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SUBMITTAL AND ACKNOWLEDGEMENT

Humboldt County Planning Department acknowledges submittal of the documents described below to the C-POD unit for cannabis permit application.

Permit Application No: 12656

APN: 208-272-003 **Date:** May 31, 2018

Description of Documents Submitted:
Water Resource Protection Plan

County Date Stamp

Notes:
Hand Delivered to Humboldt County
Planning Department



**Water Resource Protection Plan
For
APN 222-083-007**

Submitted to:

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

Prepared by:

Timberland Resource Consultants
165 South Fortuna Blvd
Fortuna, CA 95540

3-16-2016



Purpose

This Water Resource Protection Plan (WRPP) has been prepared on behalf of the property owner, Dejan Petrushevski, 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 reviewing soil maps (California Cooperative Soil-Vegetation Survey), CGS Geomorphic Features Map (North Coast Watersheds Mapping, DMG CD 99-002, 1999), and a Joint Timber Management Plan that was prepared in 2009 for two parcels, one of which is the subject property. 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.

Methods (Cont.)

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.

Identified Sites Requiring Remediation

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
Road Segments 1 and 2	Poorly drained road surfaces. Water channeling down road surface during heavy rain.	A(1)(a)	N/A	Install road drainage dips, rolling dips, or waterbars along these segments to remedy the channeling of water down the road surfaces.	2	11/15/16	
Map Pt 3	Seepage from the spring is being directed down the ATV Access Trail during heavy rain.	A(1)(b)	N/A	Install a waterbar at the location of Map Pt 3 to direct water from off of the ATV Access Trail. This waterbar could be accomplished using hand tools.	2	11/15/16	
Map Pt 4	During heavy rains, runoff from a cultivation area is causing water to channel down the existing Access Road shown as Road Segment 2 on the WRPP Map.	A(1)(d)	N/A	Proper drainage of the road shown as Road Segment 2 will disperse the runoff occurring below Map Pt 4.	2	11/15/16	
Map Pt 5	During heavy rains, two locations where runoff is being concentrated has caused the formation of two small, short gullies in the fill material on the corner of the cultivation area.	A(1)(d)	N/A	Install rock outfalls at the locations of the two gullies at Map Point 5 to prevent further erosion of the cultivation area.	3	11/15/17	
Map Pt 6	Map Point 6 is a crossing of two Class III watercourses in which water flows across the road when flows are present. There are currently no crossing structures at this location.	A(2)	N/A	Install a permanent 24-inch permanent culvert crossing at Map Pt 6, and a rocked inside ditch connecting the second small Class III watercourse to the proposed culvert inlet. Approximate distance of inside ditch required is 100 feet.	2	11/15/16	
Map Pt 7	Map Point 7 is a crossing of a Class III watercourses in which water flows across the road when flows are present. There is currently no crossing structure at this location.	A(2)	N/A	Install a Permanent Rocked Ford Crossing.	2	11/15/16	

Piles and Map Pt 8	Spoils Piles shown on the attached map were stored uncovered on 1/19/16. Rain runoff was making contact with the western most Spoils Pile before draining off of the cultivation area. Map Pt 8 is a location where cultivation spoils have been dumped off of the edge of the road, down a steep embankment.	A(4)	N/A	Cover spoils piles with tarps during rainy weather. If after tarping, rain runoff is still making contact with the edge of the pile, it should be encircled with straw wattles to keep it contained on the site. Refrain from dumping cultivation spoils over the side of the road where it cannot be contained or collected for proper disposal or reuse.	2	11/15/16
Fuel Storage	1,000-gallon metal gasoline tank and portable 5-gallon gasoline cans lacked secondary containment.	A(9)	N/A	Gasoline tanks in use on the property shall have secondary containment installed. Secondary containment shall be for the entire capacity of the largest single container and shall have a permanent cover and sidewind protection, or be covered during non-working days and prior to and during rain events.	3	11/15/17
Map Pt 9	Cultivation Plant Waste intermixed with plastic plant fasteners.	A(10)	N/A	In the future, dead or harvested plant material should be free of inorganic waste prior to piling for compost or decomposition.	2	11/15/16
Map Pt 10	A pile of cultivation related waste contained in garbage bags and tarps.	A(10)	N/A	This pile should be removed prior to it becoming a nuisance.	3	11/15/17
Map Pt 11	Ash/Burn pile located down off of an ATV trail.	A(11)	N/A	Store trash in covered containers and transport to the dump. Refrain from burning garbage	2	11/15/16

Treat Priority: The time frame for treatment of the site. (1) would indicate a very high priority with treatment being planned to occur immediately. (2) would indicate a high priority site with treatment to occur prior to the start of the winter period (Nov. 15). (3) would indicate a moderate priority with treatment being planned to occur within a year 1, or prior to the winter period (Nov. 15) of the 2nd season of operations. (4) would indicate 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).

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>).

Inspection Personnel Contact Information:

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707-725-1897

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.

**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 222-083-007 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. 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.



Ron Pelletier
Timberland Resource Consultants

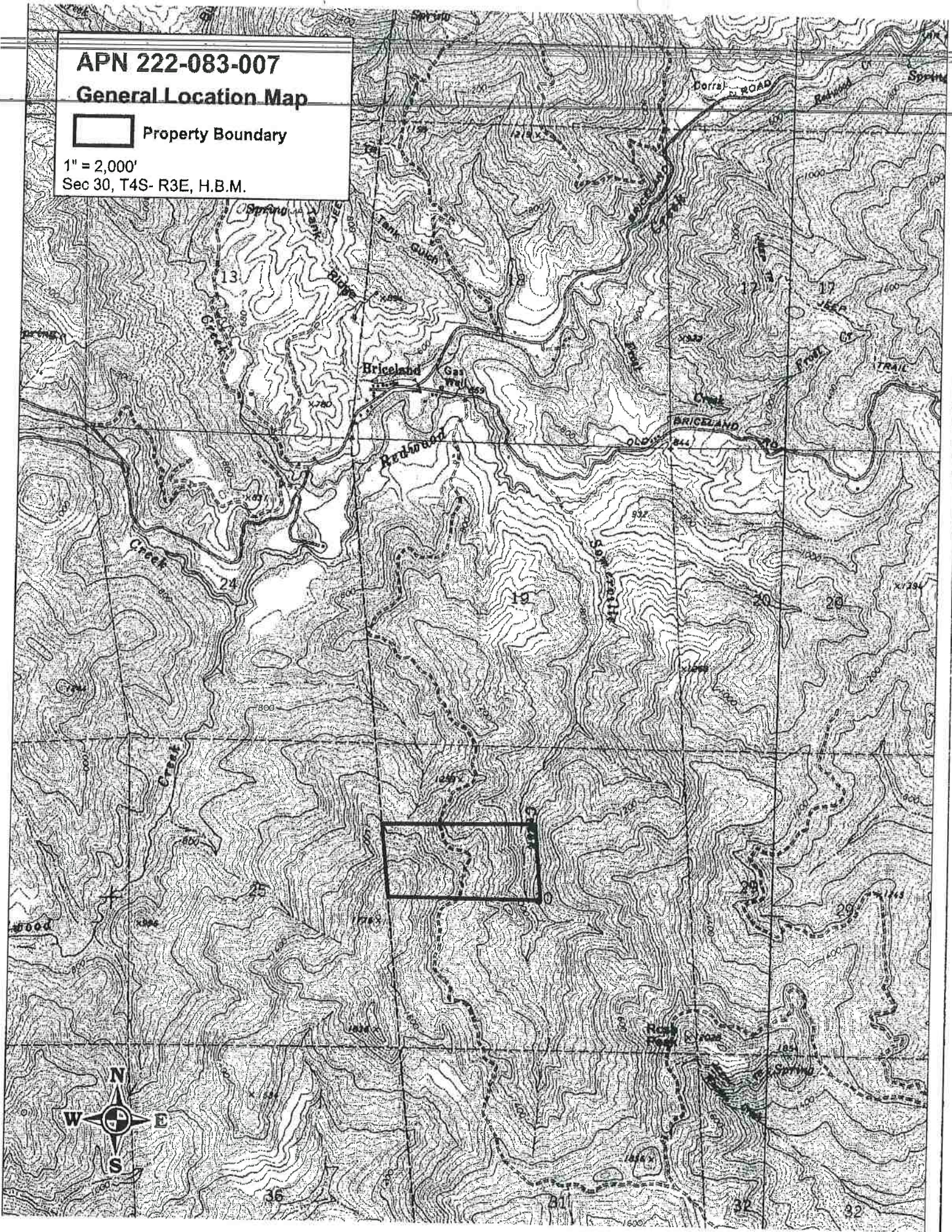
APN 222-083-007

General Location Map

 Property Boundary

1" = 2,000'

Sec 30, T4S- R3E, H.B.M.



