

September 18, 2019

To whom it may concern,

Attached is the Water Resource Protection Plan for APN 210-074-008-000 / RWQCB WDID 1B161087CHUM / SWRCB App# 416810. This document was written and/or last updated by NRM on 2/1/2017. Since this date, there have been some changes to the project operations and property infrastructure.

This property has been enrolled in the SWRCB and the Site Management Plan associated with this enrollment was due by 9/4/19. NRM is submitting this WRPP as a placeholder for the SMP. NRM is currently working on completing the SMP, which will accurately encompass all aspects of the project/property and how they relate to water quality; the SMP will also address any changes/improvements that need to be made in order for the property to be in compliance with all BPTCs.

Sincerely,



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Water Resource Protection Plan

for APN 210-074-008

Humboldt County

Submitted to:

*California Regional Water Quality Control Board -
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403*

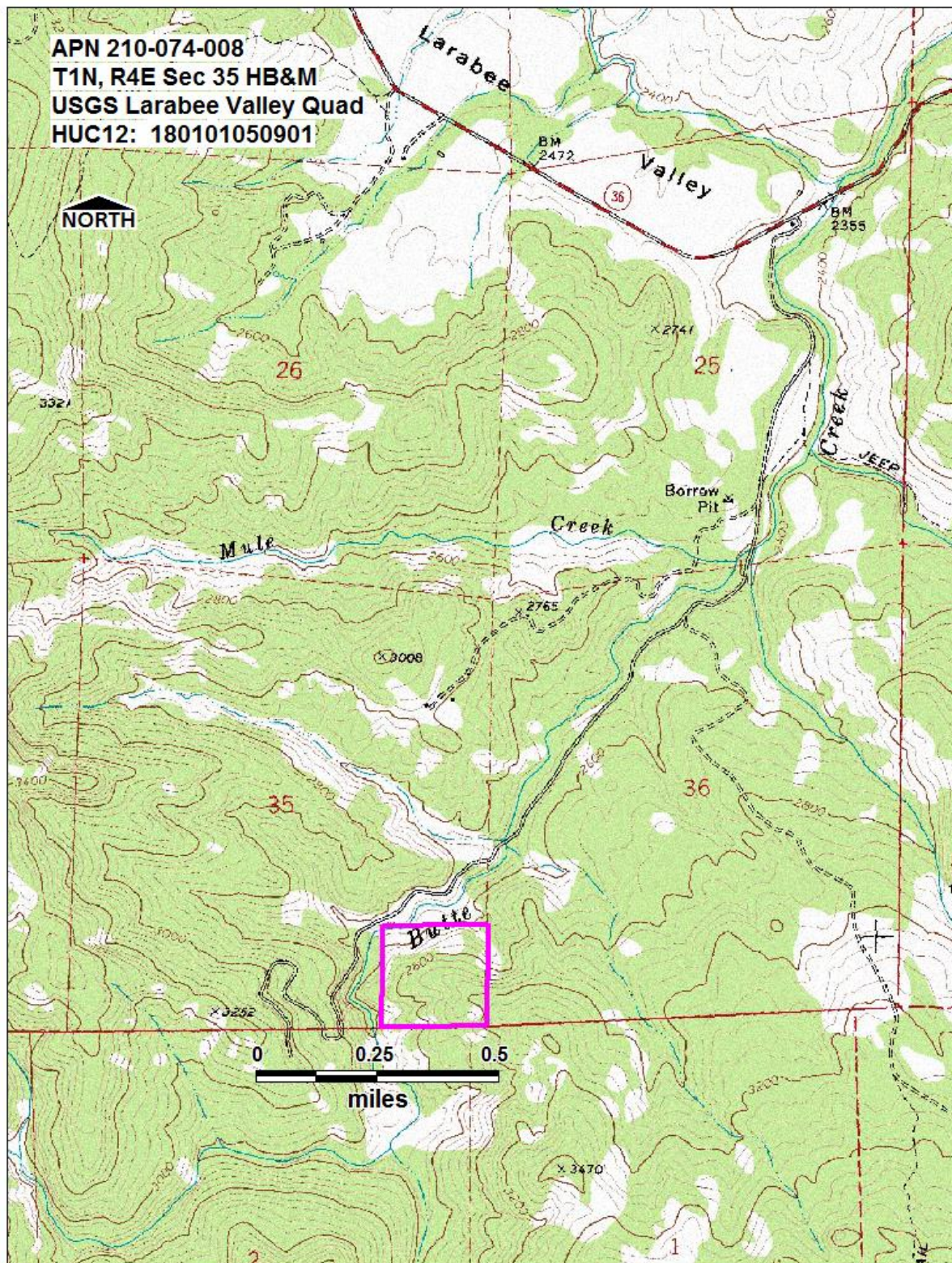
Prepared by:

