products are stored, mixed, applied and empty containers are disposed.		
See attached documents: Water Resource Protection Plan: Standard Conditions Compliance Requirements, Cultivation Activities Product Descriptions, Cannabis Waste Management Plan, Pest Management Plan, and Solid and Hazardous Waste Management Plan.		Per Document
3.4. Spill Prevention and Cleanup		
	Recommendations	Monitoring
Describe procedures for spill prevention and cleanup.		
See attached documents: Water Resource Protection Plan: Standard Conditions Compliance Requirements, Cultivation Activities Product Descriptions, Cannabis Waste Management Plan, Pest Management Plan, and Solid and Hazardous Waste Management Plan.		Per Document
3.1. - 3.4. Requirements		
Subsection	Description	Deployment
117. Petroleum Products and Other Chemicals	Cannabis cultivators shall only refuel vehicles or equipment outside of riparian setbacks. Cannabis cultivators shall inspect all equipment using oil, hydraulic fluid, or petroleum products for leaks prior to use and shall monitor equipment for leakage. Stationary equipment (e.g., motors, pumps, generators, etc.) and vehicles not in use shall be located outside of riparian setbacks. Spill and containment equipment (e.g., oil spill booms, sorbent pads, etc.) shall be stored onsite at all locations where equipment is used or staged.	On-Going.

118. Petroleum Products and Other Chemicals	Cannabis cultivators shall store petroleum, petroleum products, and similar fluids in a manner that provides chemical compatibility, provides secondary containment, and protection from accidental ignition, the sun, wind, and rain.	On-Going.
119. Petroleum Products and Other Chemicals	Use of an underground storage tank(s) for the storage of petroleum products is allowed if compliant with all applicable federal, state, and local laws; regulations; and permitting requirements.	On-Going.
4. Trash/Refuse and Domestic Wastewater BPTC Measures		
4.1. Types, Containment and Disposal		
	Description	Monitoring
Describe procedures for spill prevention and cleanup.		
See attached documents: Water Resource Protection Plan: Standard Conditions Compliance Requirements, Cultivation Activities Product Descriptions, Cannabis Waste Management Plan, Pest Management Plan, and Solid and Hazardous Waste Management Plan.		
4.1.1. Site Map	Recommendations	Monitoring
Provide a site map that locates the trash/refuse storage locations.		
See attached Property Diagram.		
4.1. Requirements		
	Description	Deployment
120. Cannabis-Related Waste	Cannabis cultivators shall contain and regularly remove all debris and trash associated with cannabis cultivation activities from the cannabis cultivation site. Cannabis cultivators shall only dispose of debris and trash at an authorized landfill or other disposal site in compliance with state and local laws, ordinances, and regulations. Cannabis cultivators shall not allow litter, plastic, or similar debris to enter the riparian setback or waters of the state. Cannabis plant material may be disposed of onsite in compliance with any applicable CDFA license conditions.	On-Going.

121. Cannabis-Related Waste	Cannabis cultivators shall only dispose or reuse spent growth medium (e.g., soil and other organic media) in a manner that prevents discharge of soil and residual nutrients and chemicals to the riparian setback or waters of the state. Spent growth medium shall be covered with plastic sheeting or stored in water tight dumpsters prior to proper disposal or reuse. Spent growth medium should be disposed of at an authorized landfill or other disposal site in compliance with state and local laws, ordinances, and regulations. Proper reuse of spent growth medium may include incorporation into garden beds or spreading on a stable surface and revegetating the surface with native plants. Cannabis cultivators shall use erosion control techniques, as needed, for any reused or stored spent growth medium to prevent polluted runoff.	On-Going.
122. Refuse and Domestic Waste	Cannabis cultivators shall ensure that debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement and concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to any life stage of fish and wildlife or their habitat (includes food sources) does not contaminate soil or enter the riparian setback or waters of the state.	On-Going.
123. Refuse and Domestic Waste	Cannabis cultivators shall not dispose of domestic wastewater unless it meets applicable local agency and/or Regional Water Board requirements. Cannabis cultivators shall ensure that human or animal waste is disposed of properly. Cannabis cultivators shall ensure onsite wastewater treatment systems (e.g., septic system) are permitted by the local agency or applicable Regional Water Board.	On-Going.
124. Refuse and Domestic Waste	If used, chemical toilets or holding tanks shall be maintained in a manner appropriate for the frequency and conditions of usage, sited in stable locations, and comply with the riparian setback Requirements.	On-Going.
4.2. Employees, Visitors or Residents		
Description	Recommendations	Monitoring
Describe the number of employees, visitors or residents at the site.		
Two employees, no visitors.		
4.2.1. Domestic Wastewater		
Description	Recommendations	Monitoring
Describe the types of domestic wastewater generated at the site.		
Waste water (grey water) from hand washing and showering is generated at the site. Waste water (black water) from human waste is generated at the site.		

