

Water Resource Protection Plan

WDID#: 1B16422CHUM

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Submitted to:

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Prepared by:

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165 South Fortuna Blvd

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Purpose

This Water Resource Protection Plan (WRPP) has been prepared on behalf of the property owner, Jesse Almas, for APN 208-231-015 by agreement and in response to the California Water Code Section 13260(a), which requires that any person discharging waste or proposing to discharge waste within any region that could affect the quality of the waters of the state, other than into a community sewer system, shall file with the appropriate regional water board a Report of Waste Discharge (ROWD) containing such information and data as may be required by the Regional Water Board. The Regional Water Board may waive the requirements of Water Code section 13260 for specific types of discharges if the waiver is consistent with the Basin Plan and in the public interest. Any waiver is conditional and may be terminated at any time. A waiver should include monitoring requirements to verify the adequacy and effectiveness of the waiver's conditions. Order R1-2015-0023 conditionally waives the requirement to file a ROWD for discharges and associated activities described in finding 4.

Scope of Report

Order No. R1-2015-0023 states that "Tier 2 Dischargers and Tier 3 Dischargers who intend to cultivate cannabis before, during, or following site cleanup activities shall develop and implement a water resource protection plan that contains the elements listed and addressed below. Dischargers must keep this plan on site, and produce it upon request by Regional Water Board staff. Management practices shall be properly designed and installed, and assessed periodically for effectiveness. If a management measure is found to be ineffective, the plan must be adapted and implemented to incorporate new or additional management practices to meet standard conditions. Dischargers shall certify annually to the Regional Water Board individually or through an approved third party program that the plan is being implemented and is effectively protecting water quality, and report on progress in implementing site improvements intended to bring the site into compliance with all conditions of this Order."

Methods

The methods used to develop this WRPP include both field and office components. The office component consisted of aerial photography review and interpretation, existing USGS quad map review, GIS mapping of field data, review of on-site photography points, streamflow calculations, and general planning. The field component included identifying and accurately mapping all watercourses, wet areas, and wetlands located downstream of the cultivation areas, associated facilities, and all appurtenant roads accessing such areas. An accurate location of the Waters of the State is necessary to make an assessment of whether potential and existing erosion sites/pollution sites have the potential to discharge waste to an area that could affect waters of the State (including groundwater). Next, all cultivation areas, associated facilities, and all appurtenant roads accessing such areas were assessed for discharges and related controllable water quality factors from the activities listed in Order R1-2015-0023, Finding 4a-j. The field assessment also included an evaluation and determination of compliance with the Standard Conditions per Provision I.B of Order No. R1-2015-0023. The water resource protection plans required under Tier 2 are meant to describe the specific measures a Discharger implements to achieve compliance with standard conditions. Therefore, all required components of the water resource protection plan per Provision I.B of Order No. R1-2015-0023 were physically inspected and evaluated. A comprehensive summary of each Standard Condition as it relates to the subject property is appended.

Property Description

This project consists of a 43 acre parcel which includes a seasonal residence and associated cannabis cultivation. The property contains two Class II tributaries to the Mad River. The property is located within the SW ¼ of Section 35, Township 2N, Range 5E, Humboldt County.

Monitoring Plan

Tier 2 Dischargers shall include a monitoring element in the water resource protection plan that at a minimum provides for periodic inspection of the site, checklist to confirm placement and efficacy of management measures, and document progress on any plan elements subject to a time schedule. Tier 2 Dischargers shall submit an annual report (Appendix C) by March 31 of each year that documents implementation and effectiveness of management measures during the previous year. Tier 2 annual reporting is a function that may be provided through an approved third party program.

Monitoring of the site includes visual inspection and photographic documentation of each feature of interest listed on the site map, with new photographic documentation recorded with any notable changes to the feature of interest. At a minimum, all site features must be monitored annually, to provide the basis for completion of the annual re-certification process. Additionally, sites shall be monitored at the following times to ensure timely identification of changed site conditions and to determine whether implementation of additional management measures is necessary to iteratively prevent, minimize, and mitigate discharges of waste to surface water: 1) just prior to October 15 to evaluate site preparedness for storm events and storm water runoff, 2) following the accumulation of 3" total precipitation or by November 15, whichever is sooner, and 3) following any rainfall event with an intensity of 3" precipitation in 24 hours. Precipitation data can be obtained from the National Weather Service Forecast Office (e.g. by entering the zip code of the parcel location at <http://www.srh.noaa.gov/forecast>).

Monitoring Plan Reporting Requirements

Order No. R1-2015-0023, Appendix C must be submitted to the Regional Water Board or approved third party program upon initial enrollment in the Order (NOI) and annually thereafter by March 31. Forms submitted to the Regional Water Board shall be submitted electronically to northcoast@waterboards.ca.gov. If electronic submission is infeasible, hard copies can be submitted to: North Coast Regional Water Quality Control Board, 5550 Skylane Boulevard, Suite A, Santa Rosa, CA 95403.

Assessment of Standard Conditions

Assessment of Standard Conditions consisted of field examinations on 02/16/2016, 03/25/2016, and 05/03/2016. The examination evaluated areas near, and areas with the potential to directly impact, watercourses for sensitive conditions including, but not limited to, existing and proposed roads, skid trails and landings, unstable and erodible watercourse banks, unstable upslope areas, debris, jam potential, inadequate flow capacity, changeable channels, overflow channels, flood prone areas, and riparian zones. Field examinations also evaluated all roads and trails on the property, developed areas, cultivation sites, and any structures and facilities appurtenant to cultivation on the property. Anywhere the Standard Conditions are not met on the property, descriptions of the assessments and the prescribed treatments are outlined following each associated section below.

Summary of Standard Conditions Compliance

1. Site maintenance, erosion control, and drainage features Y ☐/N ☒
2. Stream crossing maintenance Y ☐/N ☒
3. Riparian and wetland protection and management Y ☒/N ☐
4. Spoils management Y ☐/N ☒
5. Water storage and use Y ☐/N ☒
6. Irrigation runoff Y ☒/N ☐
7. Fertilizers and soil amendments Y ☒/N ☐
8. Pesticides and herbicides? Y ☒/N ☐
9. Petroleum products and other chemicals Y ☐/N ☒
10. Cultivation-related wastes Y ☒/N ☐
11. Refuse and human waste Y ☒/N ☐

A. Standard Conditions, Applicable to All Dischargers

1. Site Maintenance, erosion control and drainage features (Compliance: Y ☐ / N ☒)

- a. Roads shall be maintained as appropriate (with adequate surfacing and drainage features) to avoid developing surface ruts, gullies, or surface erosion that results in sediment delivery to surface waters.

There is a bank seep located at Road Point #1 (RP #1). This seep saturates the road surface from October through May. The seep originates from the adjacent wetland east of this road point. The Discharger hand dug a ditch between the seep and wetland which assists in draining the road surface. The Discharger shall further develop this inboard relief ditch as well as rock the road surface to mitigate erosion at this location.

- b. Roads, driveways, trails, and other defined corridors for foot or vehicle traffic of any kind shall have adequate ditch relief drains or rolling dips and/or other measures to prevent or minimize erosion along the flow paths and at their respective outlets.

There are four locations where run-off is resulting in erosion of the road surface, Road Points #2 - #5. These locations shall be mitigated by installing water breaks to capture and drain surface runoff.

- c. Roads and other features shall be maintained so that surface runoff drains away from potentially unstable slopes or earthen fills. Where road runoff cannot be drained away from an unstable feature, an engineered structure or system shall be installed to ensure that surface flows will not cause slope failure.

The 15' Pilot Creek Quadrangle Geologic Map shows no unstable areas or geomorphic features within or nearby the property. Physical reconnaissance of the property revealed no unstable areas per 14CCR 895.1.

- d. Roads, clearings, fill prisms, and terraced areas (cleared/developed areas with the potential for sediment erosion and transport) shall be maintained so that they are not hydrologically connected¹, as feasible, from surface waters, including wetlands, ephemeral, intermittent and perennial streams.

Both cultivation sites show potential for hydrologic connectivity with a watercourse.