*Sandra Brown & Prairie Moore
Natural Resources Management Corporation
1434 3rd Street
Eureka, CA 95501*

February 1, 2017

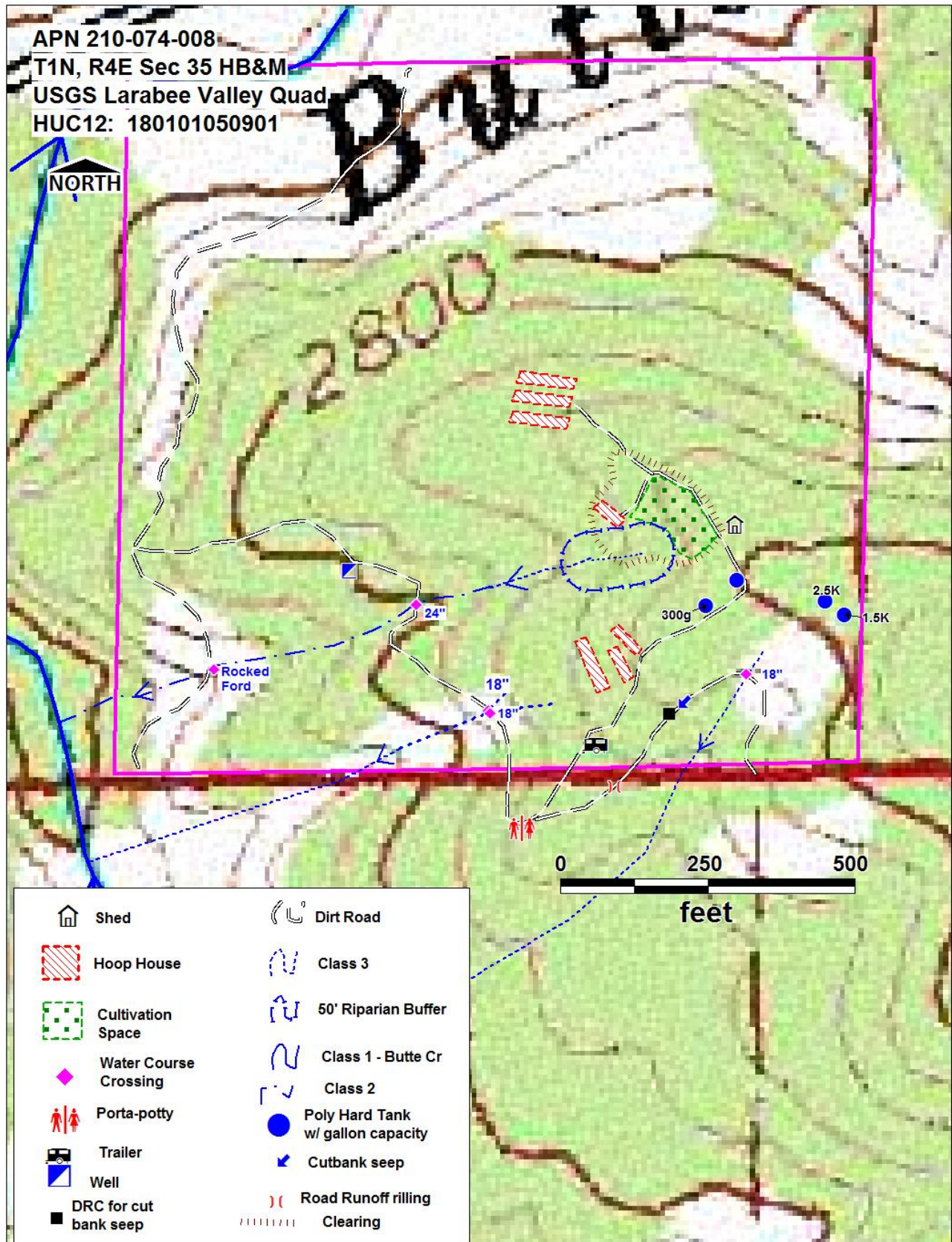