APN 222-083-007 WRPP Map

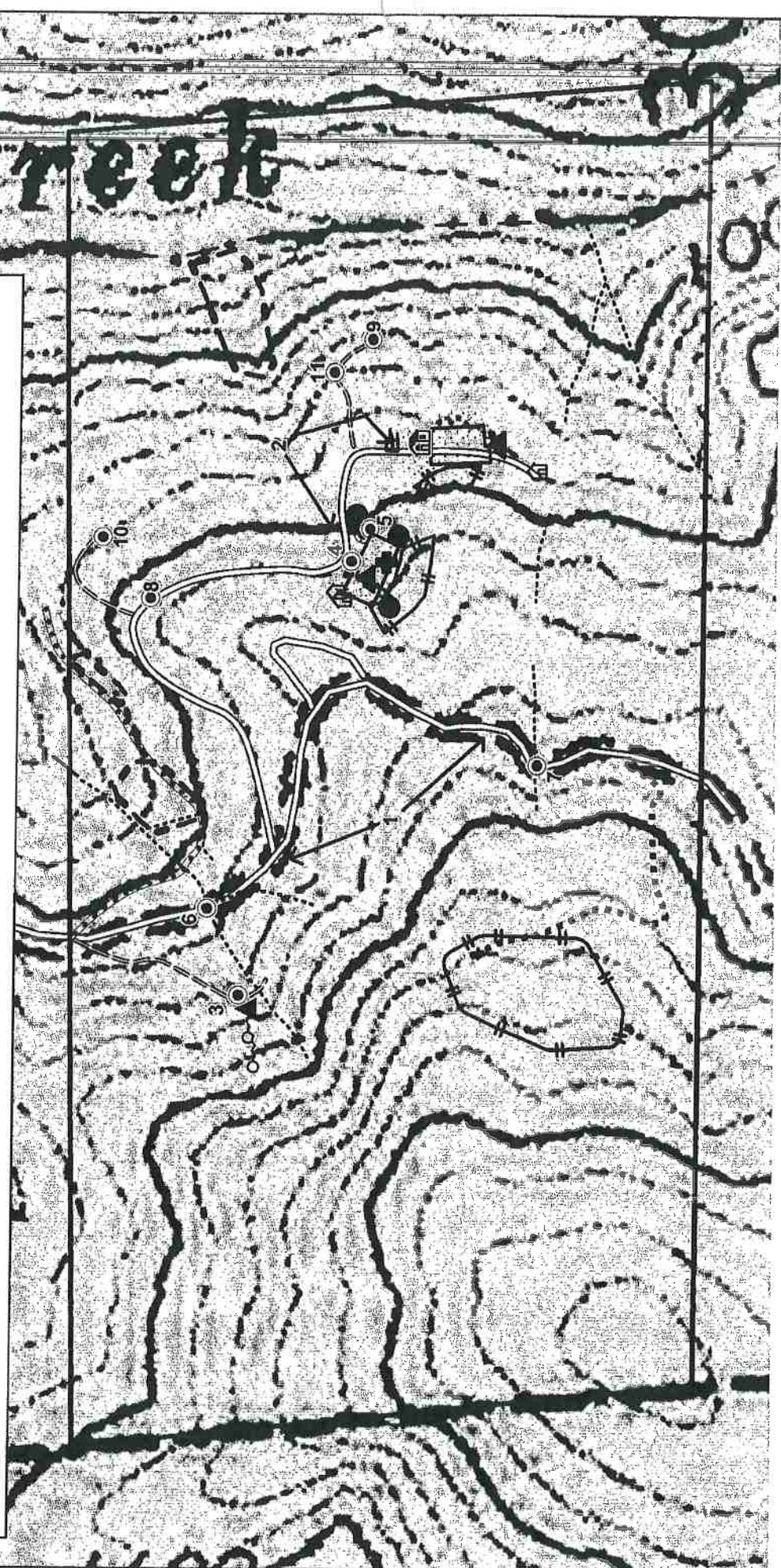
- Property Boundary
- Spring
- Developed Spring
- Class I Watercourse
- Class II Watercourse
- Class III Watercourse

- Map Points
- Water Storage
- House
- Sheds
- Spoils Pile
- Well
- Road Segment
- Proposed Conversion
- Cultivation Areas







- Proposed Conversion Area Access
- Existing Permanent Road
- ATV Access Trail
- Old Road Not In Use
- Developed Areas
- Unstable Areas


















1" = 300'
Sec 30, T4S-R3E, H.B.M.
February, 2016



APN 222-083-007 WRPP Map

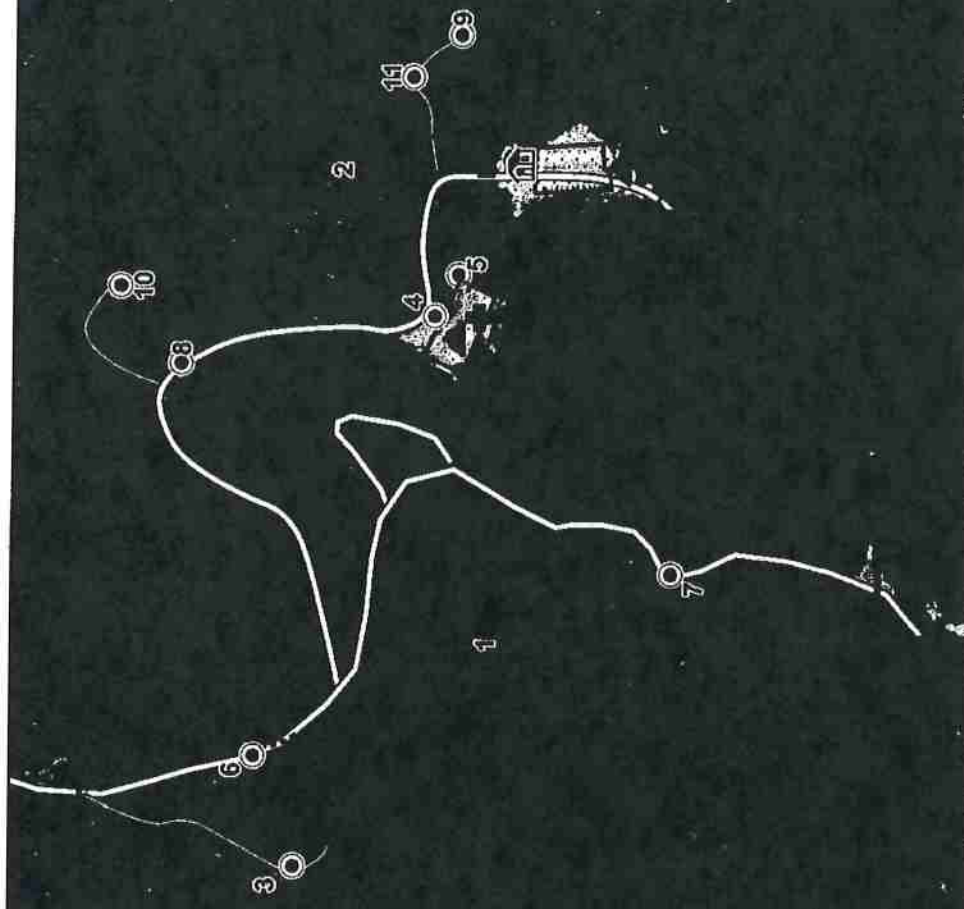
-  Property Boundary
-  Spring
-  Developed Spring
-  Class I Watercourse
-  Class II Watercourse
-  Class III Watercourse

-  Map Points
-  Water Storage
-  House
-  Sheds
-  Spoils Pile
-  Well
-  Road Segment
-  Proposed Conversion
-  Cultivation Areas

-  Proposed Conversion Area Access
-  Existing Permanent Road
-  ATV Access Trail
-  Old Road Not In Use
-  Developed Areas
-  Unstable Areas



1" = 300'
Sec 30, T4S-R3E, H.B.M.
February, 2016



Water Resource Protection Plan

Assessment of Standard Conditions For APN 222-083-007

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.

Road assessments conducted on 1/19/16 revealed two segments of existing roads where poor road drainage is causing runoff to channel down the road surface, causing erosion that is breaking down the road surface and could potentially deliver to streams in the future. See attached photo documentation and the WRPP Maps. Road Segment 1 is approximately 800 feet in length that is currently channeling water down the road. This channeling is not causing deep ruts in the road surface, but needs to be corrected nonetheless. Road Segment 2 is shorter in length but due to the steeper road grades is causing deeper ruts to form in the road surface. Road Segment 2 is also picking up excess surface drainage from the adjacent, developed cultivation area. Road Segment 1 has ample favorable locations for the installation of drain dips to direct and disperse water off of the road surface. At both of these locations, drain dips should be installed that are deep enough so that traffic will not destroy them. Road Segment 2 also has ample favorable locations where surface water can be drained. Rolling dips or waterbars installed along Road Segment 2 need to be slightly larger due to steeper road grade.

- 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.

Road assessments identified a location at Map Point 3 of the WRPP Map, on the ATV access trail leading to the developed spring, where seepage from the developed spring is being directed down the ATV trail during heavy rains. A simple waterbar to direct water off of the ATV trail at Map Point 3 needs to be installed. This can be accomplished using hand tools.

- 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.

A review of the Geomorphic Features Map revealed the presence of amphitheatre slopes and a mapped debris slide on the west bank of Somerville Creek. These features that are mapped in Somerville Creek are located far below the developed, cultivation areas and associated facilities. Improvements to road surface drainage as described above will lessen the amount of concentrated runoff downslope. There is also an amphitheatre slope mapped upslope of the main access road and cultivation areas. It is located in the vicinity of the developed spring and adjacent

Class III watercourse. The ATV access trail that leads to the developed spring needs to have a waterbar installed at Map Point 3 as described in (b.) above. Two small unstable areas were identified below the access road near the north property line far from the developed cultivation areas and far from potential runoff from access roads. The locations of the small unstable areas and the mapped debris slide slope area shown on the attached map.

- 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.

Assessments revealed locations where runoff from a developed cultivation area drains and has the potential for sediment erosion and transport. These locations are shown as Map Points 4 and 5 on the WRPP Map. At Map Point 4, rain runoff exits the cultivation area and flows onto the adjacent road surface, shown as Road Segment 2. The drain dips proposed to be installed along Road Segment 2 as described above under (a.) above and in the WRPP will disperse runoff occurring at Map Point 4. Map Point 5 has two locations where runoff is being concentrated and causing erosion of the outside edge of the fill material that makes up the cultivation area. This has caused the formation of two small, short gullies in the fill material that makes up the outside edge of the cultivation area. Erosion from these two gullies does not have access to a watercourse but is causing degradation of the outside edge of the cultivation area. Although not delivering to watercourses, erosion of the outside edge of the cultivation area should be treated by installing rock outfalls at the locations of the two gullies at Map Point 5. See Pictures 2, 3, 5, and 6.

- 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.

Rolling dip outlets to be installed along Road Segments 1 and 2 shall be of sufficient number so that drainage will be dispersed enough so that concentrated runoff will not have access to a watercourse. Rocked outfalls are proposed for installation at Map Point 5 to prevent erosion of the outside edge of the cultivation area.