- **Cultivation Site #1 (CS #1) consists of a landing which utilizes a French drain system to prevent the landing from saturating. The outlet releases water to the north, approximately 100' upslope from a Class III watercourse. Current conditions exhibit no evidence that this water from this outlet is reaching the watercourse however there is potential for connection.**
- **Cultivation Site #2 (CS #2) consists of a vegetated hillside containing outdoor cultivation in pots and planting holes. The majority of surface run-off drains to the northeastern corner of this site, towards a Class II watercourse. This Class II is approximately 120' away and possesses a robust riparian buffer. The riparian buffer is heavily vegetated and should filter out any sediment or nutrients entrapped within surface run-off that may reach with the Class II.**

These locations shall be monitored to assess the potential connectivity that may occur during the wet season. The Discharger shall hydrologically disconnect these cultivation sites from watercourses as feasible.

- e. Ditch relief drains, rolling dip outlets, and road pad or terrace surfaces shall be maintained to promote infiltration/dispersal of outflows and have no apparent erosion or evidence of soil transport to receiving waters.

With the exception of RP #2 - #5, there are no locations where erosion is occurring which may be mitigated or remediated. All drainage facilities are maintained to mitigate erosion along their outflows and flow paths.

- f. Stockpiled construction materials are stored in a location and manner so as to prevent their transport to receiving waters.

All materials are stored within a storage structure on the property, location on map.

¹ Connected roads are road segments that deliver road surface runoff, via the ditch or road surface, to a stream crossing or to a connected drain that occurs within the high delivery potential portion of the active road network. A connected drain is defined as any cross-drain culvert, water bar, rolling dip, or ditch-out that appears to deliver runoff to a defined channel. A drain is considered connected if there is evidence of surface flow connection from the road to a defined channel or if the outlet has eroded a channel that extends from the road to a defined channel. (http://www.forestsandfish.com/documents/Road_Mgmt_Survey.pdf)

2. Stream Crossing Maintenance (Compliance: Y ☐ / N ☒)

- a. Culverts and stream crossings shall be sized to pass the expected 100-year peak streamflow.
- b. Culverts and stream crossings shall be designed and maintained to address debris associated with the expected 100-year peak streamflow.
- c. Culverts and stream crossings shall allow passage of all life stages of fish on fish-bearing or restorable streams, and allow passage of aquatic organisms on perennial or intermittent streams.
- d. Stream crossings shall be maintained so as to prevent or minimize erosion from exposed surfaces adjacent to, and in the channel and on the banks.
- e. Culverts shall align with the stream grade and natural stream channel at the inlet and outlet where feasible.²
- f. Stream crossings shall be maintained so as to prevent stream diversion in the event that the culvert/crossing is plugged, and critical dips shall be employed with all crossing installations where feasible.³

All stream crossings (SC) were assessed throughout the property and only two locations were found not to be in compliance with standard conditions (A)2a-f

- **SC #1 is where a seasonal road intersects with a Class III watercourse. This crossing currently consists of a dirt ford. The Discharger shall install a rock ford crossing at this location per specifications attached with this document.**
- **SC #2 consists of a pulled Class II skid road crossing which occurred before the landowner acquired this property. This crossing was improperly decommissioned and now poses a risk of sediment delivery to the Class II watercourse. The banks of this watercourse shall be pulled back to a 2:1 slope ratio as well as seeded and mulched. Crossing abandonment specifications are attached with this document.**

² At a minimum, the culvert shall be aligned at the inlet. If infeasible to align the culvert outlet with the stream grade or channel, outlet armoring or equivalently effective means may be applied.

³ If infeasible to install a critical dip, an alternative solution may be chosen.

3. Riparian and Wetland Protection and Management (Compliance: Y☒/ N☐)

- a. For Tier 1 Dischargers, cultivation areas or associated facilities shall not be located within 200 feet of surface waters. While 200 foot buffers are preferred for Tier 2 sites, at a minimum, cultivation areas and associated facilities shall not be located or occur within 100 feet of any Class I or II watercourse or within 50 feet of any Class III watercourse or wetlands. The Regional Water Board or its or its Executive Officer may apply additional or alternative⁴ conditions on enrollment, including site-specific riparian buffers and other BMPs beyond those identified in water resource protection plans to ensure water quality protection.

CS #1 is located approximately 140' away from the nearest Class III watercourse while CS #2 is 120' away from the nearest Class II watercourse.

- b. Buffers shall be maintained at natural slope with native vegetation.

Riparian buffers remain undisturbed throughout the property. The buffers consist of a mosaic of mixed fir/oak stands and open rangelands.

- c. Buffers shall be of sufficient width to filter wastes from runoff discharging from production lands and associated facilities to all wetlands, streams, drainage ditches, or other conveyances. Riparian and wetland areas shall be protected in a manner that maintains their essential functions, including temperature and microclimate control, filtration of sediment and other pollutants, nutrient cycling, woody debris recruitment, groundwater recharge, streambank stabilization, and flood peak attenuation and flood water storage.

No cultivation encroaches within the minimum buffer widths. The project will be monitored to assess the effectiveness of the riparian buffers.

4. Spoils Management (Compliance: Y☐/ N☒)

- a. Spoils⁵ shall not be stored or placed in or where they can enter any surface water.

Cultivation related soil spoils are stored within the cultivation sites over winter. Spoils from CS #1 are piled and covered at the greenhouse locations. Spoils from CS #2 are kept in their planting holes and containers over winter. These spoils are exhumed and amended in the spring. These locations are adequate distances from surface waters.

⁴ Alternative site-specific riparian buffers that are equally protective of water quality may be necessary to accommodate existing permanent structures or other types of structures that cannot be relocated.

⁵ Spoils are waste earthen or organic materials generated through grading or excavation, or waste plant growth media or soil amendments. Spoils include but are not limited to soils, slash, bark, sawdust, potting soils, rock, and fertilizers.

- b. Spoils shall be adequately contained or stabilized to prevent sediment delivery to surface waters.

As addressed above spoils are adequately contained within each cultivation site over winter. There is some perlite migrating downslope from the smart pots and planting holes located at CS #2. These small particles have so far been entrapped by the vegetation below. The Discharger shall mulch all imported soils when not in use to prevent any more perlite from leaving the cultivation site over winter.

- c. Spoils generated through development or maintenance of roads, driveways, earthen fill pads, or other cleared or filled areas shall not be sidecast in any location where they can enter or be transported to surface waters.

There is one location, SC #2, addressed in Standard Condition (A)2 where earthen fill generated from the abandonment of a stream crossing pose a risk to a watercourse. This crossing will be remediated per the crossing abandonment specifications attached with this document.

5. Water Storage and Use (Compliance: Y ☐/ N ☒)

- a. Size and scope of an operation shall be such that the amount of water used shall not adversely impact water quality and/or beneficial uses, including and in consideration with other water use by operations, instream flow requirements and/or needs in the watershed, defined at the scale of a HUC-12⁶ watershed or at a smaller hydrologic watershed as determined necessary by the Regional Water Board Executive Officer.

This project consists of two cultivation sites (CS) totaling 7,840 square feet.

- **CS #1 is a developed landing built into a 30% slope. The site includes three greenhouses: 20' by 120', 20' by 95' and 15' by 75'. The site also includes approximately 1,240 square feet of outdoor cultivation.**
- **CS #2 is an 11,000 square foot undeveloped vegetated hillside containing approximately 1,175 square feet of outdoor cultivation. The slope of this site averages approximately 31%.**

The Discharger has agreed with CDFW to forbear from surface diversions on the Mad River for 105 days. The Discharger estimates using 2.9 gallons of water per ten square feet of cultivation space. This would equate to 2,217 gallons per day or 232,790 gallons of required storage for the forbearance period. There is a well on the property which the Discharger uses to supplement surface diversions during the forbearance period. This well on average produces 4,000 gallons a day. The Discharger will utilize the well and storage tanks as a source of water during the season of forbearance from surface diversion. The Discharger also plans to increase storage to supplement surface and groundwater diversions.

⁶ See definition and link to maps at: <http://water.usgs.gov/GIS/huc.html>

- b. Water conservation measures shall be implemented. Examples include use of rainwater catchment systems or watering plants with a drip irrigation system rather than with a hose or sprinkler system.

The Discharger has been educated in water conservation BMP's and will begin implementing these techniques in 2017. The water conservation methods utilized by the Discharger will be recorded and included in this report.

- c. For Tier 2 Dischargers, if possible, develop off-stream storage facilities to minimize surface water diversion during low flow periods.