Figure 1- Site Maps for Property



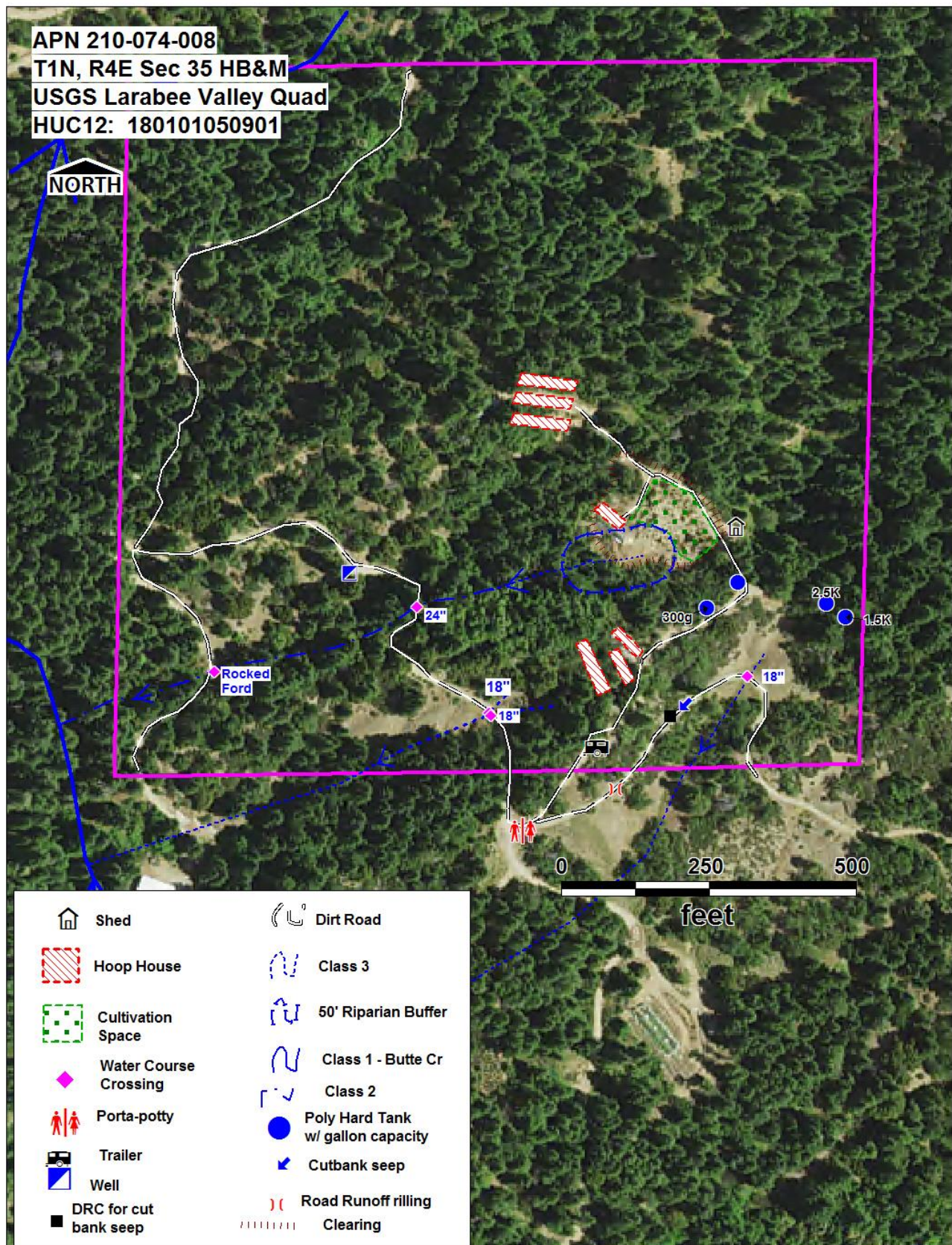
APN 210-074-008
 T1N, R4E Sec 35 HB&M
 USGS Larabee Valley Quad
 HUC12: 180101050901