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

In compliance at this time. In the future, all construction materials will be stored 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.~~
- 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.~~

There are three stream crossings located on the existing permanent road that accesses the property. The crossing at Map Point 6 is on the existing rocked road that provides access to the property and to the adjacent property to the south. There is currently no crossing structure at Map Point 6. Map Point 6 is a crossing of a Class III watercourse in which water flows across the road when flows are present. A new permanent watercourse crossing in the form of a permanent culvert installation is proposed at this site.

Approximately 100 feet south, up the access road from Map Point 6, a second, smaller Class III watercourse is intercepted by the road. During heavy precipitation, drainage from this second watercourse currently flows along the inside edge of the road towards the location of Map Point 6. This second watercourse eventually crosses the road diagonally and exits the road approximately 20 feet (+-) from the proposed culvert outlet at Map Point 6. In conjunction with the culvert installation at Map Point 6, a rocked inside ditch should be installed so that the second small drainage is collected by the culvert inlet at the proposed crossing at Map Point 6. The length of inside ditch required is approximately 100 feet. Due to the shallow nature of the fills, gentle slopes below the road, and the infrequent flows, the inside ditch construction connecting the second small Class III watercourse to the inlet of the culvert installation at Map Point 6 is appropriate. The new culvert shall be a minimum of 24-inches diameter and aligned with the natural grade and alignment of the watercourse. The dimensions of the disturbed area is approximately 20 linear feet by 6 feet wide by 2-4 (~3) feet deep, which equates to 13 cubic yards of displacement. The type of material that will be moved, displaced, or otherwise disturbed is native fill material.

The crossing at Map Point 7 is on the same existing rocked access road as Map Point 6. There is currently no crossing structure at Map Point 7. Map Point 7 is a crossing of an intermittent Class III watercourse in which water flows across the road, when flows are present. A new permanent watercourse crossing in the form of a Rocked Ford Crossing installation is proposed at this site. This is appropriate due to the gentle slopes, shallow road fills, and small, intermittent nature of the Class III watercourse. The dimensions of the disturbed area is approximately 20 linear feet by 6 feet wide by 2 feet deep, which equates to approximately 9 cubic yards of displacement. The type of material that will be moved, displaced, or otherwise disturbed is native fill material.

During the assessment, two old stream crossings were noted on an old logging road that has not been in use for many years. This road is shown on the attached map. The crossings are of Class III watercourses located on an old logging road that was constructed many years ago for logging access. They appear to have been dirt ford crossings. This road and crossings are now overgrown with trees and brush and the landowner does not use it. It exits the north property line a short distance beyond these crossings. It is unlikely that it would ever be intended to be reopened and used by the landowner in the future because it provides so little access to the property. The crossings at these points have been partially eroded

away over the many years that have gone by since they were constructed. Although there is still some crossing fill in place, it is now vegetated and appears settled. On the heavy precipitation day of this inspection, erosion did not appear to be taking place at the crossing site, any more than the natural segments of this watercourse.

Just beyond these two old crossings, a large, deep gully was formed in the road as water from the second of these two old crossings had diverted down the road for approximately 100 feet. This also must have taken place many years ago as this gullied segment of the old road is now completely vegetated with small trees and brush. Also, there was no longer an active channel present in the second crossing area or the gully. It appears that in the past, water from the second of the two watercourses associated with Map Point 6 once crossed the existing access road directly, and made it to this location, where it became diverted down the old road causing the gully in the old road. This is not occurring at this time as the second of the two watercourses associated with Map Point 6 now flows along the existing access road for approximately 100 feet, missing this lower location. The proposed culvert installation and inside ditch at Map Point 6 will eliminate the possibility of Class III watercourses returning to the location of the second crossing and gully location on the old, overgrown logging road below. At this time, removal of these old crossings completely, is not feasible. It would require reopening of the old logging road that is now revegetated and no longer in use, and that provides no beneficial access to the property for the landowner. It would result in impacts of its own, while the impacts from the existence of these old crossings at present is minimal. Although unlikely, should the landowner want vehicle access along this road in the future, a plan for reinstalling the old crossings and reconstructing the gullied segment of road will be reported as required under Order No. 2015-0023.

An old existing skidtrail crossing of a Class III watercourse was also identified. It is located on the ATV Access Trail that accesses the Developed Spring as shown on the attached map. It is located approximately 50 feet southeast of the Developed Spring. It did cause sediment delivery in the past. Currently, it is revegetated, and not in use by the landowner. As with the previous crossings, it too has been partially eroded away over the many years that have gone by since its construction. Although there is still some crossing fill in place, it is now vegetated and appears settled. On the heavy precipitation day of this inspection, erosion did not appear to be taking place at the crossing site, any more than the natural segments of this watercourse. It appears that this segment of Class III watercourse only flows during heavy precipitation. The area surrounding this crossing is composed of steep slopes and is within a mapped amphitheatre per the Geomorphic Features Map that was reviewed. At this time, removal of this old crossing completely, is not feasible. It would require walking a tractor up the narrow skidtrail. There is no access for a truck and no appropriate location nearby for placement of removed crossing fills. It would result in impacts of its own, while the impacts from its existence is presently minimal.

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 alternative¹⁸ conditions on enrollment, including site-specific riparian buffers and other

BMPs beyond those identified in water resource protection plans to ensure water quality protection.

- 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.

The Cultivation sites and associated access roads are not located near Class I or II watercourses. The 50' Class III buffers were checked in the vicinity of the cultivation areas and all of the cultivation areas are located more than 50' from the Class III watercourse. These current buffers appear adequate to filter any runoff from this area before reaching the watercourse.

4. Spoils Management

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

Cultivation related soils were being stored, uncovered within or very near the cultivation sites on 1/19 16. The western most Cultivation Soils pile depicted on the attached map and pictured, shows rain runoff making contact with the pile and flowing off of the cultivation site. The runoff disperses east of Map Point 5 and does not cross the road or enter a watercourse. This pile should be tarped during rainy weather. If after tarping, rain runoff is still making contact with the edge of the pile, it should be encircled with straw wattles to keep it contained on the site. Another Cultivation Soils pile is shown on the attached map and pictured. It is located south of the eastern cultivation area. It is located on the edge of the developed area and is located over 100 feet from the nearest watercourse, a Class III. Even though this area is much better drained than the first site, it should also be covered with a tarp during rainy weather and straw wattles placed if it becomes necessary. Any future cultivation piles should be tarped in rainy weather, and if necessary, straw wattles placed to keep rain runoff from entering and exiting the pile, in order keep the soils in place in the pile and to be in compliance with the Order.

Map Point 8 is a location where spent cultivation soils have been dumped off of the edge of the road in the past. It is down a very steep slope and extends over 100 feet from the edge of the road before coming to an end on a bench. Fortunately, there is no threat of delivery to a watercourse. The nearest watercourse is over 700 feet from the bottom end of the soils dumping area and is very densely vegetated. The bench area near the bottom of the soils dump also helps to contain it. The very steep, rocky slopes makes cleanup or removal of the dumped soils impossible beyond the immediate edge of the road. Even though this soil dump does not deliver to a watercourse, the landowner shall refrain from disposing of soils in this

~~manner in the future in order to be in compliance with Standard Condition A.4. See attached photo documentation and maps.~~

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-1220 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.
- 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.

Water on this property is currently served by a well and a diversion of a Class II spring, both located on the property. The spring diversion is used solely for domestic use at the house site on the property. An Initial Statement of Water Diversion has recently been submitted to the Division of Water Rights and a Notification of Lake or Streambed Alteration has been submitted to CDFW for the spring diversion on the property. The entire cultivation operation is irrigated by the existing well on the property. Crops are not overwatered. The landowner applies water at an appropriate agronomic rate. The water storage tanks and bladder are located on stable sites far from any watercourses.

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 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.

The cultivation sites were not active on the inspection date so irrigation could not be observed. The landowner states that he does not irrigate to the point of irrigation water leaving the site. The landowner's cultivation sites are located primarily in four greenhouses located on two terraced areas. The greenhouses range in size from 1,600 square feet at the smallest to 4,200 square feet at the largest. The total greenhouse

~~space on the property totaled approximately 12,000 square feet on the date of the inspection. There were also several grow bags located near the house site as well. There are no watercourses near the cultivation sites that could be contaminated with irrigation tail water leaving the cultivation areas.~~

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

In order to be in compliance with Standard Condition 7, the landowner shall store all fertilizers, potting soils, composts, and soil amendments in sheds, covered areas, or tarped in a manner in which they cannot be transported to surface waters or such that nutrients or other pollutants cannot be leached into groundwater. On the inspection date, there were at least four sheds on the property that are used for storage of the materials listed above. According to the landowner, fertilizers and soil amendments are applied per packaging instructions and applied at agronomic rates. There were two piles of cultivation soils being stored uncovered, one at each cultivation area. These were discussed above under #4 Spoils Management, above, and shown in pictures and the map accompanying this report.

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.

According to the landowner, no pesticides or herbicides are used on the property.

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.

The landowner has a 1,000-gallon, above ground gasoline tank on the property located under an awning, and situated between the two side by side storage sheds on the western most developed area. There are also portable, 5-gallon gas cans in use on the property. All gasoline tanks are stored and used where they do not have access to receiving waters. None of the gasoline tanks in use on the property are equipped with a secondary means of containment. In order to be in compliance with Item A. 9 of the Order, the gasoline tanks in use on the property shall have secondary containment installed. Secondary containment shall be for the entire capacity of the largest single container and shall have a permanent cover and sidewind protection, or be covered during non-working days and prior to and during rain events. See pictures of the fuel tanks at the end of this document.

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.