4.2.2. Domestic Wastewater Disposal			
Description		Recommendations	Monitoring
Describe how the domestic wastewater is disposed.			
Waste water from human waste is disposed of in a certified portable unit that is serviced monthly.			
4.2.2.1. Permitted Onsite Wastewater Treatment System			
Description		Recommendations	Monitoring
Describe the permitted onsite wastewater treatment system if applicable.			
Permitted septic system is onsite.		Maintain per county code and system design.	Seasonal and As Needed.
4.2.2.2. Chemical Toilets and Holding Tank			
Description		Recommendations	Monitoring
If so, provide the name of the servicing company and the frequency of service.			
Six Rivers Portable Toilets are serviced monthly or as needed.			
4.2.2.3. Outhouse or Privy			
Description		Recommendations	Monitoring
Use of this alternative requires approval from the Regional Water Board Executive Officer; include approval from the Executive Officer and any conditions imposed for use of this alternative.			
NA			
4.2.2.3.1. Site Map		Recommendations	Monitoring
Provide a site map that locates any domestic wastewater treatment, storage or disposal.			
See attached Property Diagram.			

5. Winterization BPTC Measures			
5.1. Activities			
Description	Recommendations	Monitoring	
Describe activities that will be performed to winterize the site and prevent discharges of waste. The description should address all the issues listed above.			
See attached documents: Water Resource Protection Plan: Standard Conditions Compliance Requirements, Monitoring Timeline and Data Log, and Winterization Protocols for Statewide Cannabis Order.		Per Document	
5.2. Maintenance			
Description	Recommendations	Monitoring	
Describe maintenance of all drainage or sediment capture features (e.g., drainage culverts, drainage trenches, settling ponds, etc.) to remove debris, soil blockages, and ensure adequate capacity exists.			
See attached documents: Water Resource Protection Plan: Standard Conditions Compliance Requirements, Monitoring Timeline and Data Log, and Winterization Protocols for Statewide Cannabis Order.		Per Document	
5.1. - 5.2. Requirements			
Subsection	Description	Deployment	
125. Winterization	Cannabis cultivators shall implement all applicable Erosion Control and Soil Disposal and Spoils Management Requirements in addition to the Winterization Requirements below by the onset of the winter period.	On-Going and Seasonally.	
126. Winterization	Cannabis cultivators shall block or otherwise close any temporary access roads to all motorized vehicles no later than the onset of the winter period each year.	Prior to wet-season.	
127. Winterization	Cannabis cultivators shall not operate heavy equipment of any kind at the cannabis cultivation site during the winter period, unless authorized for emergency repairs contained in an enforcement order issued by the State Water Board, Regional Water Board, or other agency having jurisdiction.	On-Going and Seasonally.	
128. Winterization	Cannabis cultivators shall apply linear sediment controls (e.g., silt fences, wattles, etc.) along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow length ²⁶ at the frequency specified below.	Prior to wet-season.	

129. Winterization	Cannabis cultivators shall maintain all culverts, drop inlets, trash racks and similar devices to ensure they are not blocked by debris or sediment. The outflow of culverts shall be inspected to ensure erosion is not undermining the culvert. Culverts shall be inspected prior to the onset of fall and winter precipitation and following precipitation events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation to determine if maintenance or cleaning is required.	On-Going and Seasonally. 0.5 in/day or 1.0 inch/7 days of precipitation.
130. Winterization	Cannabis cultivators shall stabilize all disturbed areas and construction entrances and exits to control erosion and sediment discharges from land disturbance.	Prior to and during wet-season.
131. Winterization	Cannabis cultivators shall cover and berm all loose stockpiled construction materials (e.g., soil, spoils, aggregate, etc.) that are not actively (scheduled for use within 48 hours) being used as needed to prevent erosion by storm water. The cannabis cultivator shall have adequate cover and berm materials available onsite if the weather forecast indicates a probability of precipitation.	Prior to and during wet-season.
132. Winterization	Cannabis cultivators shall cover and berm all loose stockpiled construction materials (e.g., soil, spoils, aggregate, etc.) that are not actively (scheduled for use within 48 hours) being used as needed to prevent erosion by storm water. The cannabis cultivator shall have adequate cover and berm materials available onsite if the weather forecast indicates a probability of precipitation.	Prior to and during wet-season.
133. Winterization	As part of the winterization plan approval process, the Regional Water Board may require cannabis cultivators to implement additional site-specific erosion and sediment control requirements if the implementation of the Requirements in this section do not adequately protect water quality.	TBD
5.3. Revegetation		
Description		
Describe any revegetation activities that will occur either at the beginning or end of the precipitation season.		
See attached documents: Water Resource Protection Plan: Standard Conditions Compliance Requirements, Monitoring Timeline and Data Log, and Winterization Protocols for Statewide Cannabis Order.		
		Per Document