NORTH

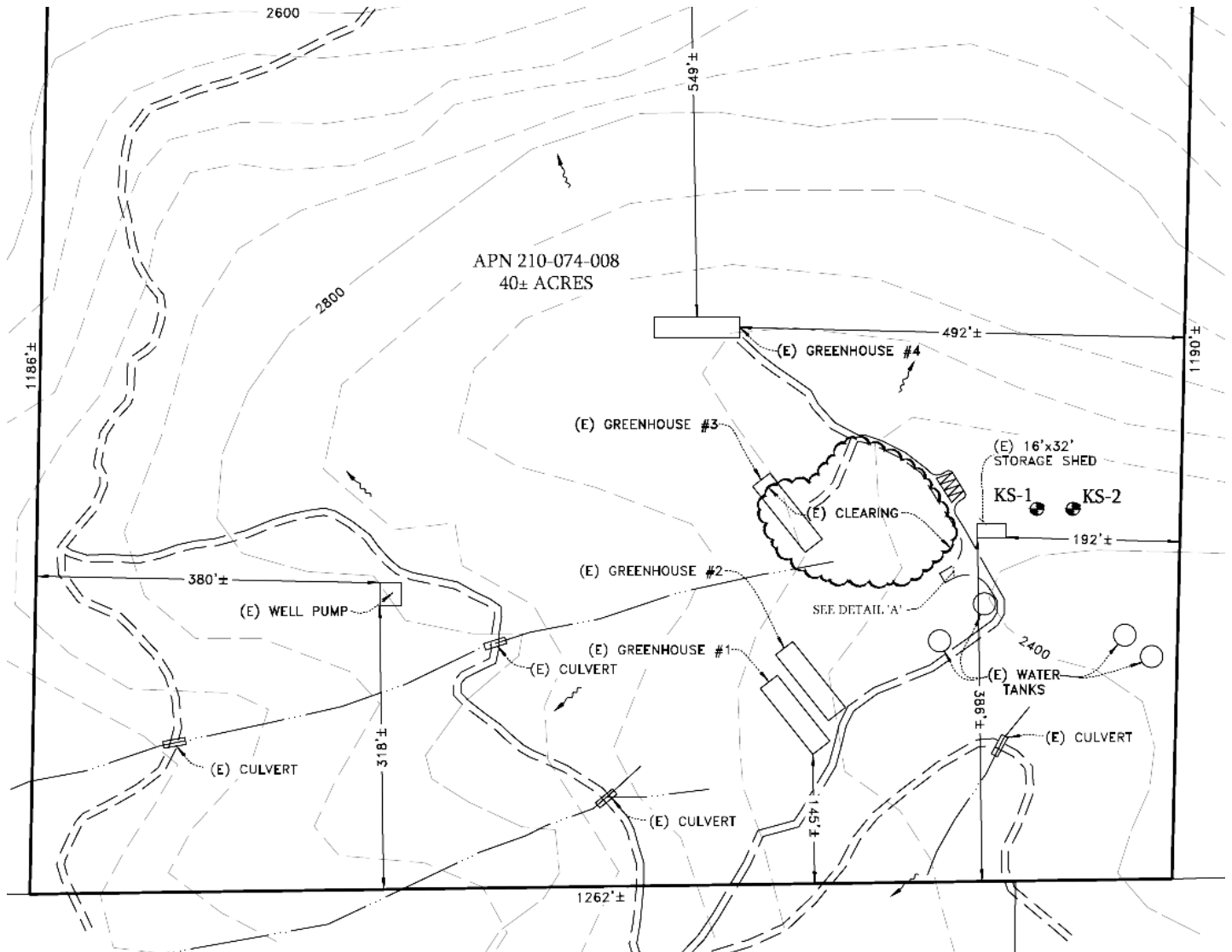


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NORTH



Portion of 210-074-008 Plot Plan by Omsberg & Preston, dated 10/21/16.