This project possesses 32,500 gallons of water storage in the form of hard plastic tanks. The Discharger is planning to increase this capacity to supplement well use during the season of forbearance.

- d. Water is applied using no more than agronomic rates.⁷

There is no evidence to conclude that the Discharger irrigates at a greater rate than the growth medium can facilitate. No signs of over watering are present on-site. It is recommended that the Discharger meter their water use and install float-valves on appropriate storage tanks.

- e. Diversion and/or storage of water from a stream should be conducted pursuant to a valid water right and in compliance with reporting requirements under Water Code section 5101.

The Discharger's agricultural and domestic water source is a surface diversion located on the property. This point of diversion (POD) consists of a screened 3 inch diameter steel pipe within the channel of the Mad River. This watercourse is a Class I tributary to the ocean. The rate of diversion and bypass flow has yet to be agreed upon with CDFW.

An Initial Statement of Water Diversion and Use has been filed with the State Water Control Board and the Discharger is waiting to apply for a Small Irrigation Use Registration once available. This project is pending an approved Lake and Stream Bed Alteration agreement with California Department of Fish and Wildlife for the diversion structures and jurisdictional activities. The Discharger cannot comply with Standard Condition A.5.e. until the Small Irrigation Use program is completed and made available by the State Water Control Board.

⁷ "Agronomic rates" is defined as the rates of fertilizer and irrigation water that a plant needs to enhance soil productivity and provide the crop or forage growth with needed nutrients for optimum health and growth, without having any excess water or nutrient percolate beyond the root zone.

- f. Water storage features, such as ponds, tanks, and other vessels shall be selected, sited, designed, and maintained so as to insure integrity and to prevent release into waters of the state in the event of a containment failure.

All water storage features are maintained to insure integrity and prevent failure. Storage features are sighted in locations that will reduce the risks of failure and impacts to slope stability.

6. Irrigation Runoff (Compliance: Y☒/ N☐)

- a. Implementing water conservation measures, irrigating at agronomic rates, applying fertilizers at agronomic rates and applying chemicals according to the label specifications, and maintaining stable soil and growth media should serve to minimize the amount of runoff and the concentration of chemicals in that water. In the event that irrigation runoff occurs, measures shall be in place to treat/control/contain the runoff to minimize the pollutant loads in the discharge. Irrigation runoff shall be managed so that any entrained constituents, such as fertilizers, fine sediment and suspended organic particles, and other oxygen consuming materials are not discharged to nearby watercourses. Management practices include, but are not limited to, modifications to irrigation systems that reuse tailwater by constructing off-stream retention basins, and active (pumping) and or passive (gravity) tailwater recapture/redistribution systems. Care shall be taken to ensure that irrigation tailwater is not discharged towards or impounded over unstable features or landslides.

There are no signs of irrigation run-off within either cultivation site. The Discharger irrigates at an agronomic rate to minimize waste and the risk of entrained constituents leaving the site.

7. Fertilizers and Soil Amendments (Compliance: Y☒/ N☐)

- a. Fertilizers, potting soils, compost, and other soils and soil amendments shall be stored in locations and in a manner in which they cannot enter or be transported into surface waters and such that nutrients or other pollutants cannot be leached into groundwater.

The Discharger stores all fertilizers and soil amendments inside a storage shed with a concrete foundation. This shed completely contains fertilizers and amendments from being transported into surface waters or leaching into groundwater.

- b. Fertilizers and soil amendments shall be applied and used per packaging instructions and/or at proper agronomic rates.

All fertilizers and soil amendments are applied by the Discharger at agronomic rates per specifications included in the labeling.

- c. Cultivation areas shall be maintained so as to prevent nutrients from leaving the site during the growing season and post-harvest.

Cultivation sites were neatly maintained with all fertilizer and amendment containers stored away within the shed addressed in condition (A)7c.

8. Pesticides/Herbicides (Compliance: Y☒/ N☐)

At the present time, there are no pesticides or herbicides registered specifically for use directly on cannabis and the use of pesticides on cannabis plants has not been reviewed for safety, human health effects, or environmental impacts. Under California law, the only pesticide products not illegal to use on cannabis are those that contain an active ingredient that is exempt from residue tolerance requirements and either registered and labeled for a broad enough use to include use on cannabis or exempt from registration requirements as a minimum risk pesticide under FIFRA section 25(b) and California Code of Regulations, title 3, section 6147. For the purpose of compliance with conditions of this Order, any uses of pesticide products shall be consistent with product labeling and any products on the site shall be placed, used, and stored in a manner that ensures that they will not enter or be released into surface or ground waters.

The Discharger uses Neem Oil as a preventative pesticide. Pesticides are applied per specifications included in the packaging and stored with the fertilizers.

9. Petroleum Products and Other Chemicals (Compliance: Y☒/ N☐)

- a. Petroleum products and other liquid chemicals, including but not limited to diesel, biodiesel, gasoline, and oils shall be stored so as to prevent their spillage, discharge, or seepage into receiving waters. Storage tanks and containers must be of suitable material and construction to be compatible with the substance(s) stored and conditions of storage such as pressure and temperature.

The Discharger stores fuel within a 550 gallon steel diesel tank. This tank is stored adjacent to the generator shed approximately 130 feet away from a Class III watercourse on a cement foundation.

- b. Above ground storage tanks and containers shall be provided with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation.

This storage tank possesses a cement secondary containment structure which can facilitate the entire capacity of the diesel tank.

- c. Dischargers shall ensure that diked areas are sufficiently impervious to contain discharged chemicals.

Not Applicable

- d. Discharger(s) shall implement spill prevention, control, and countermeasures (SPCC) and have appropriate cleanup materials available onsite.

Not Applicable

- e. Underground storage tanks 110 gallons and larger shall be registered with the appropriate County Health Department and comply with State and local requirements for leak detection, spill overflow, corrosion protection, and insurance coverage.

Not Applicable

10. Cultivation-related Wastes (Compliance: Y ☒/ N ☐)

Cultivation-related wastes including, but not limited to, empty soil/soil amendment/fertilizer/pesticide bags and containers, empty plant pots or containers, dead or harvested plant waste, and spent growth medium shall, for as long as they remain on the site, be stored⁸ at locations where they will not enter or be blown into surface waters, and in a manner that ensures that residues and pollutants within those materials do not migrate or leach into surface water or groundwaters.

Cultivation waste is treated in two separate manners depending on the waste.

- **Organic matter is piled, covered and eventually burned on a flat location near CS #2.**
- **Non-organic waste such as packaging and used materials are contained within trash bins and stored near the residence. Spent growth medium or cultivation spoils treatment is addressed in Standard Condition (A)4.**

11. Refuse and Human Waste (Compliance: Y ☐/ N ☒)

- a. Disposal of domestic sewage shall meet applicable County health standards, local agency management plans and ordinances, and/or the Regional Water Board's Onsite Wastewater Treatment System (OWTS) policy, and shall not represent a threat to surface water or groundwater.

Human refuse is collected and contained within a privy located on the property. This pit toilet is approximately 120 feet away from the nearest Class III watercourse. Currently grey water from the small season residence on the property lets out through a small 2" diameter drain pipe. This pipe releases water onto a hillside behind the structure. The Discharger shall bury the grey water outlet a minimum 6 inches deep underground per Humboldt County Health code. The Discharger shall install a septic system compliant with applicable county health standards.

⁸ Plant waste may also be composted, subject to the same restrictions cited above for cultivation-related waste storage.

- b. Refuse and garbage shall be stored in a location and manner that prevents its discharge to receiving waters and prevents any leachate or contact water from entering or percolating to receiving waters.

All trash is temporarily contained within trash bins stored near the residence. Trash is hauled to a solid waste disposal site on average once per month.

- c. Garbage and refuse shall be disposed of at an appropriate waste disposal location.

All trash and refuse hauled off-site is properly disposed of at a solid waste disposal site such as the Hawthorne Street Transfer Station in Eureka, CA or Van Duzen Transfer Station in Mad River, CA.