Cultivation-related wastes were observed stored in piles on the property in locations where they did not threaten to enter surface water. In order to be in full compliance with Standard Condition 10, cultivation-related wastes that contain residues or pollutants shall be stored in a manner that ensures that those materials do not leach into surface water or groundwaters. This can be achieved by following BMPs 137 & 140. At Map Point 9, a pile of plant waste was piled to compost or decompose naturally, however the pile was also intermixed with plastic plant fastening material throughout. This pile does not pose a threat to surface or ground water. In the future, dead or harvested plant material should be free of inorganic waste prior to piling for compost or decomposition. See the picture at the end of this document.

At Map Point 10, a pile of cultivation waste is contained in approximately 10 to 12 garbage bags and old tarps was discovered. It is located along the back edge of a natural bench approximately 400 feet from a watercourse where it does not pose a threat to watercourses. The contents of the bags is unknown. This pile should be removed prior to it becoming a nuisance.

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.

Human waste disposal consist of bathrooms in the house which are connected to a septic tank and leach field system.

At present there was very little garbage stored on the property. Garbage and refuse is presently being put in garbage cans located next to the house for short term storage and is periodically loaded and taken to the dump. The trash in the garbage cans do not appear to be capable of discharging into a stream. However, if not kept covered with lids during rain events, leaching could potentially occur. Trash should be stored according to BMP 141 of Appendix B of the Order. An ash pile where trash had been burned in the past was located and is shown as Map Point 11. The ash pile does not have access to a watercourse via surface flow. Trash should be piled and transported to the dump in the future.

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 outsloping 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.

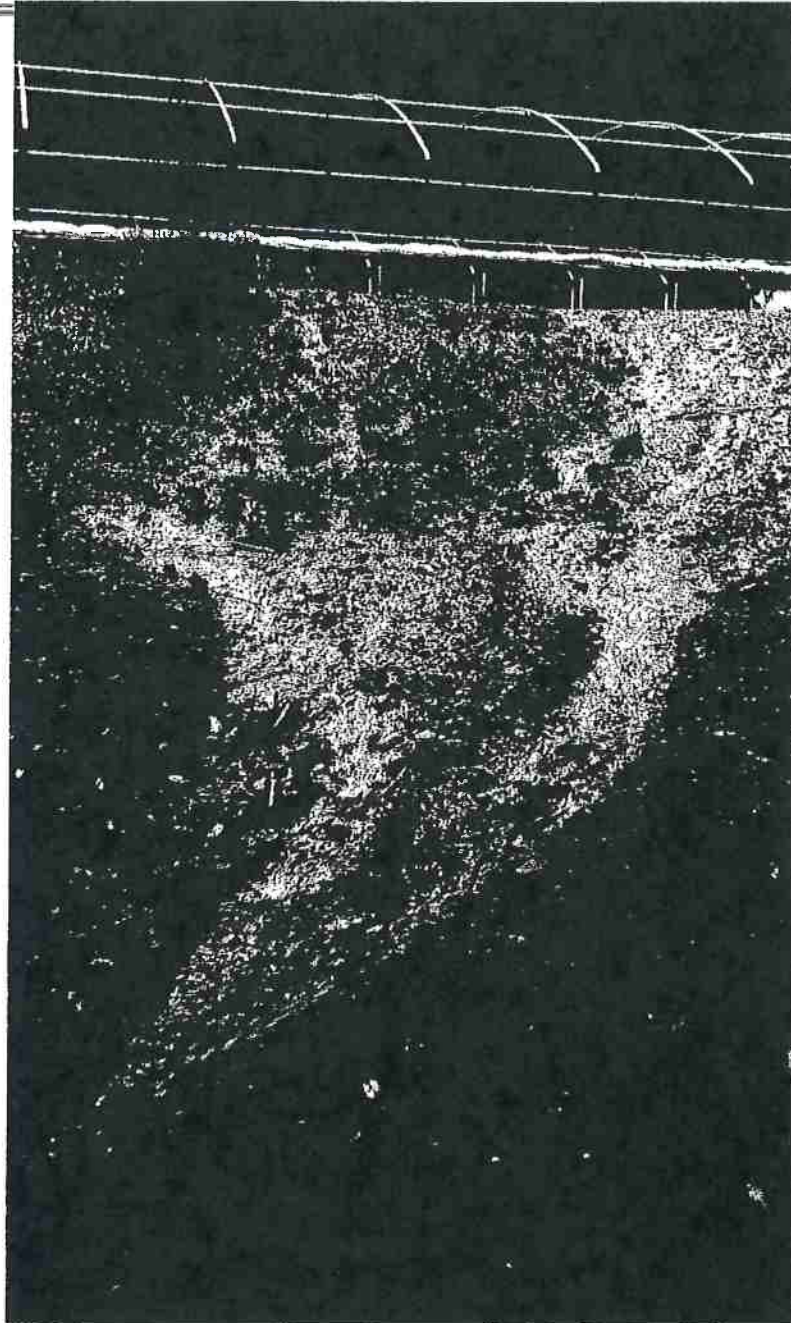
Mitigation measures are listed in the Water Resource Protection Plan and have also been noted above in this document.

Pictures



Picture 1: This is a photograph of Road Segment 1 described above. Road runoff being channeled along the road surface needs to be drained from the road surface by the installation of small drain dips. Dips need to be large enough that traffic will not destroy them. Photo date 1-19-2016.

Pictures



Picture 2: This is a photograph of Map Point 4 that makes up the source of much of the surface runoff at the top of Road Segment 2 described above. Photo date of 1-19-2016 was following a very rainy period when runoff was flowing directly off of the developed cultivation area and down the road.

Pictures



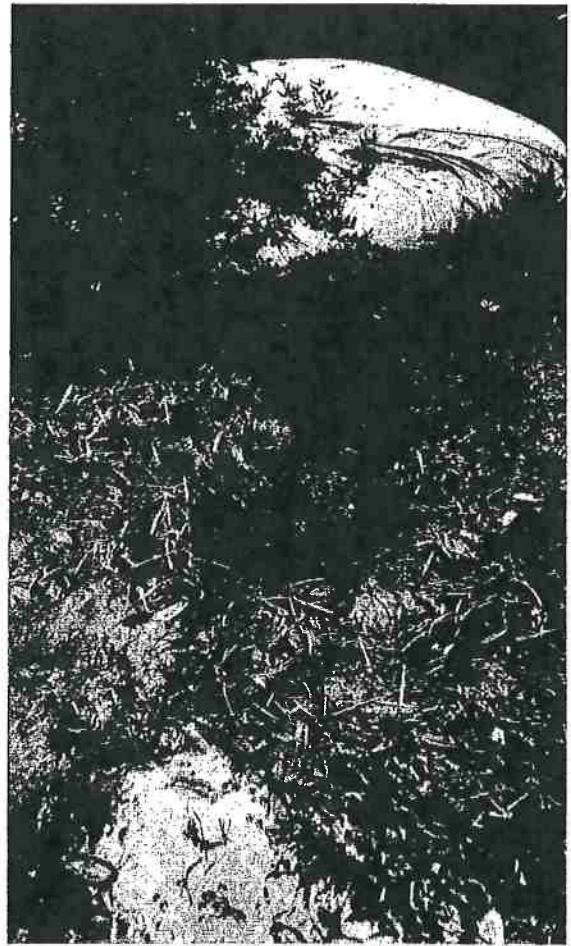
Picture 3: This is a photograph looking down the road at the top of Road Segment 2 taken from the developed cultivation area that is contributing runoff down the road surface during heavy rains (Map Point 4). Road Segment 2 as described above needs the installation of waterbars and or rolling dips. Photo date of 1-19-2016.

Pictures



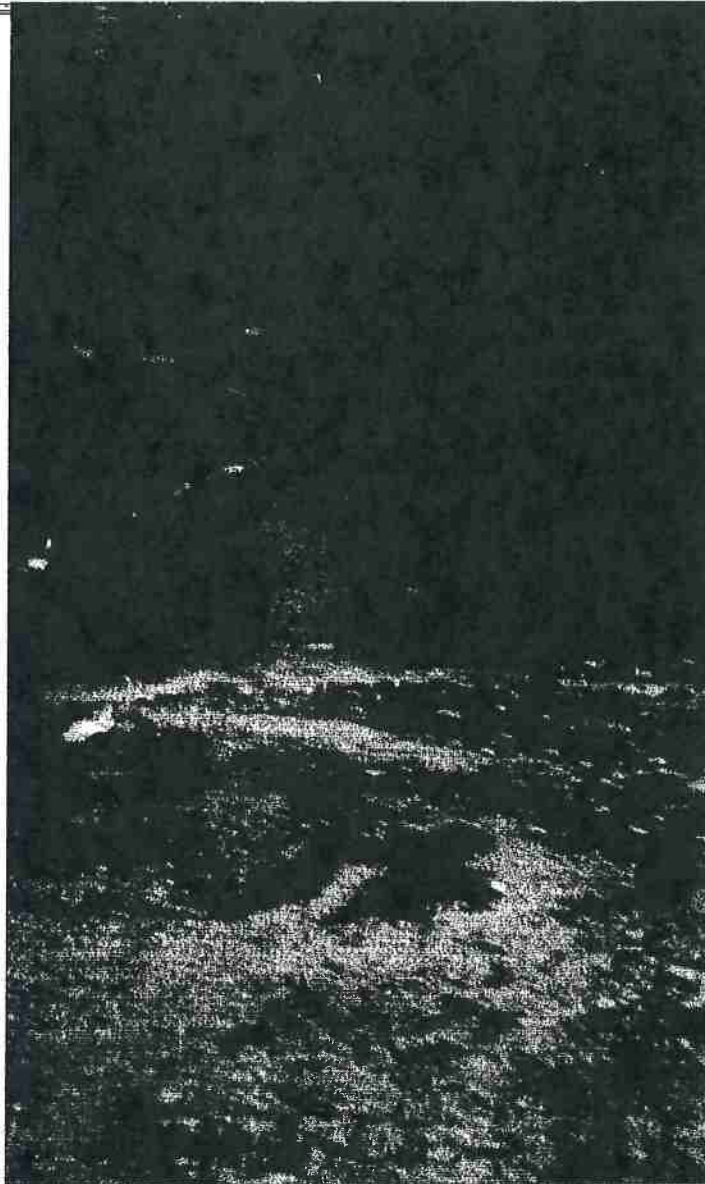
Picture 4: This is a photograph of the lower half of Road Segment 2, taken from near the bottom end and looking up the hill. As described above, there are ample locations where the water can be drained effectively by the installation of waterbars and or rolling dips. This segment of road appears to have had waterbars installed in the past as part past timber harvesting on the property from the early 1990s. Photo date of 1-19-2016.