Water Resource Protection Plan

This document serves as the water resource protection plan for site APN 210-074-008 pursuant to Order No. R1-2015-0023. On August 13, 2015, the North Coast Regional Water Quality Control Board (Regional Water Board) adopted a General Waiver of Waste Discharge requirements and General Water Quality Certification for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects in the North Coast Region, Order No. R1-2015-0023. One of the requirements of the order is to prepare a Water Resource Protection Plan (WRPP) for all sites that are enrolled under Tier 2 of the order.

Site Assessment

This approximate 40 acre parcel has a Non-Industrial Timber Management Plan, under which the landowner had a less than 3-acre conversion completed on the parcel (Harvest document number 1-16EX-049 HUM) in 2016. The conversion opened space on all three flats. Most cultivation is taking place inside raised beds or pots in hoop houses, with additional outdoor plants in Smart Pots in the aforementioned clearing. Natural slopes are generally less than 35 percent, and the graded flats have slopes generally less than 5 percent.

The total cultivation area is approximately 19,700 square feet; and a well (determined as by CDFW groundwater from the well drilling report) provides the water for cultivation. The cultivation is done with all natural light and on a drip irrigation system. Soils are reused each year. Therefore there are no spoils piles located on the property. The property also has no open trash piles etc.

A shed on the property is used for storage of fertilizer as well as drying and processing. No pesticides or fungicides are used. A small Honda EU3000i portable generator is used to provide power to the shed. A generator shed with space for gas cans is adjacent to the storage shed.

A travel trailer provides living space. A porta potty (which is shared with the neighboring property) provides human waste facilities.

Current Conditions – Please refer to Figure 1 site maps

Watercourses

The parcel lies on a broad ridge-nose hillside above Butte Creek. There are three small unnamed draws that drain the hillside which are only intermittently or seasonally wet (figure 1).

The headwaters of one Class 3, located at clearing, captures approximately 10 feet of a hoop house and several smart pots in the 50 foot riparian buffer area. At this headwater location, it has very minimal bed and bank development and is surrounded by grass and herbaceous vegetation. And it was flagged out left undisturbed during the harvest. A full 50 foot buffer will be established.

Watercourse Crossings

Sediment issues with this property are associated with stream crossing on the original Ranch roads / logging roads that were put in by previous owners. There are five stream crossing on the property (see figure 1). Four of them have culverts. All culverts are appropriately sized and properly functioning. The most western crossing is a stable rocked ford for the lowest drainage that had a long 75 foot flat depositional inlet that is not appropriate for a culvert.

Roads

The primary access road to the parcel is stable and rocked. It is situated on a bench approximately 240 feet (three 80 contour lines) above Butte Creek. Departing from the primary access road, the secondary roads into the parcel were initially entered for forestry purposes and go up in elevation. The spur road that goes up to the ridgeline has one particularly steep reach, generally requiring four wheel drive, but any runoff from this road has minimal sediment delivery potential. There is a fair amount of natural rock in the road surface and additional surface rock has been applied. The small Class 3 drainages mentioned above have been slated for upgrades. Additional dips and road drainage features have also recently been incorporated into this road network.

Flats

There are three distinct areas on the property used for cultivation. The northern most flat was expanded at the end of 2016 during the 3 acre conversion process. It now has three 20ft by 96ft greenhouses on. The middle flat has one hoop house on it. During the initial site visit it was determined that this hoop that a portion of this hoop house was within the 50 ft buffer of the class III stream. It was reduced to 20 ft X 50 ft so it now is outside of the 50 foot buffer. There were also a number of scattered smart pots within the 50 foot buffer these were also removed. The southern most flat was expanded under the 3 acre conversion in the late spring of 2016. It now has three hoop houses on it one is 17ft by 60 ft and the other two are 20ft by 96 ft each. The graded flats where the hoop houses are situated, all have slopes of less than five percent. Natural slopes tend to be more along the lines of 15 to 30 percent. The fillslopes are stable and raw soil was mulched prior to the rainy season 2016-2017.

General Property Conditions

Overall, the broad hillside and near-ridge features of this parcel lend itself to being stable. The cultivation activities, for the most part, are consolidated, contained, and have limited erosion potential.

List of Chemicals Stored Onsite & Information about Use

All generators, pumps, fertilizers and petroleum products are stored in the shed during the offseason. Secondary containment is needed for all equipment and products that can spill or leak into the ground. No pesticides or fungicides are used.