5.3. Requirements		
Subsection	Description	Deployment
9. Erosion Control	The cannabis cultivator shall not plant or seed noxious weeds. Prohibited plant species include those identified in the California Invasive Pest Plant Council's database, available at: www.cal-ipc.org/paf/ . Locally native, non-invasive, and non-persistent grass species may be used for temporary erosion control benefits to stabilize disturbed land and prevent exposure of disturbed land to rainfall. Nothing in this term may be construed as a ban on cannabis cultivation that complies with the terms of this Policy.	Seasonally.
10.b. Erosion Control	Interim erosion prevention and sediment capture measures shall be implemented within seven days of completion of grading and land disturbance activities, and shall consist of erosion prevention measures and sediment capture measures including: Erosion prevention measures are required for any earthwork that uses heavy equipment (e.g., bulldozer, compactor, excavator, etc.). Erosion prevention measures may include surface contouring, slope roughening, and upslope storm water diversion. Other types of erosion prevention measures may include mulching, hydroseeding, tarp placement, revegetation, and rock slope protection. Sediment capture measures include the implementation of measures such as gravel bag berms, fiber rolls, straw bale barriers, properly installed silt fences, and sediment settling basins.	In conjunction with earthwork.
19. Access Road / Land Development and Drainage	Cannabis cultivators shall decommission or relocate existing roads away from riparian setbacks whenever possible. Roads that are proposed for decommissioning shall be abandoned and left in a condition that provides for long-term, maintenance-free function of drainage and erosion controls. Abandoned roads shall be blocked to prevent unauthorized vehicle traffic.	Per Project Protocols
20. Access Road / Land Development and Drainage	If site conditions prohibit drainage structures (including rolling ditches and ditch-relief culverts) at adequate intervals ¹² to avoid erosion, the cannabis cultivator shall use bioengineering techniques ¹² as the preferred measure to minimize erosion (e.g., live fascines). If bioengineering cannot be used, then engineering fixes such as armoring (e.g., rock of adequate size and depth to remain in place under traffic and flow conditions) and velocity dissipaters (e.g., gravel-filled "pillows" in an inside ditch to trap sediment) may be used for problem sites. The maximum distance between water breaks shall not exceed those defined in the Road Handbook.	Per Project Protocols

21. Access Road / Land Development and Drainage	Cannabis cultivators shall have a qualified professional design the optimal access road alignment, surfacing, drainage, maintenance requirements, and spoils handling.	Per Project Protocols
24. Access Road / Land Development and Drainage	Cannabis cultivators shall ensure that access roads are out-sloped whenever possible to promote even drainage of the access road surface, prevent the concentration of storm water flow within an inboard or inside ditch, and to minimize disruption of the natural sheet flow pattern off a hill slope to a stream.	Per Project Protocols
25. Access Road / Land Development and Drainage	If unable to eliminate inboard or inside ditches, the cannabis cultivator shall ensure adequate ditch relief culverts to prevent down-cutting of the ditch and to reduce water runoff concentration, velocity, and erosion. Ditches shall be designed and maintained as recommended by a qualified professional. To avoid point-source discharges, inboard ditches and ditch relief culverts shall be discharged onto vegetated or armored slopes that are designed to dissipate and prevent runoff channelization. Inboard ditches and ditch relief culverts shall be designed to ensure discharges into natural stream channels or watercourses are prevented.	Per Project Protocols
27. Access Road / Land Development and Drainage	Cannabis cultivators shall only grade ditches when necessary to prevent erosion of the ditch, undermining of the banks, or exposure of the toe of the cut slope to erosion. Cannabis cultivators shall not remove more vegetation than necessary to keep water moving, as vegetation prevents scour and filters out sediment.	Per Project Protocols
28. Access Road / Land Development and Drainage	Access road storm water drainage structures shall not discharge onto unstable slopes, earthen fills, or directly to a waterbody. Drainage structures shall discharge onto stable areas with straw bales, slash, vegetation, and/or rock riprap.	Per Project Protocols
29. Access Road / Land Development and Drainage	Sediment control devices (e.g., check dams, sand/gravel bag barriers, etc.) shall be used when it is not practical to disperse storm water before discharge to a waterbody. Where potential discharge to a wetland or waterbody exists (e.g., within 200 feet of a waterbody) access road surface drainage shall be filtered through vegetation, slash, other appropriate material, or settled into a depression with an outlet with adequate drainage. Sediment basins shall be engineered and properly sized to allow sediment settling, spillway stability, and maintenance activities.	Per Project Protocols
32. Cleanup, Restoration and Mitigation	Cannabis cultivators shall limit disturbance to existing grades and vegetation to the actual site of the cleanup or remediation and any necessary access routes.	Per Project Protocols