12. Remediation/Cleanup/Restoration

Remediation/cleanup/restoration activities may include, but are not limited to, removal of fill from watercourses, stream restoration, riparian vegetation planting and maintenance, soil stabilization, erosion control, upgrading stream crossings, road outcropping and rolling dip installation where safe and suitable, installing ditch relief culverts and overside drains, removing berms, stabilizing unstable areas, reshaping cutbanks, and rocking native-surfaced roads. Restoration and cleanup conditions and provisions generally apply to Tier 3 sites, however owners/operators of Tier 1 or 2 sites may identify or propose water resource improvement or enhancement projects such as stream restoration or riparian planting with native vegetation and, for such projects, these conditions apply similarly. Appendix B accompanying this Order includes environmental protection and mitigation measures that apply to cleanup activities such as: temporal limitations on construction; limitations on earthmoving and construction equipment; guidelines for removal of plants and revegetation; conditions for erosion control, limitations on work in streams, riparian and wetland areas; and other measures.

Mitigation measures are listed below in the Mitigation Report and also noted above in the document. All locations listed within the mitigation report will be monitored by the Discharger.

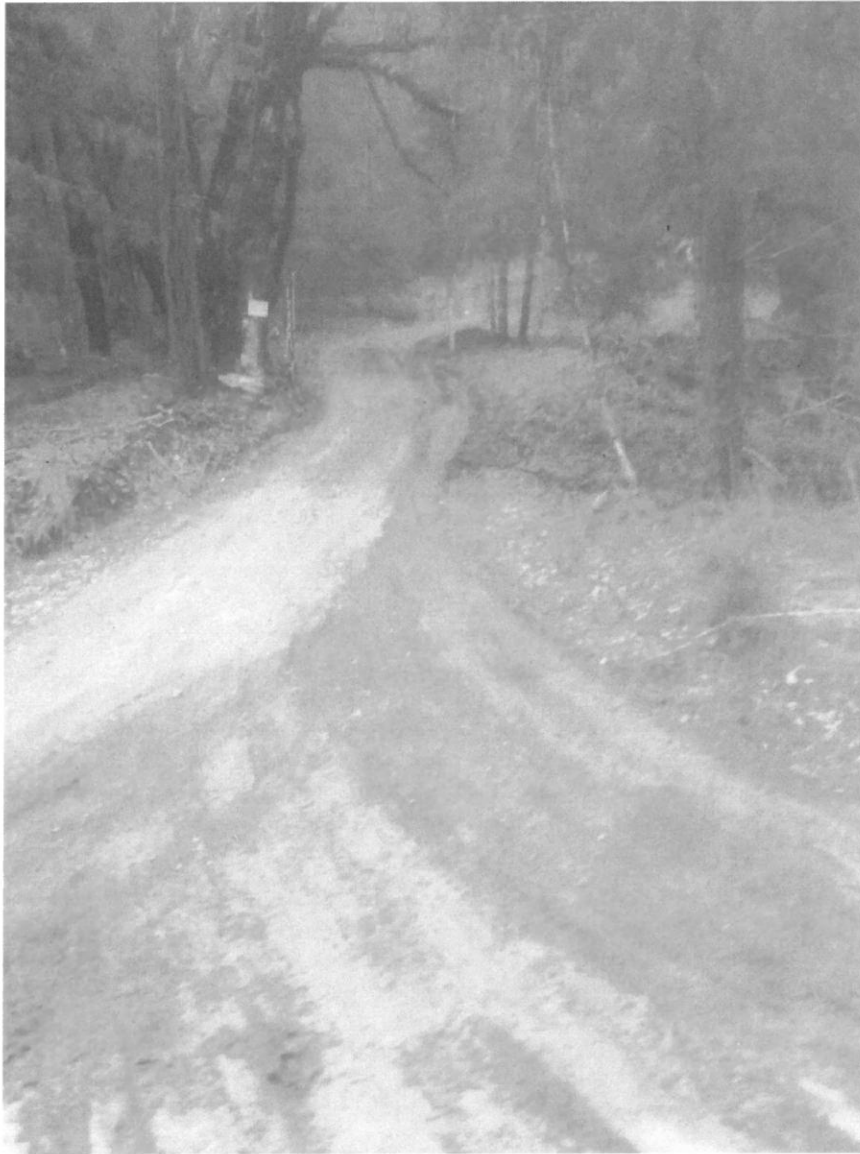
Mitigation Report (Identified Sites Requiring Remediation)

*Time schedule for treatment accounts for appropriate permit approvals and allowed seasons of operation.

Unique Map Point(s)	Map Point Description	Associated Standard Condition	Temporary BMP	Permanent BMP	Priority for Action	Time Schedule for completion of Permanent BMP	Completion Date
RP 1	Bank Seep constantly saturating road	(A)1a (A)1b (A)1d	Develop inside relief ditch	Rock road surface	4	10/15/18	
RP 2	Rutting and gullies on existing road	(A)1b	N/A	Install water break	3	10/15/17	
RP 3	Rutting and gullies on existing road	(A)1b	N/A	Install water break	3	10/15/17	
RP 4	Rutting and gullies on existing road	(A)1b	N/A	Install water break	3	10/15/17	
RP 5	Rutting and gullies on existing road	(A)1b	N/A	Install water break	3	10/15/17	
SC 1	Class III eroding seasonal road	(A)2a-f	N/A	Install rock ford crossing	1	10/15/17	
SC 2	Improperly abandoned crossing	(A)2a-f	N/A	Pull back perched fill on banks to a 2:1 slope ratio. Seed and mulch.	1	10/15/17	
N/A	Perlite migrating from CS #2	(A)4a	N/A	Mulch all imported soils over winter	1	Every Winter	
N/A	No Water Right for storing water longer than 30 days	(A)5e	N/A	Apply for Small Irrigation Use Registration	3	10/15/17	
N/A	Grey Water Outlet from Shower releases on surface	(A)11a	N/A	Bury outlet pipe 6 inches underground	3	10/15/17	
N/A	Use of privy for human waste disposal	(A)11a	N/A	Install septic system compliant with applicable county health standards	4	02/05/21	

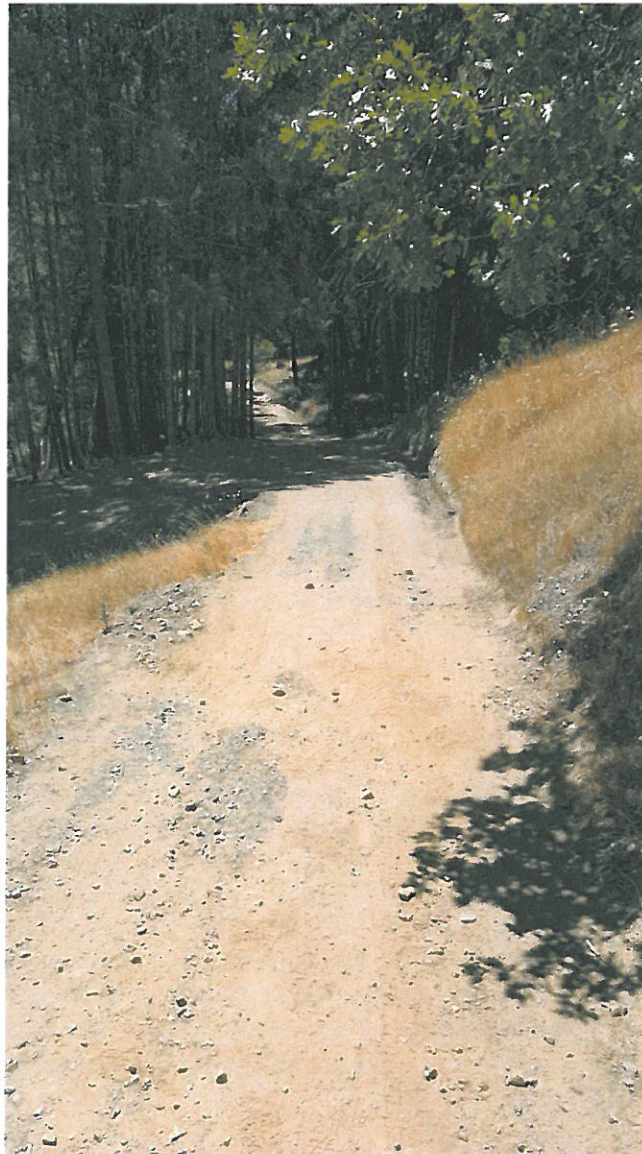
Treat Priority: Treatment Priority (1) indicates a very high priority with treatment being planned to occur immediately, (2) indicates a high priority site with treatment to occur prior to the start of the winter period (Oct. 15), (3) indicates a moderate priority with treatment being planned to occur within one year, or prior to the winter period (Oct. 15) of the 2nd season of operations, and (4) indicates a low priority with treatment being planned to occur in the shortest time possible, but no later than the expiration of this Order (five years).