Prior to planting powdered bone meal and guano are mixed into the soil. Plants are also top dressed with bone meal and guano throughout the growing season. Compost teas and molasses are watered on the plants periodically throughout the season.

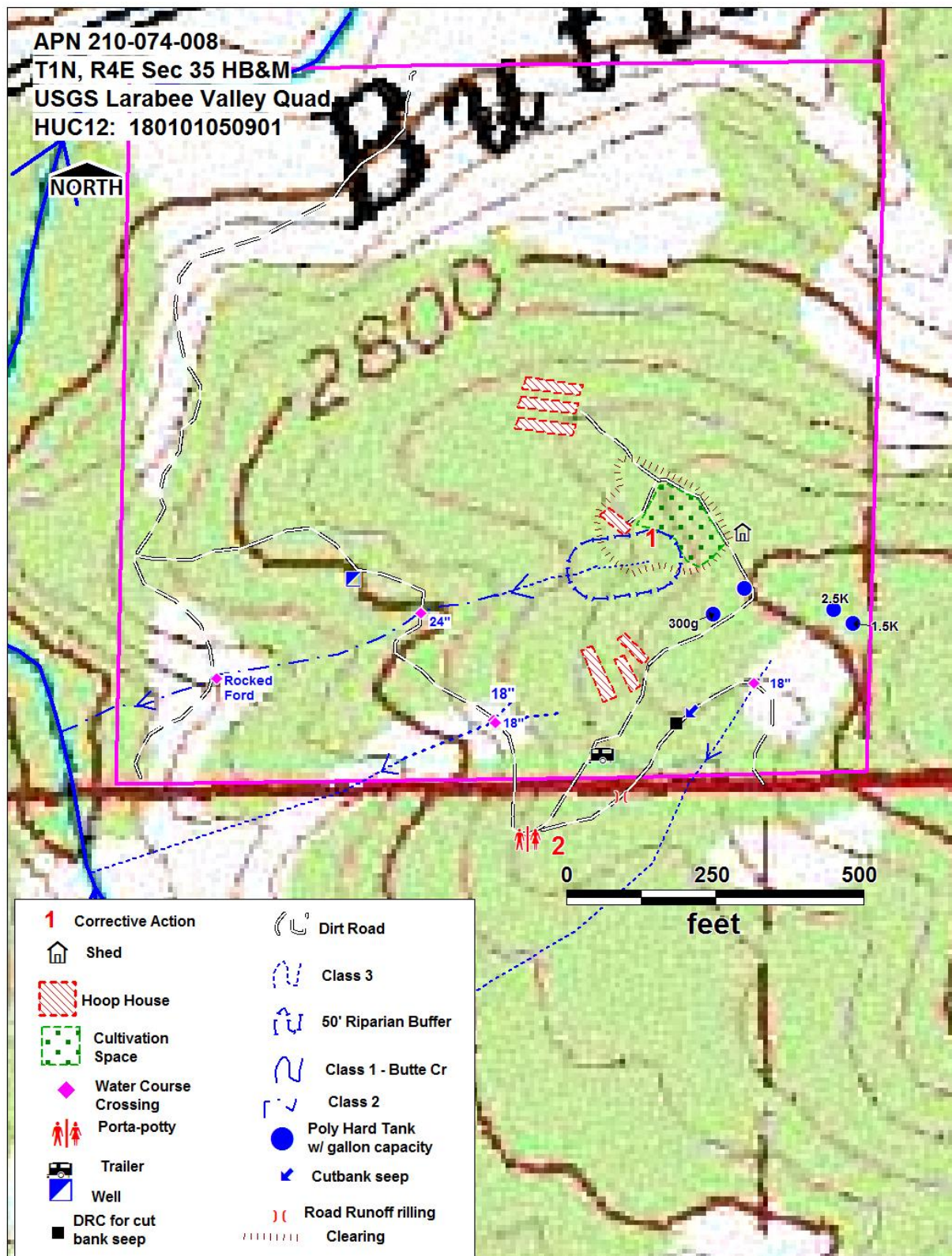
For future compliance, **a log of nutrient use** stating type of nutrient/amendments being added with stated NPK ratios (where available) will be provided to the client to track and monitor the amounts used and applied over the growing season. This monitoring log will be kept onsite for future reference and documentation of nutrient applications.