33. Cleanup, Restoration and Mitigation	Cannabis cultivators shall avoid damage to native riparian vegetation. All exposed or disturbed land and access points within the stream and riparian setback with damaged vegetation shall be restored with regional native vegetation of similar native species. Riparian trees over four inches diameter at breast height shall be replaced by similar native species at a ratio of three to one (3:1). Restored areas must be mulched, using at least 2 to 4 inches of weed-free, clean straw or similar biodegradable mulch over the seeded area. Mulching shall be completed within 30 days after land disturbance activities in the areas cease. Revegetation planting shall occur at a seasonally appropriate time until vegetation is restored to pre-cannabis or pre-Legacy condition or better. Cannabis cultivators shall stabilize and restore any temporary work areas with native vegetation to pre-cannabis cultivation or pre-Legacy conditions or better. Vegetation shall be planted at an adequate density and variety to control surface erosion and re-generate a diverse composition of regional native vegetation of similar native species.	On-Going and Seasonally.
34. Cleanup, Restoration and Mitigation	Cannabis cultivators shall avoid damage to oak woodlands. Cannabis cultivator shall plant three oak trees for every one oak tree damaged or removed. Trees may be planted in groves in order to maximize wildlife benefits and shall be native to the local county.	On-Going and Seasonally.
35. Cleanup, Restoration and Mitigation	Cannabis cultivators shall develop a revegetation plan for: • All exposed or disturbed riparian vegetation areas, • any oak trees that are damaged or removed, and • temporary work areas. Cannabis cultivators shall develop a monitoring plan that evaluates the revegetation plan for five years. Cannabis cultivators shall maintain annual inspections for the purpose of assessing an 85 percent survival and growth of revegetated areas within a five-year period. The presence of exposed soil shall be documented for three years following revegetation work. If the revegetation results in less than an 85 percent success rate, the unsuccessful vegetation areas shall be replanted. Cannabis cultivators shall identify the location and extent of exposed soil associated with the site; pre- and post-revegetation work photos; diagram of all areas revegetated, the planting methods, and plants used; and an assessment of the success of the revegetation program. Cannabis cultivators shall maintain a copy of the revegetation plan and monitoring results onsite and make them available, upon request, to Water Boards staff or authorized representatives. An electronic copy of monitoring results is acceptable in Portable Document Format (PDF).	On-Going and Seasonally.

36. Cleanup, Restoration and Mitigation	Cannabis cultivators shall revegetate soil exposed as a result of cannabis cultivation activities with native vegetation by live planting, seed casting, or hydroseeding within seven days of exposure.	On-Going and Seasonally.
37. Cleanup, Restoration and Mitigation	Cannabis cultivators shall prevent the spread or introduction of exotic plant species to the maximum extent possible by cleaning equipment before delivery to the cannabis cultivation Site and before removal, restoring land disturbance with appropriate native species, and post-cannabis cultivation activities monitoring and control of exotic species. Nothing in this term may be construed as a ban on cannabis cultivation that complies with the terms of this Policy.	On-Going and Seasonally.
63. Riparian and Wetland Protection and Management	Cannabis cultivators shall not disturb aquatic or riparian habitat, such as pools, spawning sites, large wood, or shading vegetation unless authorized under a CWA section 404 permit, CWA section 401 certification, Regional Water Board WDRs (when applicable), or a CDFW LSA Agreement.	On-Going.
64. Riparian and Wetland Protection and Management	Cannabis cultivators shall maintain existing, naturally occurring, riparian vegetative cover (e.g., trees, shrubs, and grasses) in aquatic habitat areas to the maximum extent possible to maintain riparian areas for streambank stabilization, erosion control, stream shading and temperature control, sediment and chemical filtration, aquatic life support, wildlife support, and to minimize waste discharge.	On-Going.
5.4. Compliance Schedule		
Description	Recommendations	Monitoring
If any BPTC measure cannot be completed before the onset of winter period, contact the Regional Water Board to establish a compliance schedule.		
NA		
5.5. Legacy Waste Discharge Issues		
Description	Recommendations	Monitoring
For Region 1 Dischargers, describe any activities that will be performed to address legacy discharge issues.		
There are no legacy discharge issues associated with this subject parcel.	NA	NA

These are recommendations only and not prescriptions for method or manner. All work should be designed and implemented by licensed professionals. We accept no liability for owner-build work based on this management plan.