Pictures



Pictures 5 and 6: These are photographs of the small gullies that are being formed in the outside edge of the cultivation area due to rain runoff at Map Point 5. Rock outfalls should be installed at each gully location to prevent further erosion of the outside edge of the cultivation area. Photo date of 1-19-2016.

Pictures



Picture 7: Although poor quality, this is a photograph of the Class III watercourse crossings at Map Points 6 and 7. Map Point 6 is the near and Map Point 7 is the crossing farther up the road. The watercourse at Map Point 7 is diverted along the road surface for approximately 90 feet. Photo date of 1-19-2016.

Pictures



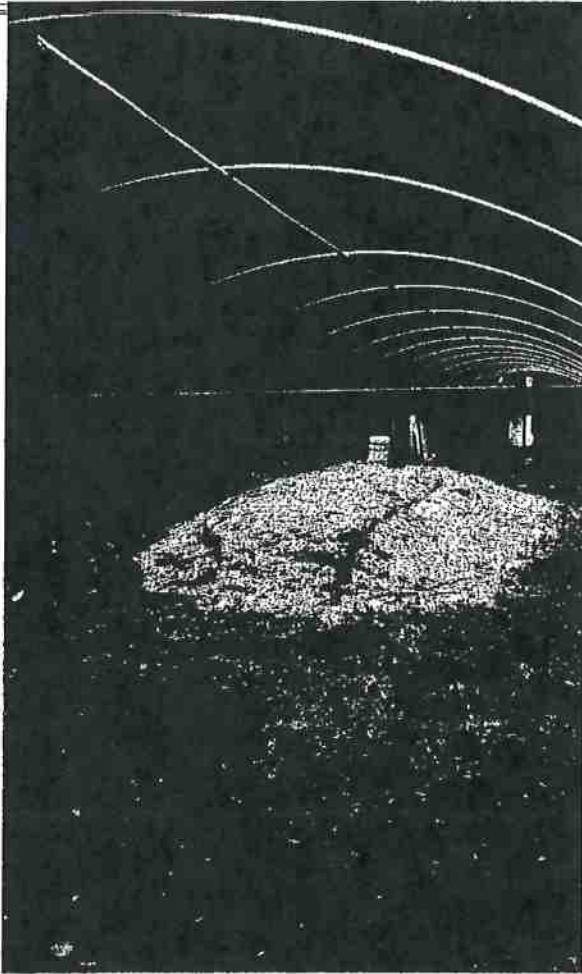
Pictures 8 and 9: The photo on the left is the water exiting the road at the location of Map Point 6. The photo on the right is water exiting the road after traveling down the road surface for approximately 90 feet from Map Point 7. Photo date of 1-19-2016.

Pictures



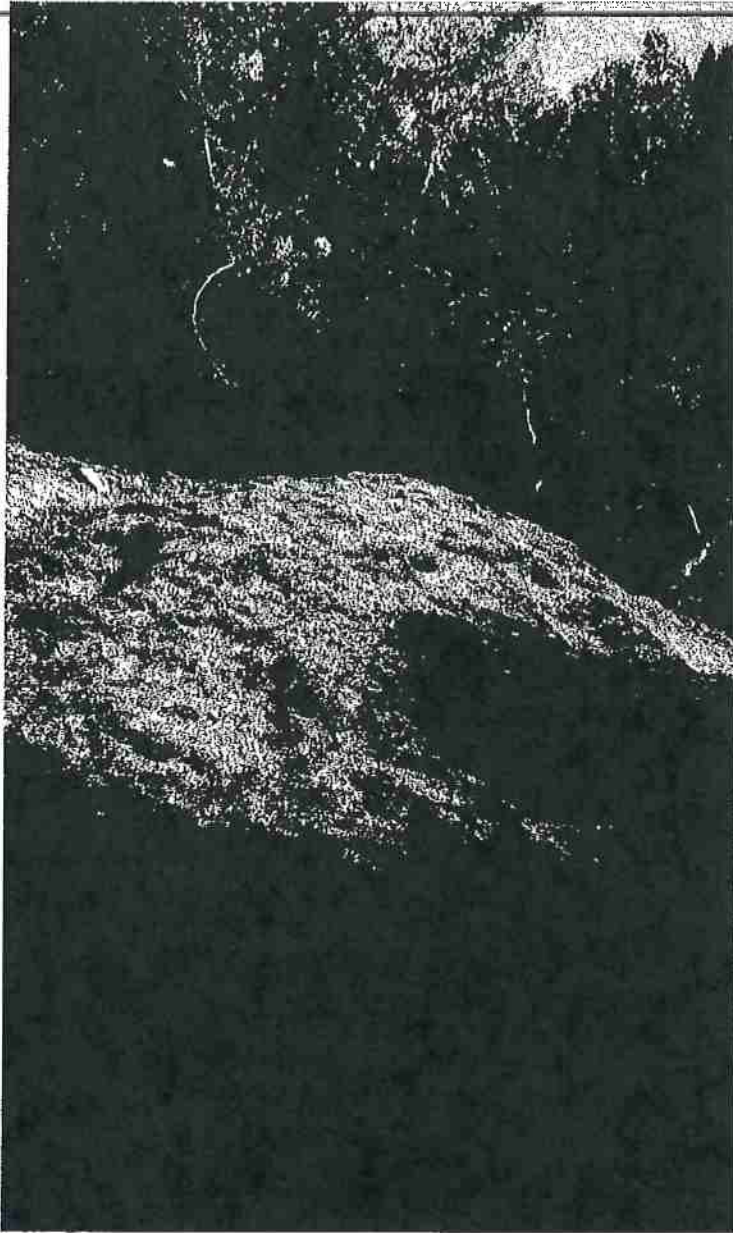
Picture 10: This is a photo of the Class III watercourse crossing at Map Point 8. A rocked ford crossing should be installed at this location to prevent future delivery of sediment during high flows. Photo date of 1-19-2016.

Pictures



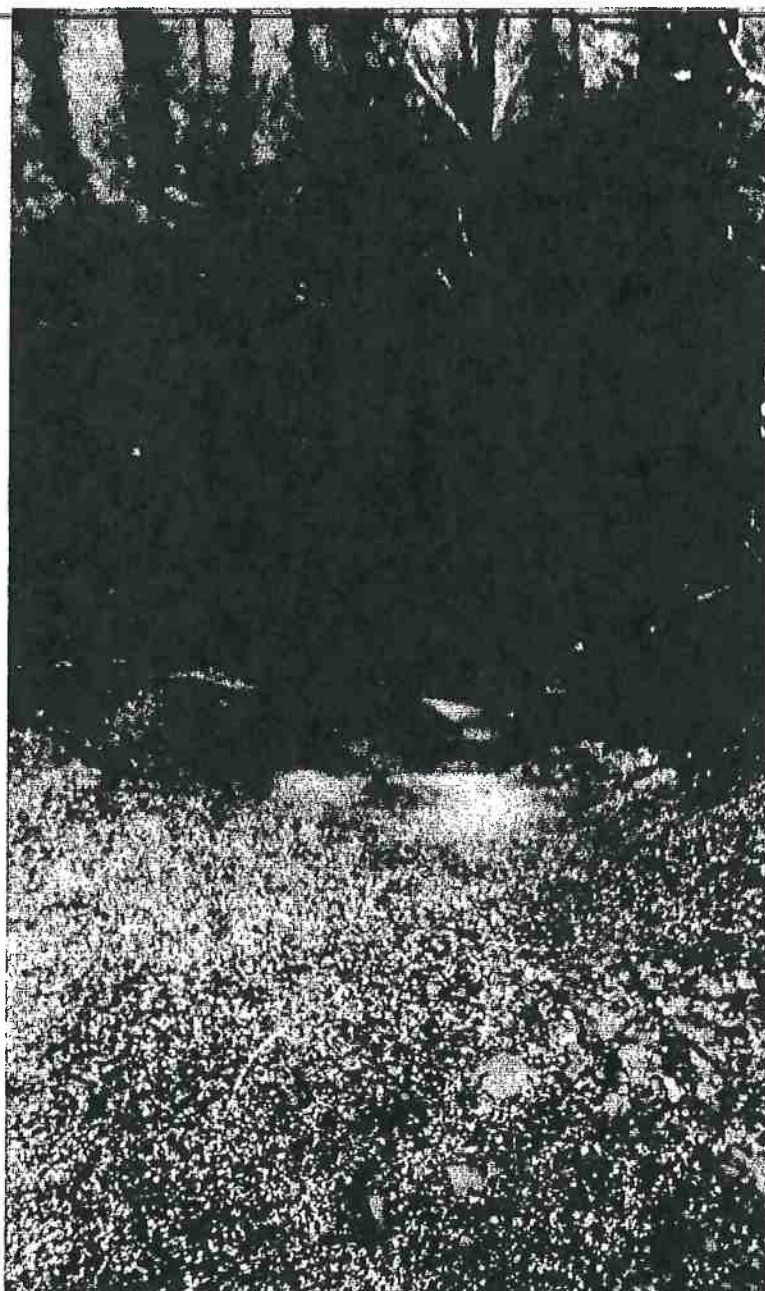
Pictures 11 and 12 show the western most soils pile depicted on the attached map. It shows an uncovered soils pile being stored within the cultivation area. The picture on the right shows rain runoff that eventually leaves the cultivation area, but does not ever deliver to a watercourse. This pile and piles like it, in the future should be tarped during rainy weather. Soils piles that make contact with standing rain runoff should also be encircled with straw wattles in order to keep potential contaminants from leaving the site. Photo date of 1-19-2016.