Water Use

Water is pumped from an on-property, non-jurisdictional groundwater well; and no surface water diversions would be active in the Class 3 channels during the summer non-diversion season, but there are no surface water diversions on the parcel. Plants are watered using drip irrigation; and a slow drip system greatly reduces any irrigation runoff issues.

For the 13,000 square feet cultivation area grown in 2016, the watering as reported in the Monitoring Reporting Program totals **61,450 gallons** from May to October. The monthly gallon totals (starting for May) are as follows: 9,150; 9,150; 12,000; 12,000; 10,000 and 9,150. We estimate that the total water use for the 19,700 sq ft would be around 93,000 gallons. A water meter will be installed to record the amount of water used for irrigation in the 2017 season.

Figure 2. Corrective actions map



Corrective Actions – Please refer to Figure 2 site map

Table 1. Features that need improvement. See Appendix B for Associated Standard Conditions (A.S.C.)

Unique Map Points	Map Point Descriptions	A.S.C	Temporary BMP	Permanent BMP	Priority for Action	Time Schedule for completion of Permanent BMP	Completion Date
1	Cultivation within 50 feet of a Class III	3.a	NA	Establish 50' buffer zone	2	5/15/16	Nov. 2016
2	Pota-potty	2.a b	Porta-potty	Permitted septic	3	12/31/17	

Priority time frames: 1 is high priority with treatment being planned to occur immediately; 2 is a high priority for treatment to occur prior to the start of the non-diversion period; 3 is a moderate priority for treatment to occur within a year, or prior to the winter of the second season of operations; 4 is a lower priority with treatment being planned within the shortest time possible, but no later than the expiration of this Order (five years).

Points 1 (identified in March 2016): The 10 feet of hoop house and smart pots were removed in the late spring of 2016. The area naturally revegetated.

Point 2 The pota-potty will be used until a permitted septic can be installed. The porta-potty will be pumped regularly, and records of the pumping will be kept and submitted to NRM. Additionally the unit will be staked down to prevent it from, blowing or falling over.

Additionally, a **water meter** will be installed to determine the quantity of water used over a season. A photo of the meter reading will be taken on the 1st of each month to document water use.

And a **log of nutrient use** stating type of nutrient/amendments being added with stated NPK ratios (where available) will be provided to the client to track and monitor the amounts used and applied over the growing season. This monitoring log will be kept onsite for documentation and referencing of nutrient applications.

Winter Site Preparation

Prior to winter rains at the end of the growing season the following steps will be taken to prepare the site for winter.

- Soil used in cultivation will be piled, covered, and surrounded with straw wattle.
- Any bare soil on the fill slopes on the landing will be covered with straw 2 to 3 inches thick and secured with a tackafier. Fill slopes could be seeded with or planted to establish vegetation. Once vegetation is established straw would no longer be necessary.
- Cannabis stems and root balls will be properly disposed of outside of the streams and riparian areas.
- All nutrients will be placed in a secure storage shed
- All trash and debris will be properly disposed of.
- Any vegetation or debris obstructing the inlet or outlet of all five culverts will be removed and disposed of where they cannot enter any streams and at least 200 feet from any streams.
- Steep sections of road up to the grow area will have water bars installed at regular intervals (approximately every 50 feet).

Monitoring element to ensure that BMPs are being implemented and to evaluate their effectiveness

Corrective Action Monitoring

Items 1-3 will be checked for competition by NRM prior May 15, 2017. These corrections will be photo documented. Upon completion if Item 4 the permit for the composting toilet or the septic will be submitted to NRM.

Annual Monitoring

Fall / Winter Monitoring

Monitoring for this site will follow the revised Appendix C from the Order No. 2015-0023. Annual monitoring will be done each year. At a minimum it will be done prior to October 15th, by December 15th, and immediately following a precipitation event with 3 inches of accumulation in 24hr period.