Rural Property Seasonal Timeline

	Topography	Roads	Water System	Natural Areas	Agriculture/ Livestock
January	Monitor/Maintain	Monitor/Maintain	Monitor/Maintain	Fuel Load Reduction	Prune Orchards
February	Monitor/Maintain	Monitor/Maintain	Monitor/Maintain	Fuel Load Reduction	Amend Ag Zones
March	Monitor/Maintain	Monitor/Maintain	Monitor/Maintain	Fuel Load Reduction	Chop Cover Crop
April	Implementation	Implementation	Monitor/Maintain	Forest Resources	Mulch/Amend
May	Implementation	Implementation	Assess Water System	Invasive Species Management	Monitor
June	Professional Assessment	Professional Assessment	Assess Water System	Professional Assessment	Monitor
July	Implementation	Implementation	Assess Water System	Invasive Species Management	Monitor
August	Implementation	Implementation	Assess Water System	Monitor	Monitor
September	Implementation	Implementation	Assess Water System	Restoration	Winterization
October	Erosion Control	Culverts/Drainage	Update Water System	Restoration	Plant Cover Crop
November	Winterization	Winterization	Winterization	Restoration	Monitor
December	Monitor/Maintain	Monitor/Maintain	Monitor/Maintain	Restoration	Monitor

*See other side for descriptions.

Topography: Slopes related to areas of development that have the capacity for erosion and/or failure.

Monitor/Maintain: Assess winterization and engineered features. Maintain as necessary.
Implementation: Engineered features based on professional assessment.
Professional Assessment: Assessment of slopes, erosion and unstable features by a licensed professional.
Erosion Control: Purchase and stage erosion control materials at sites requiring winterization.
Winterization: Deploy erosion control (brush-weirs, erosion seed mix, wattles, straw mulch) by November 15th of each year. Plant native plants per professional assessment after soil moisture reaches 12-inches in depth.

Roads: Main access, seasonal roads and atv roads.

Monitor/Maintain: Assess winterization and engineered features. Maintain as necessary.
Implementation: Engineered features based on professional assessment.
Professional Assessment: Assessment of surface, margins, stream crossings, cross drains, and discharge points by a licensed professional.
Culverts and Drainage: Clear culverts and cross drains, maintain inboard ditches and discharge points.
Winterization: Deploy winterization protocols by November 15th of each year.

Water System: Diversion, Storage and Use.

Monitor and Maintain: Maintain float valves, manifolds and overflow to ensure proper filling of storage tanks. Purge rainwater catchment first-flush mechanism.
Maintain diversion infrastructure (foot valve) for proper placement in channel and functionality of organism exclusion device.
Assess Water System: Filters, storage volume, conveyance, use (meter) and check for leaks.
Update Water System: Purge sediment, clean/replace filters, expand storage volume, and maintain conveyance/fittings/valves. Install rainwater catchment.
Winterization: Prepare rainwater catchment system. Inspect foot-valve, float valves and overflow system.

Natural Areas: Includes forests, grasslands and riparian areas.

Fuel Load Reduction: Mechanical maintenance of road margins and CalFire zones.
Forest Resources: Fir poles, fire wood, etc.
Invasive Species Management: Mechanical removal of invasive/exotic plants based on species specific management protocols.
Professional Assessment: Assessment of forests, grasslands and riparian areas by a licensed professional.
Monitor: Documentation of elements outlined by professional assessment, restoration plan and restoration projects
Restoration: Engineered and vegetative restoration-based projects implementation.

Agriculture and Livestock

Prune Orchards: Prune based on species specific protocols.
Amend Ag Zones: Amend soil based on use (crops, pastures, etc.).
Chop Cover Crop: Chop and mulch cover crop at least three weeks before planting.
Mulch/Amend: Add spring nutrients based on species specific protocols. Mulch with appropriate strategies to protect soil from desiccation and erosion.
Monitor: Monitor soil, plants and livestock for needs and system upgrades. Monitor rational grazing zones.
Winterization: Prepare soil, livestock and structures for winter season. Continue monitoring.
Plant Cover Crop: Plant in conjunction with autumn rains and before soil temperatures drop below germination levels.

Property Data Log*

Year: _____

	Topography		Roads		Water System		Natural Areas		Agriculture/Livestock	
January										
February										
March										
April										
May										
June										
July										
August										
September										
October										
November										
December										

*Use the above log to record the date (day of the month) that monitoring occurred for each of the five property systems per the *Rural Property Seasonal Timeline* protocols. Use the following pages to record your monitoring observations and maintenance activities.