Photographs



Picture 1: This is a photograph of the bank seep located at Road Point #1 (RP #1). The seep originates from the small wetland to the south (right) of this road segment. The Discharger dug a ditch along the south (right) edge of this road segment to drain the seep after this phot was taken. The Discharger shall further develop the inside relief ditch and rock the road surface at this location. Photo date: 02/16/2016

Photographs



Picture 2: This is a photograph of the erosion occurring along the road surface at Road Point #5. These ruts are similar to the impacts seen at Road Points #2-4 as well. The Discharger shall install water breaks at these locations to mitigate these impacts. Photo date: 08/09/2016

Photographs



Picture 3 + 4: These are photographs of the potential hydrologic connection located at Cultivation Site #2 (CS #2). The flow path can be seen at the base of the man's feet in the top picture. The lower picture illustrates the riparian buffer the surface flow travels through. This sight will be monitored to assess if the riparian buffer is adequate to filter out waste and sediment. Photo date: 05/03/2016

Photographs



Picture 5: This is a photograph of the Class III dirt ford located at Stream Crossing #1 (SC #1). The Discharger shall install a rock ford crossing at this location per specifications attached with this document. Photo date: 03/16/2016

Photographs



Picture 6: This is a photograph of the disturbed stream bank located at Stream Crossing #2 (SC #2). The Discharger shall contour these stream banks to a 2:1 slope ratio and stabilize per specifications in Crossing Abandonment BMPs attached with this document. Photo date: 02/16/2016

Photographs



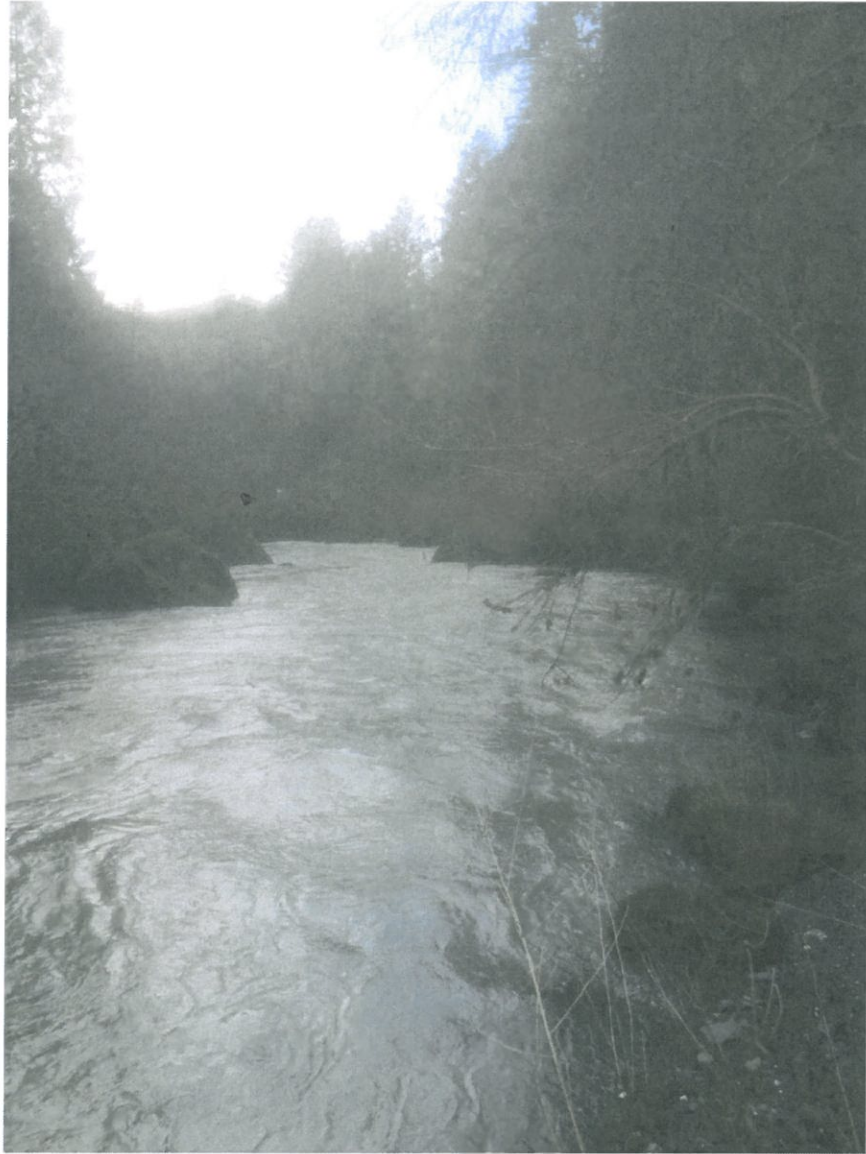
Picture 7: This is a picture of Cultivation Site #1. This site consists of three greenhouses totaling 5,425 square feet as well as 1,240 square feet of outdoor cultivation. Photo date: 02/16/2016.

Photographs



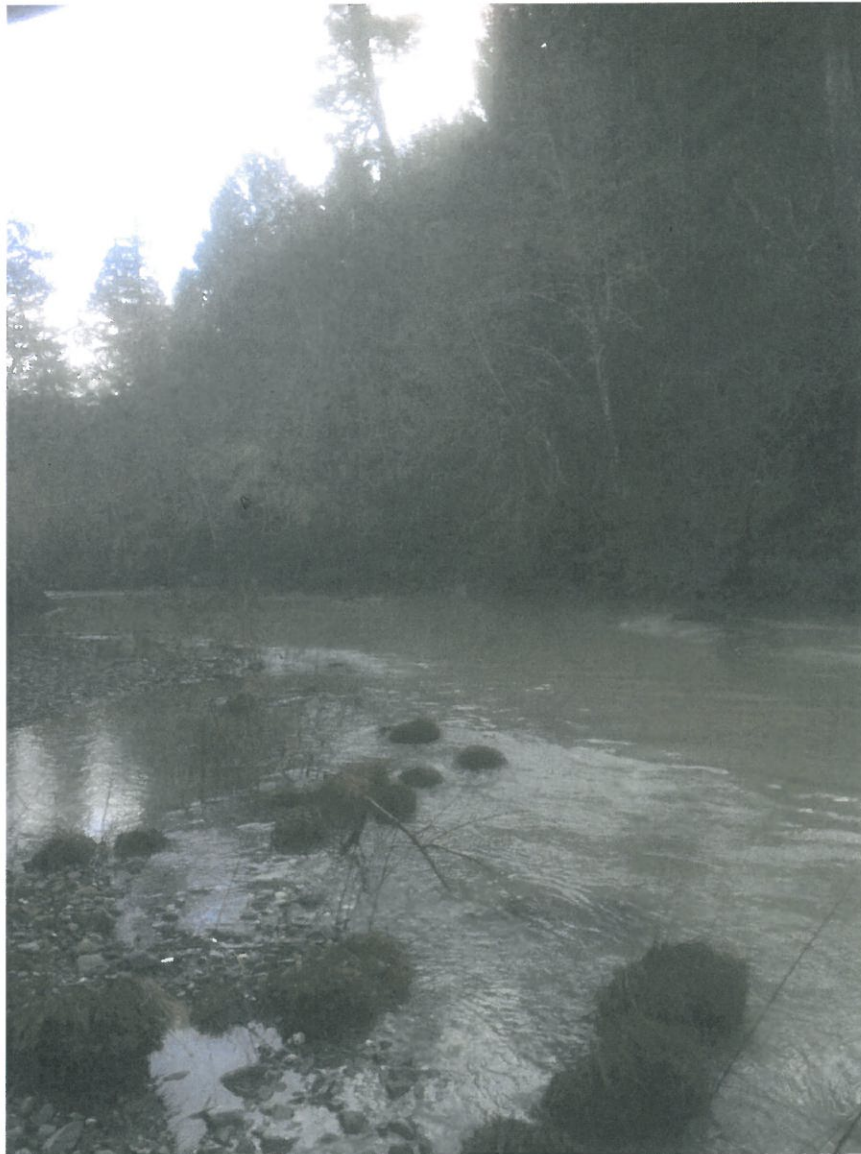
Picture 8: This is a photograph of Cultivation Site #2. This site consists of an 11,000 square foot hillside containing 1,175 square feet of cultivated space. There is perlite migrating downslope from this site towards a Class II watercourse. The Discharger shall mulch all imported soils over winter to immobilize these particles. Photo date: 02/16/2016