Each monitoring session the following items will be inspected:

1. Pumps, nutrients, fertilizers, and any petroleum products are stored in a dry, enclosed location.
2. Soil and any spoils are properly contained and covered to prevent nutrient leaching.
3. Culvert inlets and outlets
4. Water bars installed on steep sections of road

This monitoring may be done by the landowner/registrant. Photos will be taken at each monitoring point. These photos along with the notes taken during the monitoring will be kept on-site. The monitoring forms and photos will be submitted by the landowner/registrant to NRM or the RWQCB.

Growing Season Monitoring

During the growing season the landowner will monitor the following items at least monthly:

- Tanks, bladders, and water lines to ensure there are no leaks
- Cultivation area during or immediately after watering to ensure irrigation water is soaking into the surface (not running off)
- Cultivation area to ensure that all fertilizers are properly contained in the storage shed, that all trash and debris is properly contained and secured.

The landowner/registrant will keep a record of the dates this monitoring was completed, if any corrective action was necessary, and what actions were taken. A copy will also be kept on file at NRM.

During the growing season all fertilizer use and irrigation water use will be tracked. The type and amount of fertilizers used as well as the monthly total of water used for irrigation will be reported to NRM by December 31st of each year.

Annual monitoring reports will be submitted annually by March 31st of each year to the Water Board. The report will include the reporting from in Appendix C.

Water Resource Protection Plan

Name of Legally Responsible Person (LRP)_____

Title for LRP (owner, lease, operator, etc.)_____

Signature:_____ Date:_____

WRPP prepared by: **Natural Resources Management Corp. (NRM)**

Date:_____

NRM Signature:_____

Appendix A. Photo Documentation on 3/31/2016; and October 2016

Map Point 1: Hoop House partially in Class III buffer zone (Class 3 not visible to the left side)



Map Point 2: top of Class III



Cutbank seep contributing road runoff



18" culvert



24" culvert



Rock Ford



Shed



Appendix B. Associated Standard Conditions

I. As described in the Order, dischargers will fall within one of three tiers.

Discharger shall be in the tier that covers the most impactful part of the operations (i.e., different sections of a property cannot be divided among the tiers). **All dischargers**, regardless of Tier are subject to the standard conditions in section **I.A**, MRP section I.D., and General Terms, Provisions and Prohibitions. **Tier 2 Dischargers** are also subject to section **I.B. (a Water Resources Protection Plan)**, and Tier 3 Dischargers are subject to sections I.A., I.B.(if cultivating cannabis), and I.C.

A. Standard Conditions, Applicable to All Dischargers

1. Site maintenance, erosion control and drainage features

- 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.
- 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.
- 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.
- 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 hydrologically disconnected, as feasible, from surface waters, including wetlands, ephemeral, intermittent and perennial streams. 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).
- 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.
- f. Stockpiled construction materials are stored in a location and manner so as to prevent their transport to receiving waters.

2. Stream Crossing Maintenance

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

3. Riparian and Wetland Protection and Management

- 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 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 Executive Officer may apply additional or alternative conditions on enrollment, including site-specific riparian buffers and other BMPs beyond those identified in water resource protection plans to ensure water quality protection. 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.
- b. Buffers shall be maintained at natural slope with native vegetation.
- 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.
- d. 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.

4. Spoils Management

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

- 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.

5. Water Storage and Use

- 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-12 watershed or at a smaller hydrologic watershed as determined necessary by the Regional Water Board Executive Officer.
- 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.
- c. For Tier 2 Dischargers, if possible, develop off-stream storage facilities to minimize surface water diversion during low flow periods.
- d. Water is applied using no more than agronomic rates. “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.
- 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.
- 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.

6. Irrigation Runoff

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 offstream 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.

7. Fertilizers and Soil Amendments

- 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.
- b. Fertilizers and soil amendments shall be applied and used per packaging instructions and/or at proper agronomic rates (see footnote on previous page).
- c. Cultivation areas shall be maintained so as to prevent nutrients from leaving the site during the growing season and post-harvest.

8. Pesticides/Herbicides

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 labelling 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.

9. Petroleum products and other chemicals

- 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.
- 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.
- c. Dischargers shall ensure that diked areas are sufficiently impervious to contain discharged chemicals.
- d. Discharger(s) shall implement spill prevention, control, and countermeasures (SPCC) and have appropriate cleanup materials available onsite.
- 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.

10. Cultivation-related wastes

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

11. Refuse and human waste

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

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 outslowing 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.