	Monitoring Observations	Maintenance Activities
Topography		
Roads		
Water System		
Natural Areas		
Ag/Livestock		

Measurement of Diverted Flow and Water Use Data

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Direct Diversion												
Diversion to Storage												
Total Diversion												
Domestic Use												
Irrigation Use ¹ Direct												
Irrigation Use ¹ Storage												
Total Use												

Irrigation Use¹: Water use for cannabis cultivation only. Use attached water log to record daily irrigation rates.

Maximum Diversion Rate²

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Gallons per Minute												

Maximum Diversion Rate²: As measured with bypass valve, bucket and stopwatch or other method to measure gallons per minute.

Specific Water Diversion Agreements

Maximum Diversion Rate	
Bypass Flow	
Seasonal Diversion Minimization	

Waste and Materials Management

a. Solid Waste Management

Solid waste disposal, storage, compost and recycling will be conducted in compliance with Humboldt County Municipal Code. The applicant delivers solid waste as needed to the Eureka Transfer Station. The solid waste is stored based on specific materials protocols. Domestic waste and recyclables would be stored and disposed of at the Eureka Transfer Station. All materials are secured from wildlife.

b. Hazardous Materials Management

Hazardous waste would be restricted to the materials outlined in the fertilizers, amendments, and pesticides data and use table as well as materials associated with domestication and property management. All hazardous waste would be hauled to the Eureka Transfer Station. The applicant does not manufacture cannabis at the site. Fertilizers would be natural or organic if possible, and future use of repellants, insecticides, and fungicides will include products that are exempt from tolerance requirements, per California Food and Agriculture Code, Division 6 Pest Control Operations and Division 7 Agriculture Chemical; Chapter 1 - 3.6 and California Code of Regulations, Division 6 Pest Control Operations.

Spill Prevention Protocols

1. Hazardous materials will be transported in approved containers with secondary containment.
2. Hazardous materials will be transferred by individuals who are familiar with the specific MSDS requirements.
3. Hazardous materials must be stored in a secure structure. Agricultural-based materials must be stored in a separate facility from gas, oil and other domestic based chemicals.
4. Materials Safety Data Sheets must be posted and appropriate spill kits must be stored in the corresponding storage facility.
5. All hazardous materials must be stored in secondary containment.
6. Power equipment that requires gas/oil should be kept in good working condition. The refueling and maintenance of power equipment should take place in the corresponding storage or maintenance facility.
7. Power equipment such as gasoline/diesel generators must be placed in certified secondary containment under a secure structure.
8. Appropriate fire suppression must be associated with all material storage facilities that store flammable materials.

Spill Clean Up Protocol (liquids)

1. Applicator should wear gloves, safety goggles, and a dust mask during cleanup.
2. Reference the associated MSDS for specific cleanup protocols.
3. Confine the leaking or spilled container to secondary containment.
4. Spread clay-based, "clumping kitty-litter" on the spill site at a rate of 1/2"-thick.
5. Allow litter to dry.
6. Use a flat-nosed shovel and broom to pickup the dry litter and double bag it.

7. Take to a licensed hazardous waste disposal facility.

Spill Clean Up Protocol (solids)