Photographs



Picture 9: This is a photograph of the point of diversion and downstream below it. This diversion is a screened 3" diameter steel pipe within the channel of the Mad River. Photo date 02/16/2016

Photographs



Picture 10: This is a picture facing upstream from the POD. Photo date: 02/16/2015

Photographs



Picture 11: This is a picture of the screened pump intake which is placed within the channel of the Mad River. Photo date: 02/16/2016

Photographs



Picture 12: This is a photograph of the well on the property. This well diverts groundwater at approximately 4,000 gallons per day. Photo date: 02/16/2016

Photographs



Picture 13: This is a photograph of the stored nutrients on the property. The Discharger stores all fertilizers, amendments, and pesticides within this storage shed. Photo date: 02/16/2016

Photographs



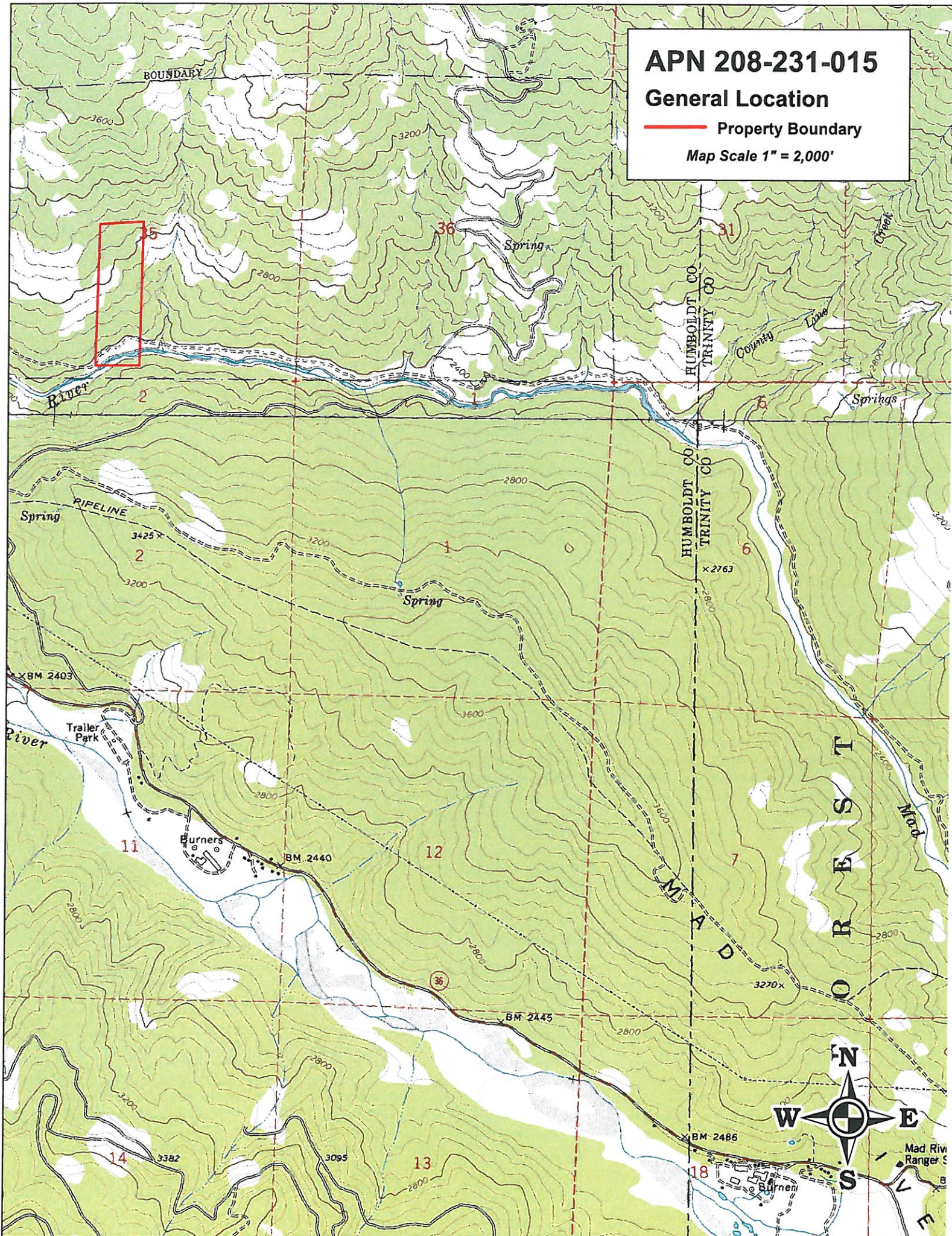
Picture 14 + 15: These are photographs of the fuel storage on the property. The top picture shows the 550 gallon diesel container with secondary containment. The lower photo shows the temporary fuel canisters stored within the larger secondary containment. Photo date: 02/16/2016

APN 208-231-015

General Location

Property Boundary

Map Scale 1" = 2,000'



WDID: 1B16422CHUM

WRPP Site Map

- Property Boundary
- County Line Creek Rd
- Seasonal Road
- Foot Path

- Mad River
- Class II Watercourse
- Class III Watercourse
- Dry Swale

- Wetland

- Stream Crossing (SC)

- Well

- Point of Diversion

- Storage Tank

- Greenhouse

- Outdoor Cultivation

- Pit Toilet

- Shower

- Seasonal Residence

- Ag Building (Storage)

- Generator + Fuel Storage

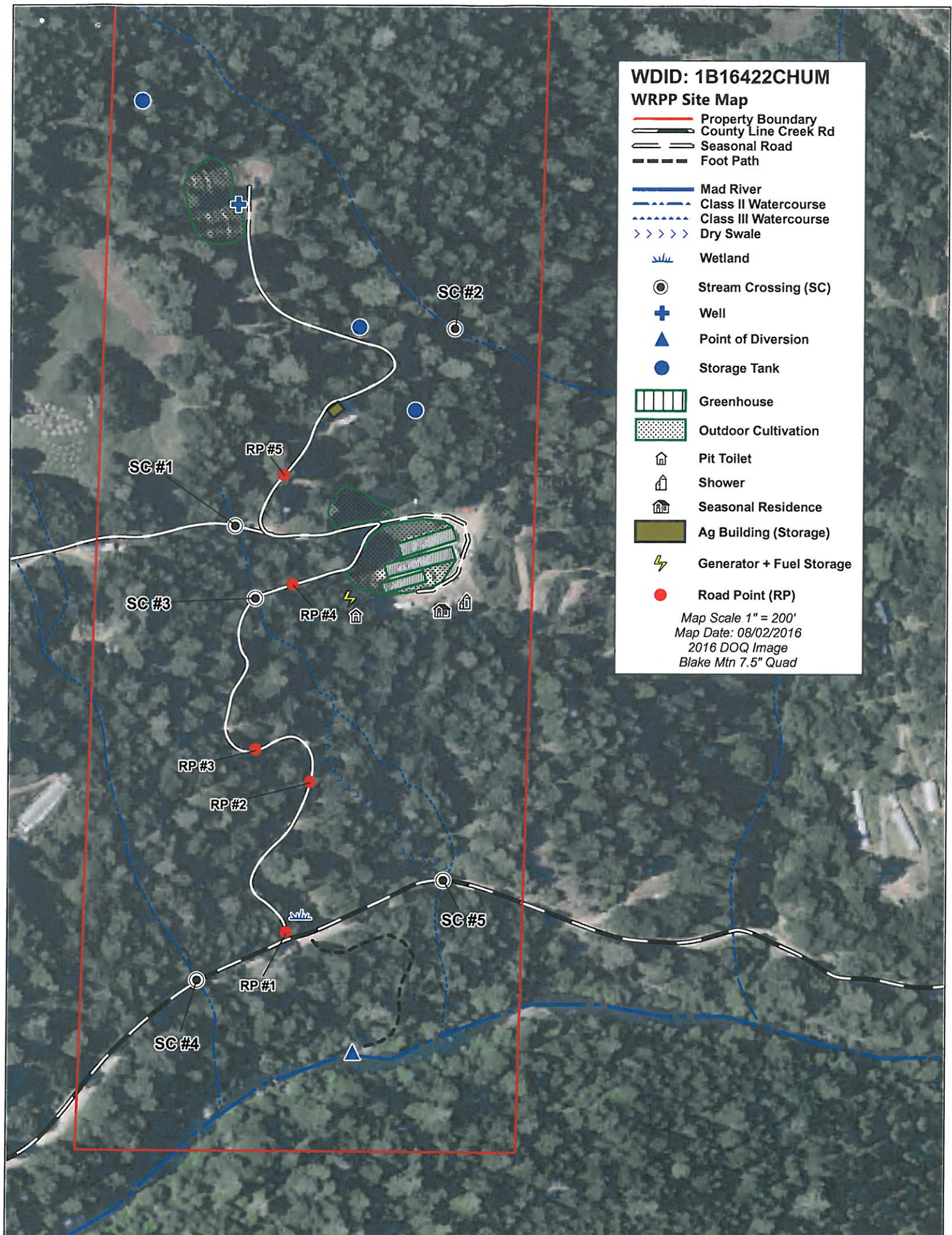
- Road Point (RP)