Pictures



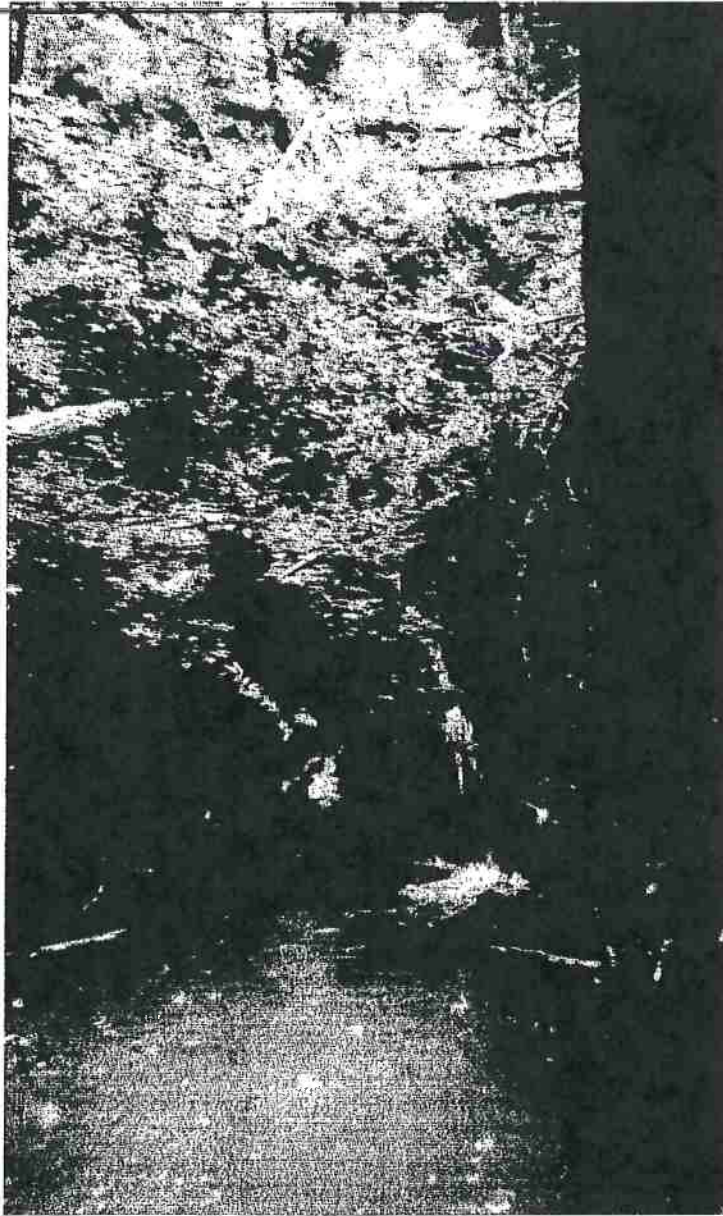
Picture 13: This is a photo of the eastern most soils pile depicted on the attached map. It was being stored uncovered just off of the southern end of the eastern most cultivation area. Piles like this should be covered with tarps during rainy weather. If traces of soils can be seen leaving the site, straw wattles should be placed as a means of containment. This pile did not present a risk of delivering to a watercourse. Photo date of 1-19-2016.

Pictures



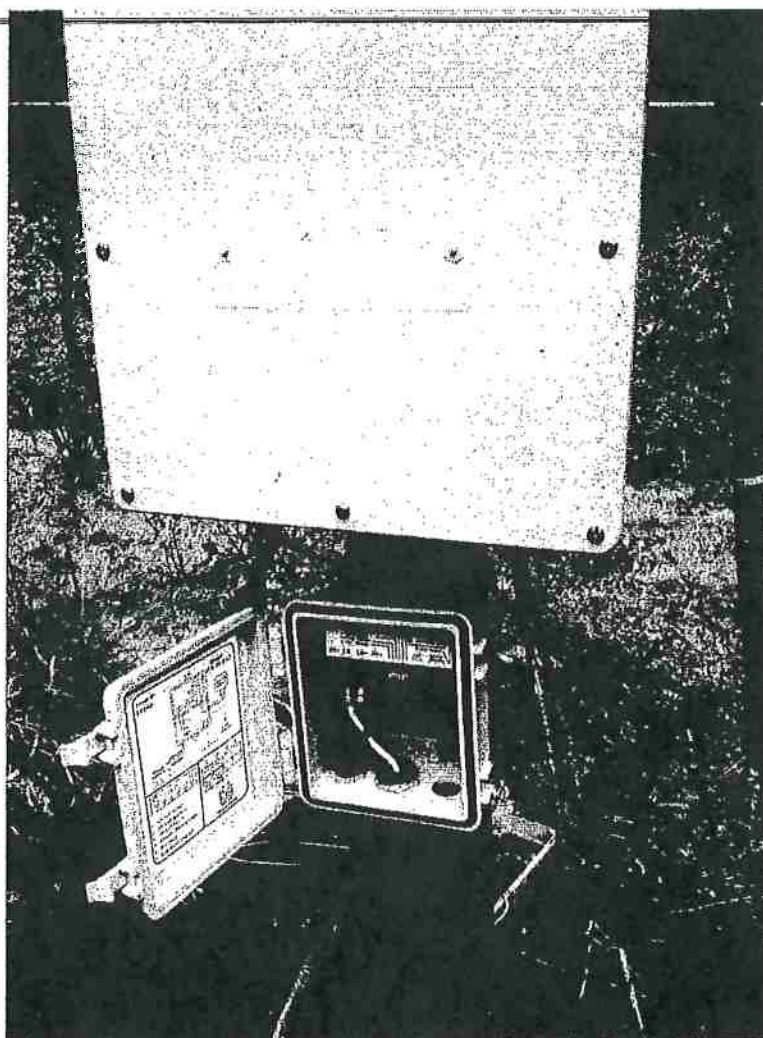
Picture 14: This is a photo of the soils dump that is depicted as Map Point 8 on the attached map. The photo was taken from the edge of the road and looking down a very steep slope. Cultivation soils extend approximately 100 feet in length, and stops on the upper edge of a bench. As explained above, there is no risk of delivery to a watercourse. Due to the length and steepness, removal of the dumped soils beyond the very near edge of the road is impossible. Photo date of 1-19-2016.

Pictures



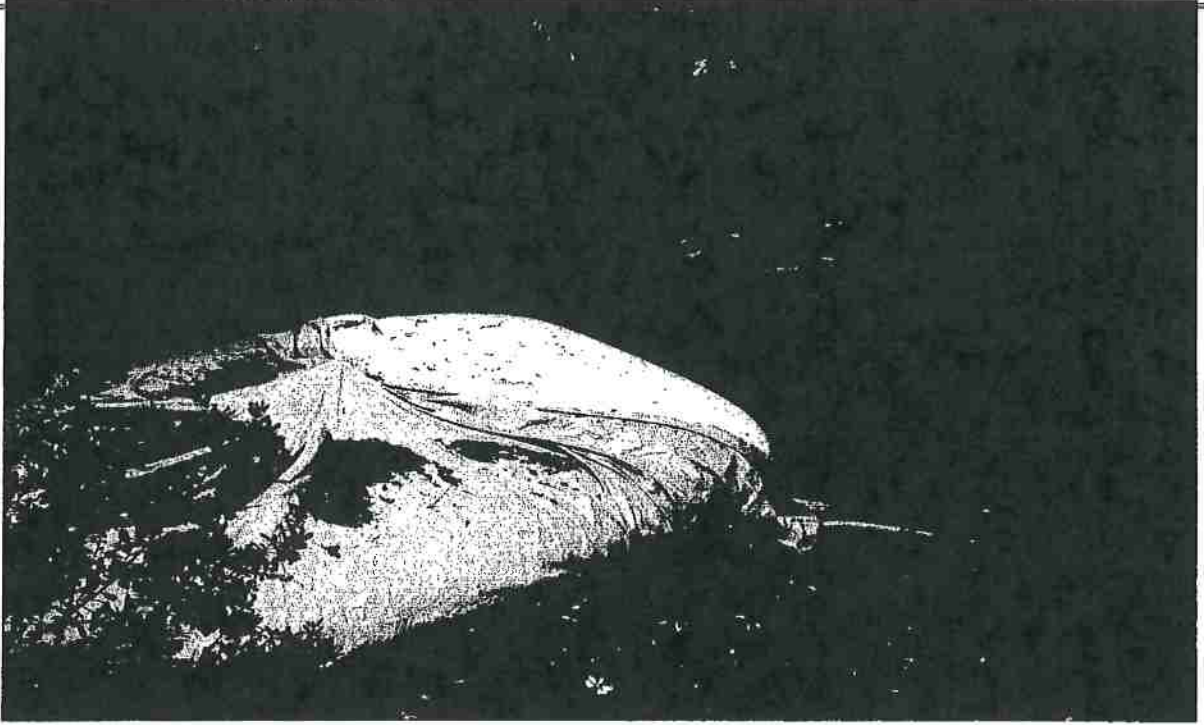
Picture 15: This is a photo of the Developed Spring that is depicted on the attached map. It provides water to the house site located on the property. In the bottom of the pool, a screened waterline delivers water to a storage tank that is connected directly to house. The pool at the spring site was very full on this day. Photo date of 1-19-2016.