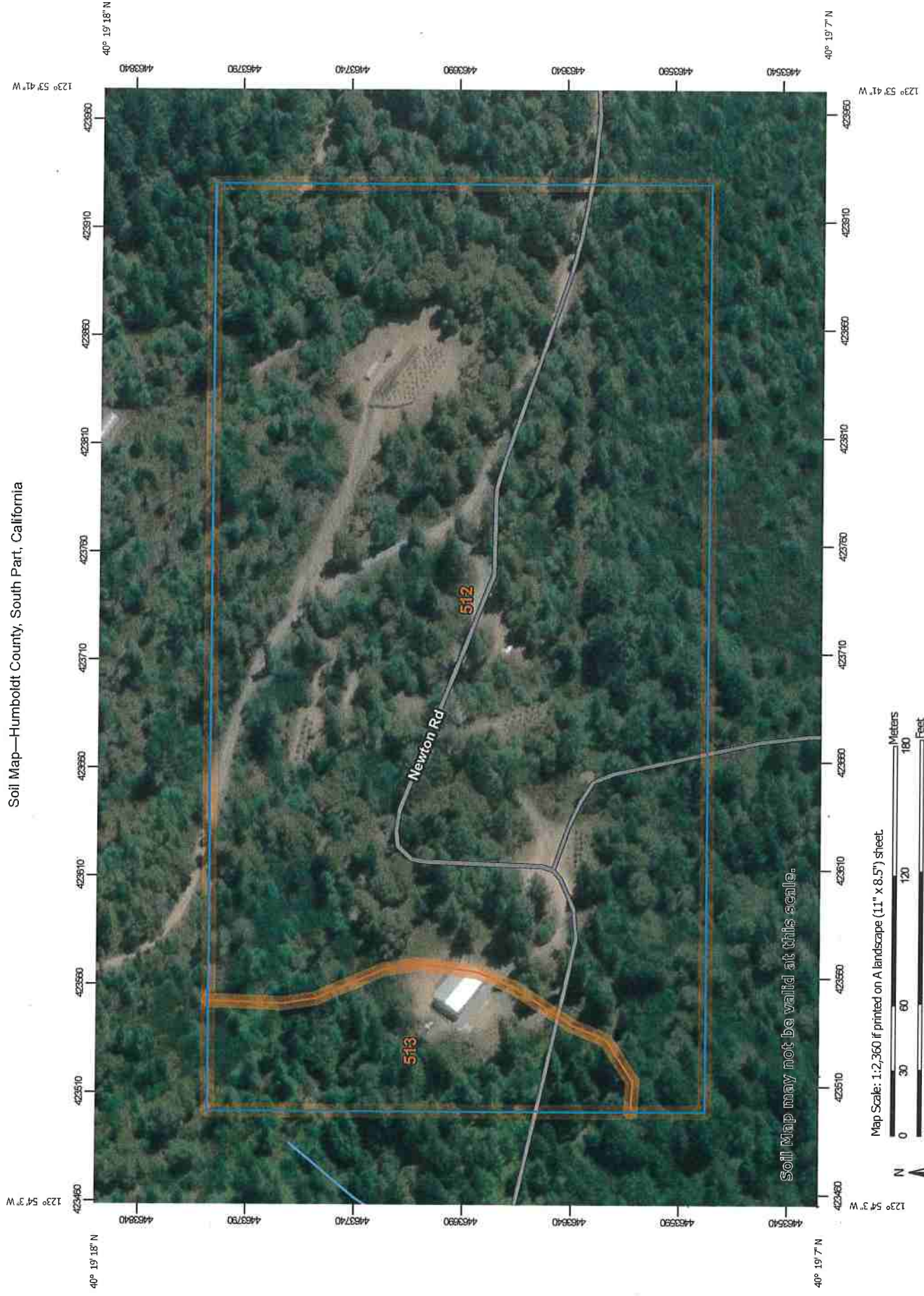
1. Applicator should wear gloves, safety goggles, and a dust mask during cleanup.
2. Reference the associated MSDS for specific cleanup protocols.
3. Confine the leaking or spilled container to secondary containment.
4. Use a flat-nosed shovel and broom to pickup the dry material.
5. Repackage materials that are safe to still use or take to a licensed hazardous waste disposal facility.

c. Bulk Agricultural Materials

The following protocols identify how bulk materials will be stored, mixed applied and how empty containers will be disposed of.

1. Areas will be outside of the minimum setbacks from surface water.
2. Materials for containment, covering and the clean up of bulk materials will be onsite prior to delivery.
3. Individuals responsible for receiving deliveries, storing, mixing and applying materials will be familiar with the specific MSDS requirements.
4. Materials will be stored, mixed and applied per manufactures recommendations.
5. Delivery sites will be cleaned and secured after materials are deployed per specific clean up protocols.
6. Empty containers will be returned, recycled or disposed of based on manufacturers recommendations.

Soil Map—Humboldt County, South Part, California



MAP LEGEND

	Area of Interest (AOI)		Area of Interest (AOI)
	Soils		Soils
	Soil Map Unit Polygons		Soil Map Unit Polygons
	Soil Map Unit Lines		Soil Map Unit Lines
	Soil Map Unit Points		Soil Map Unit Points
	Special Point Features		Special Line Features
	Blowout		Streams and Canals
	Borrow Pit		Streams and Canals
	Clay Spot		Streams and Canals
	Closed Depression		Streams and Canals
	Gravel Pit		Streams and Canals
	Gravelly Spot		Streams and Canals
	Landfill		Streams and Canals
	Lava Flow		Streams and Canals
	Marsh or swamp		Streams and Canals
	Mine or Quarry		Streams and Canals
	Miscellaneous Water		Streams and Canals
	Perennial Water		Streams and Canals
	Rock Outcrop		Streams and Canals
	Saline Spot		Streams and Canals
	Sandy Spot		Streams and Canals
	Severely Eroded Spot		Streams and Canals
	Sinkhole		Streams and Canals
	Slide or Slip		Streams and Canals
	Sodic Spot		Streams and Canals
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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
512	Redwoodhouse-Yagercreek-Mailridge complex, 15 to 30 percent slopes	21.9	89.4%
513	Redwoodhouse-Yagercreek-Mailridge complex, 30 to 50 percent slopes	2.6	10.6%
Totals for Area of Interest		24.5	100.0%