Map Scale 1" = 200'

Map Date: 08/02/2016

2016 DOQ Image

Blake Mtn 7.5" Quad



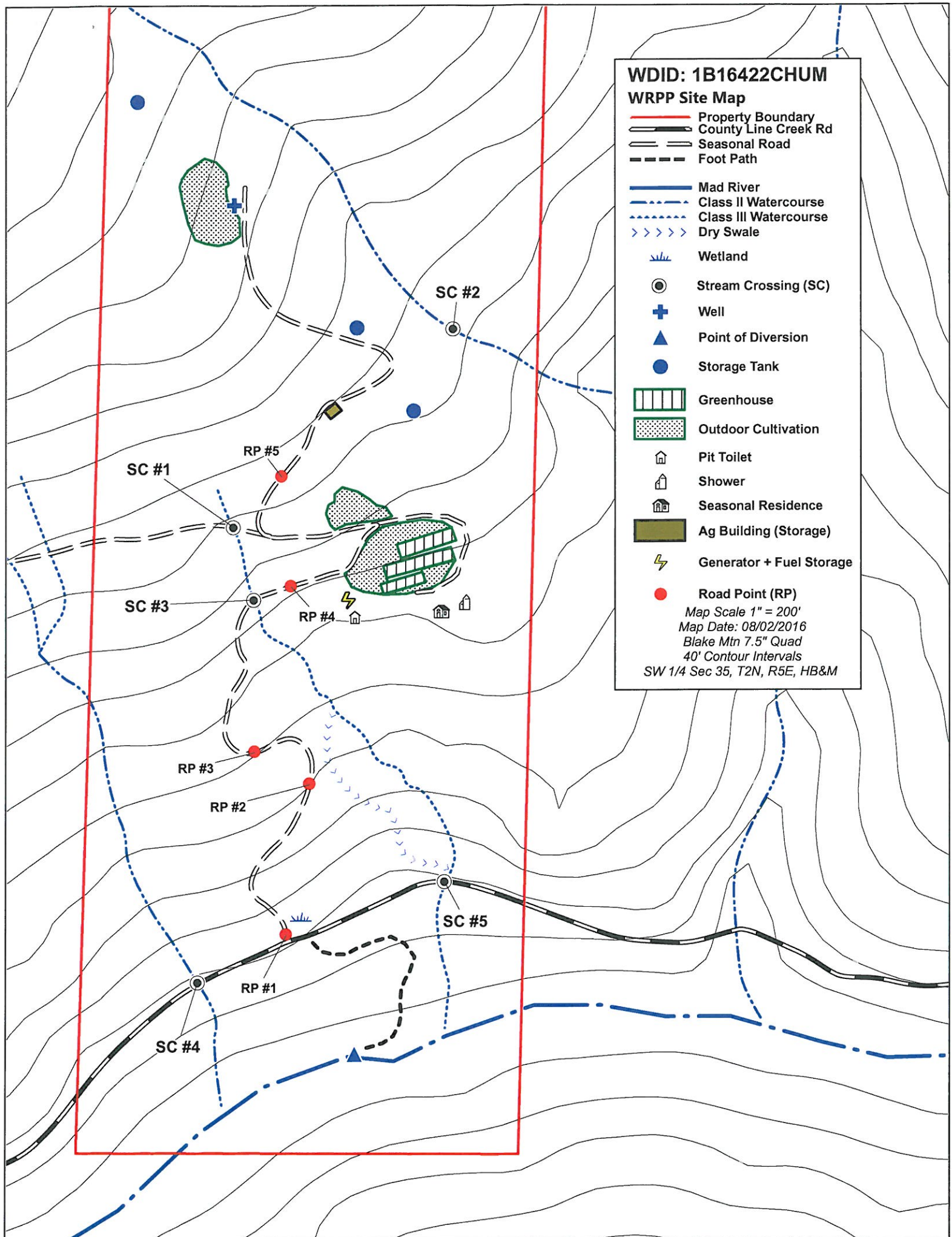
WDID: 1B16422CHUM

WRPP Site Map

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- Seasonal Residence
- Ag Building (Storage)
- Generator + Fuel Storage
- Road Point (RP)

Map Scale 1" = 200'
Map Date: 08/02/2016

Blake Mtn 7.5" Quad
40' Contour Intervals
SW 1/4 Sec 35, T2N, R5E, HB&M



STATEMENT OF CONTINGENT AND LIMITING CONDITIONS CONCERNING THE PREPARATION AND USE OF WATER RESOURCE PROTECTION PLAN

Prepared by Timberland Resource Consultants

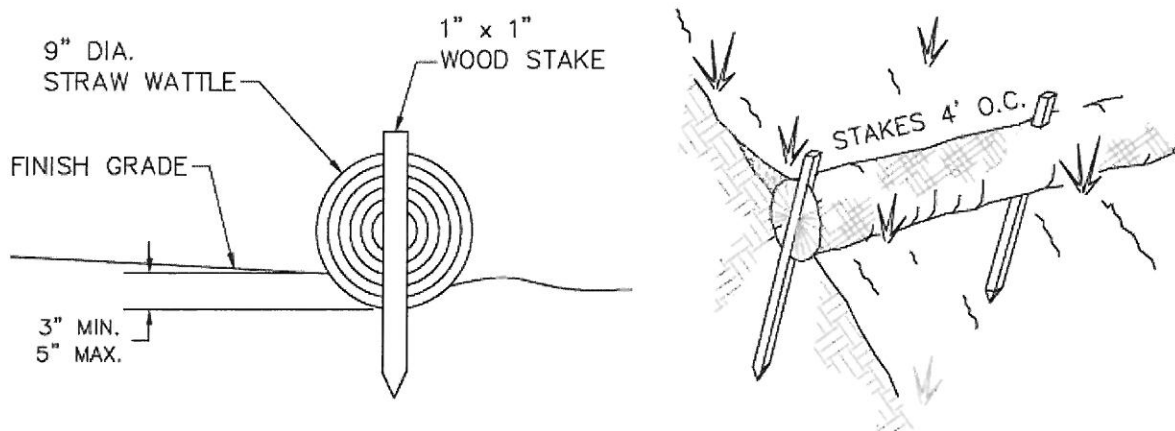
1. This Water Resource Protection Plan has been prepared for the property within APN 314-213-026 in Humboldt County, at the request of the Client.
2. Timberland Resource Consultants does not assume any liability for the use or misuse of the information in this Water Resource Protection Plan.
3. The information is based upon conditions apparent to Timberland Resource Consultants at the time the inspection was conducted, and as disclosed to Timberland Resource Consultants by the Discharger and/or Landowner. Changes due to land use activities or environmental factors occurring after this inspection, have not been considered in this Water Resource Protection Plan.
4. Maps, photos, and any other graphical information presented in this report are for illustrative purposes. Their scales are approximate, and they are not to be used for locating and establishing boundary lines.
5. The conditions presented in this Water Resource Protection Plan may differ from those made by others or from changes on the property occurring after the inspection was conducted. Timberland Resource Consultants does not guarantee this work against such differences.
6. Timberland Resource Consultants did not conduct an investigation on a legal survey of the property.
7. Persons using this Water Resource Protection Plan are advised to contact Timberland Resource Consultants prior to such use.
8. Timberland Resource Consultants will not discuss this report or reproduce it for anyone other than the Client named in this report without authorization from the Client.