Pictures



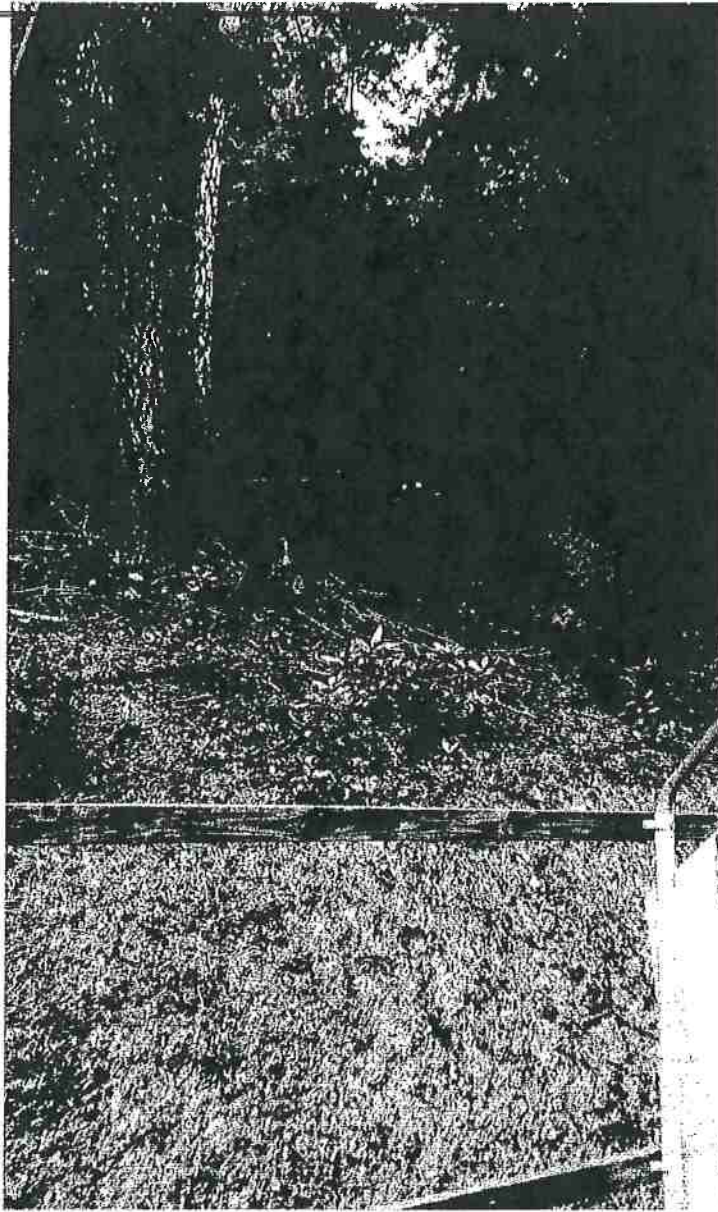
Picture 16: This is a photo of the well on the property. It is located on the western cultivation site. The well pictured provides for all of the irrigation water used on the property. Developed Spring that is depicted on the attached map. It provides water to the house site located on the property. In the bottom of the pool, a screened waterline delivers water to a storage tank that is connected directly to house. The pool at the spring site was very full on this day. Photo date was in February of 2016.

Pictures



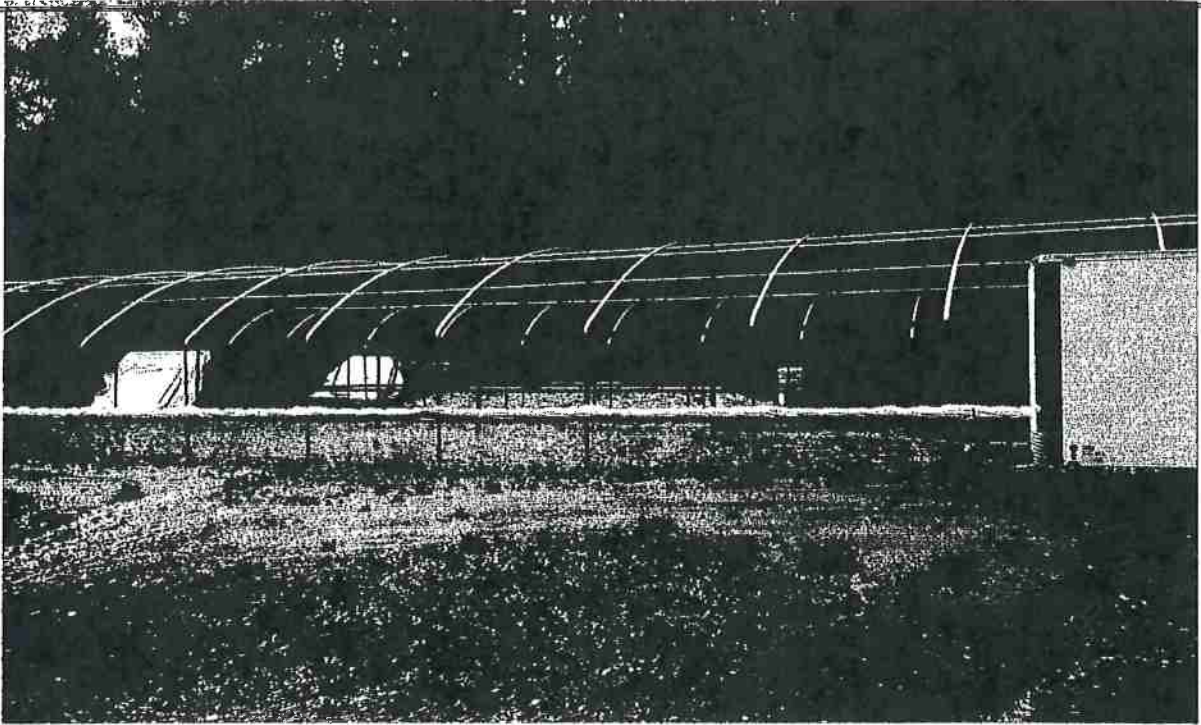
Picture 17: This is a photo of the water storage bladder and two water storage tanks on the property. This location is adjacent to Map Point 5. Photo date of 1-19-2016.

Pictures

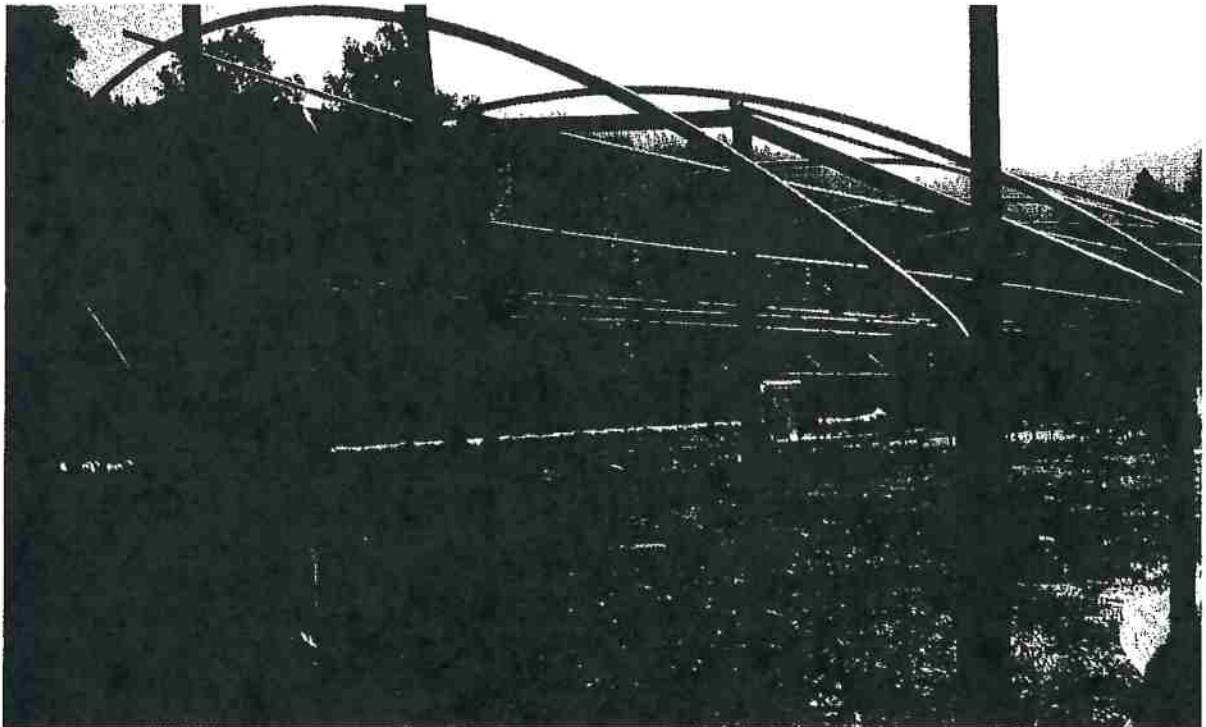


Picture 18: This is a photo of the two water tanks located above the western cultivation area. One of the two tanks pictured is dedicated to is connected to the spring and is used for domestic use at the House site. Photo date of 1-19-2016.