Humboldt County, South Part, California

512—Redwoodhouse-Yagercreek-Mailridge complex, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: vyk9
Elevation: 200 to 3,770 feet
Mean annual precipitation: 40 to 85 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Redwoodhouse and similar soils: 60 percent
Yagercreek and similar soils: 20 percent
Mailridge and similar soils: 15 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Redwoodhouse

Setting

Landform: Mountain slopes, ridges, benches
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank, mountaintop
Down-slope shape: Linear
Across-slope shape: Convex, linear
Parent material: Colluvium and residuum derived from interbedded sandstone and mudstone

Typical profile

O_i - 0 to 0 inches: slightly decomposed plant material
A - 0 to 7 inches: gravelly silt loam
ABt - 7 to 12 inches: gravelly loam
Bt₁ - 12 to 20 inches: gravelly clay loam
Bt₂ - 20 to 35 inches: gravelly clay loam
Bt₃ - 35 to 45 inches: very paragravelly clay loam
Bt₄ - 45 to 63 inches: very paragravelly clay loam
Bt₅ - 63 to 79 inches: very paragravelly clay loam

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat):
Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Hydric soil rating: No

Description of Yagercreek

Setting

Landform: Mountain slopes, ridges

Landform position (two-dimensional): Summit, backslope, shoulder

Landform position (three-dimensional): Upper third of mountainflank

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Colluvium and residuum derived from interbedded sandstone and mudstone

Typical profile

O_i - 0 to 4 inches: gravelly slightly decomposed plant material

A - 4 to 12 inches: very gravelly loam

Bt₁ - 12 to 30 inches: very gravelly clay loam

Bt₂ - 30 to 51 inches: very gravelly sandy clay loam

Bt₃ - 51 to 79 inches: extremely gravelly sandy clay loam

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (K_{sat}):

Moderately high to high (0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Hydric soil rating: No

Description of Mailridge

Setting

Landform: Ridges, benches

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Mountaintop, mountainflank

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Colluvium and residuum derived from interbedded sandstone and mudstone

Typical profile

A - 0 to 9 inches: very gravelly loam

Bt1 - 9 to 18 inches: very gravelly clay loam

Bt2 - 18 to 43 inches: extremely gravelly clay loam

C - 43 to 61 inches: extremely gravelly sandy loam

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat):

Moderately high to high (0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Mountbaldy

Percent of map unit: 3 percent

Landform: Ridges

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Mountaintop

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Redcrest

Percent of map unit: 2 percent

Landform: Ridges

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Mountaintop

Down-slope shape: Convex

Across-slope shape: Linear

Hydric soil rating: No

Data Source Information

Soil Survey Area: Humboldt County, South Part, California

Survey Area Data: Version 8, Sep 17, 2019



Humboldt County, South Part, California

513—Redwoodhouse-Yagercreek-Mailridge complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: vykb
Elevation: 200 to 3,770 feet
Mean annual precipitation: 40 to 85 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Redwoodhouse and similar soils: 50 percent
Yagercreek and similar soils: 30 percent
Mailridge and similar soils: 15 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Redwoodhouse

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Colluvium and residuum derived from interbedded sandstone and mudstone

Typical profile

A - 0 to 6 inches: loam
ABt - 6 to 13 inches: silt loam
Bt1 - 13 to 24 inches: gravelly silty clay loam
Bt2 - 24 to 37 inches: gravelly silty clay loam
Bt3 - 37 to 47 inches: gravelly silty clay loam
Bt4 - 47 to 71 inches: gravelly clay loam

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat):
Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Hydric soil rating: No

Description of Yagercreek

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope, shoulder

Landform position (three-dimensional): Mountainflank

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Colluvium and residuum derived from interbedded sandstone and mudstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 9 inches: gravelly loam

Bt1 - 9 to 21 inches: very gravelly clay loam

Bt2 - 21 to 35 inches: extremely gravelly clay loam

Bt3 - 35 to 71 inches: extremely cobbly sandy clay loam

Properties and qualities

Slope: 30 to 50 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat):

Moderately high to high (0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Hydric soil rating: No

Description of Mailridge

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Mountainflank

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Colluvium and residuum derived from interbedded sandstone and mudstone