Jack Henry
Timberland Resource Consultants

Attachments

BMP: Erosion Control

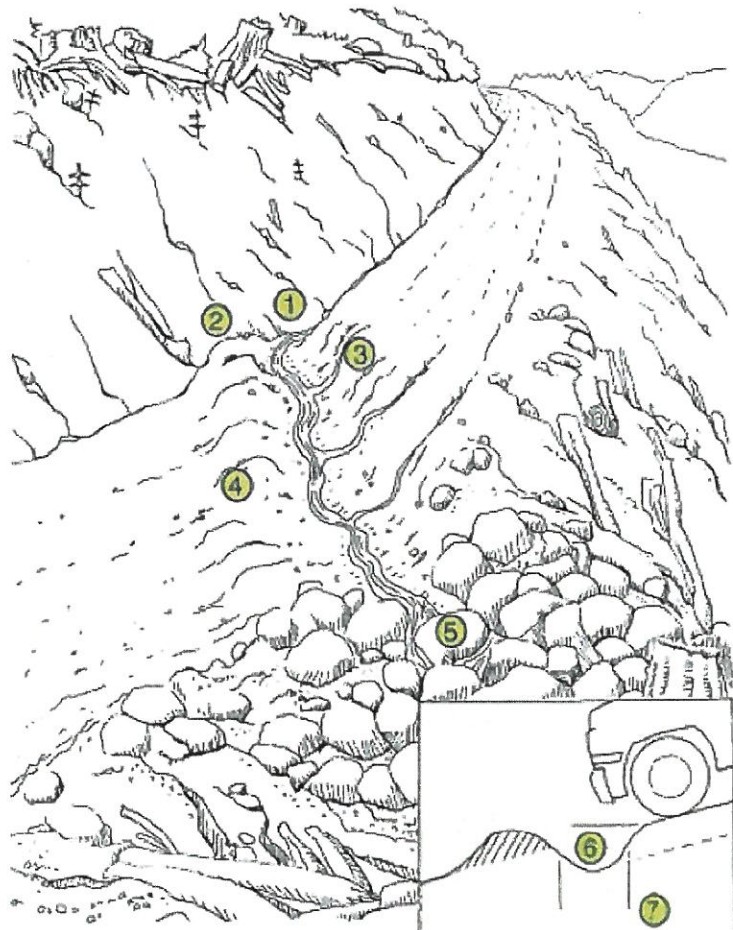
- Erosion control and sediment detention devices and materials shall be incorporated into the cleanup/restoration work design and installed prior to the end of project work and before the beginning of the rainy season. Any continuing, approved project work conducted after October 15 shall have erosion control works completed up-to-date and daily.
- Erosion control materials shall be, at minimum, stored on-site at all times during approved project work between May 1 and October 15.
- Approved project work within the 5-year flood plain shall not begin until all temporary erosion controls (straw bales or silt fences that are effectively keyed-in) are installed downslope of cleanup/restoration activities.
- Non-invasive, non-persistent grass species (e.g., barley grass) may be used for their temporary erosion control benefits to stabilize disturbed slopes and prevent exposure of disturbed soils to rainfall.
- Upon work completion, all exposed soil present in and around the cleanup/restoration sites shall be stabilized within 7 days.
- Soils exposed by cleanup/restoration operations shall be seeded and mulched to prevent sediment runoff and transport.
- Straw Wattles (if used) shall be installed with 18 or 24 inch wood stakes at four feet on center. The ends of adjacent straw wattles shall be abutted to each other snugly or overlapped by six inches. Wattles shall be installed so that the wattle is in firm contact with the ground surface.



BMP: Waterbreaks

FIGURE 40. Waterbars are constructed on unsurfaced forest and ranch roads that will have little or no traffic during the wet season. The waterbar should be extended to the cutbank to intercept all ditch flow (1) and extend beyond the shoulder of the road. A berm (2) must block and prevent ditch flow from continuing down the road during flood flows. The excavated waterbar (3) should be constructed to be self-cleaning, typically with a 30° skew to the road alignment with the excavated material bermed on the downhill grade of the road (4). Water should always be discharged onto the downhill side on a stable slope protected by vegetation. Rock (shown in the figure) should not be necessary if waterbars are spaced close enough to prevent serious erosion. (5) The cross ditch depth (6) and width (7) must allow vehicle cross-over without destroying the function of the drain. Several alternate types of waterbars are possible, including one that drains only the road surface (not the ditch), and one that drains the road surface into the inside ditch (BCMF, 1991).

HANDBOOK FOR FOREST, RANCH, AND RURAL ROADS



BMP: Crossing Abandonment

- When fills are removed they shall be excavated to form a channel that is as close as feasible to natural watercourse grade, orientation, and a width that is wider than the natural channel.
- Excavated banks shall be laid back to a 2:1 (50%) or natural slope.
- Temporary crossings shall be removed by November 15.
 - Any temporary culvert crossing left in after October 15 or installed between October 15 and May 1, shall be sized to accommodate the estimated 100-year flow.
- Bank and channel armoring may occur when appropriate to provide channel and bank stabilization.
- Road approaches leading to the crossing to be abandoned shall be hydrologically disconnected.
- The abandonment of a watercourse crossing shall not prevent equipment access to existing watercourse crossings not also being abandoned.

BMP: Rocked Ford

- Rocked fords are drainage structures designed to carry watercourses across roads with little to no erosion of the road surface or fill.
- Fords constructed in-channel shall be of appropriately sized material that shall withstand erosion or displacement by expected velocities and placed in a broad, U-shaped channel to create a drivable crossing.
 - The road shall dip into and out of the rocked ford to minimize diversion potential. Construct a broad rolling dip across the roadbed, centered at the crossing, which is large enough to contain the expected 100-yr flood discharge while preventing flood flow from diverting down the road or around the rock armor.
- The road surface at the ford shall be constructed with clean rock. The rock shall be applied to a minimum depth of 6 inches.
 - A range of interlocking rock armor sizes should be selected and sized so that peak flows will not pluck or transport the armor off the roadbed or the sloping fill face of the armored fill.
- The ford's outlet shall be rock armored to resist downcutting and erosion.
 - *Excavate the keyway and armored area* - Excavate a two to three foot deep "bed" into the dipped road surface and adjacent fillslope (to place the rock in) that extends from approximately the middle of the road, across the outer half of the road, and down the outboard road fill to where the base of the fill meets the natural channel. At the base of the fill, excavate a keyway trench extending across the channel bed.
 - *Armor the basal keyway* - Put aside the largest rock armoring to create the buttresses. Use the largest rock armor to fill the basal trench and create a buttress at the base of the fill. This should have a "U" shape to it and it will define the outlet where flow leaves the armored fill and enters the natural channel.
 - *Armor the fill* - Backfill the fill face with the remaining rock armor making sure the final armor is unsorted and well placed, the armor is two coarse-rock layers in thickness, and the armored area on the fill face also has a "U" shape that will accommodate the largest expected flow.
 - *Armor the top of the fill* - Install a second trenched buttress for large rock at the break-in-slope between the outboard road edge and the top of the fill face.
- Road approaches to rocked fords shall be rock surfaced out to the first drainage structure (i.e. waterbar, rolling dip, or hydrologic divide) to prevent transport of sediment using rock.
- Bank and channel armoring may occur when appropriate to provide channel and bank stabilization.
- Road approach rock and rock ford armoring shall be reapplied following use as needed to maintain a permanent crossing.

BMP: Rocked Ford (Cont.)

FORD: A large dip is graded into the road at the axis of the stream channel. The outside fill face is dished out to form a spillway with large rock. On large watercourses, rock is keyed several feet into firm native soils. The road surface is rocked with 6" of minus rock.