Pictures

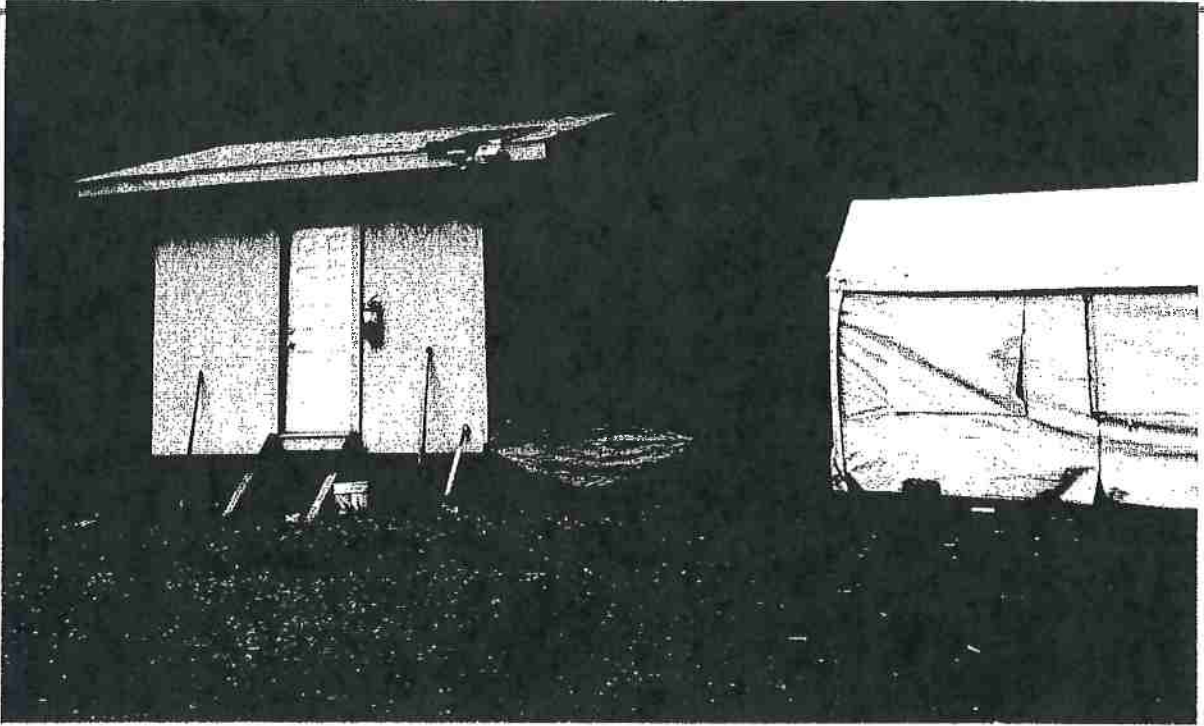


Picture 19: This is a photo of the western cultivation site during the off season. Photo date of 1-19-2016.

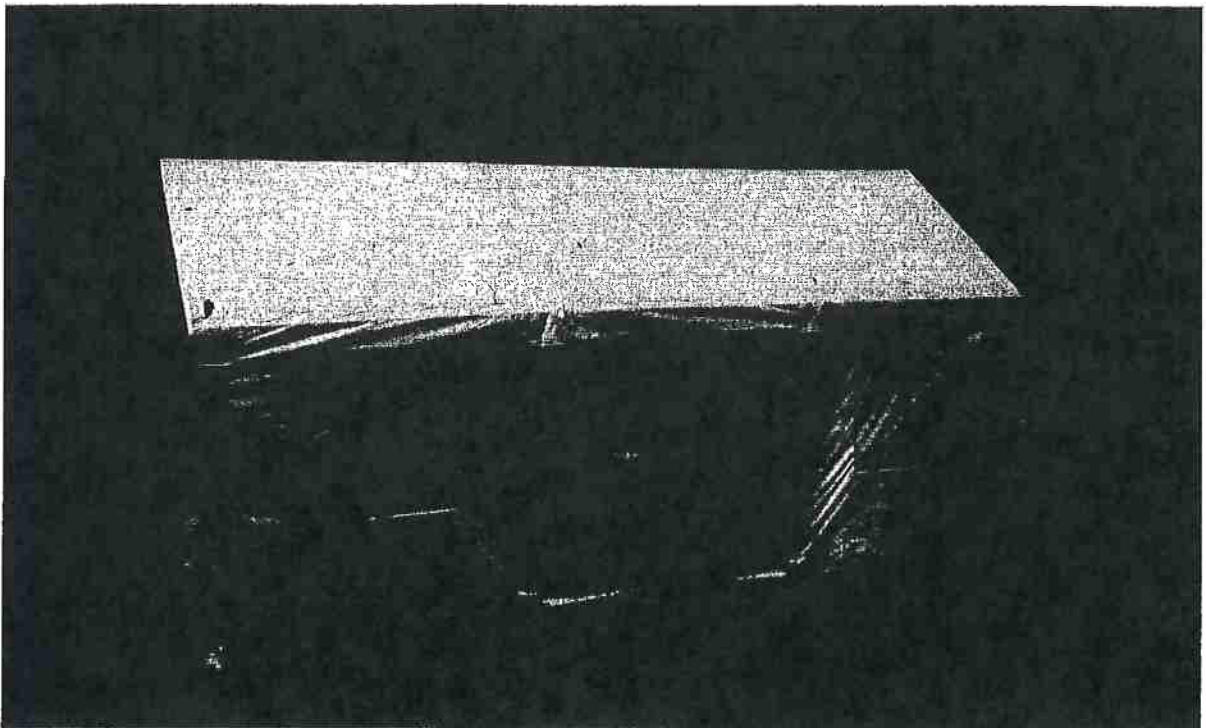


Picture 20: This is a photo of the eastern cultivation site during the off season. Photo date of 1-19-2016.

Pictures

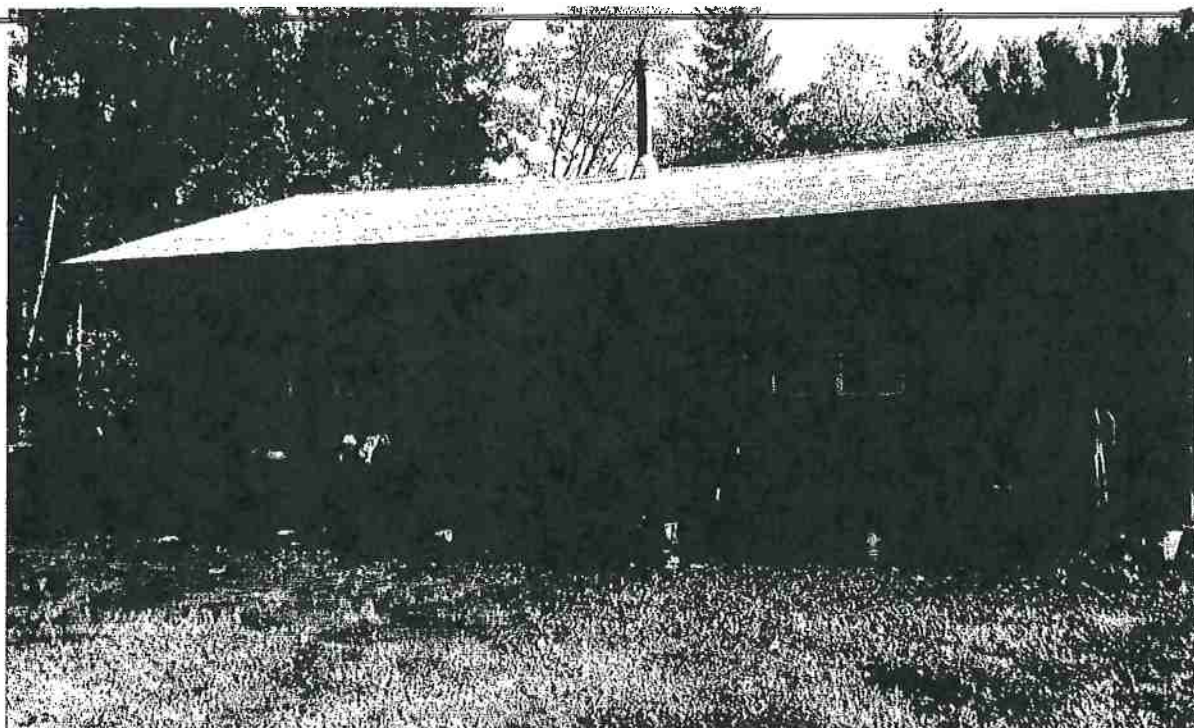


Picture 21: This is a photo of the storage sheds located on the western most developed area. The 1,000-gallon fuel tank is located under the awning behind the brown tarp. Photo date of 1-19-2016.



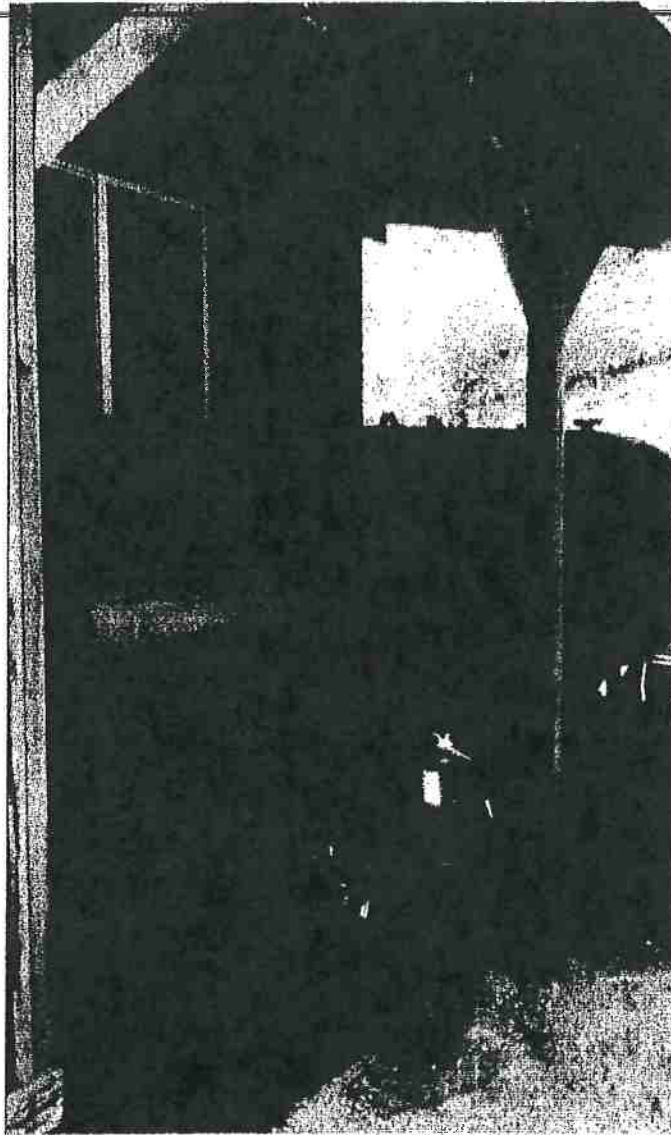
Picture 22: This is a photo of a third storage shed located on the western most developed area. It is located near Map Point 5 on the attached map. Photo date of 1-19-2016.

Pictures



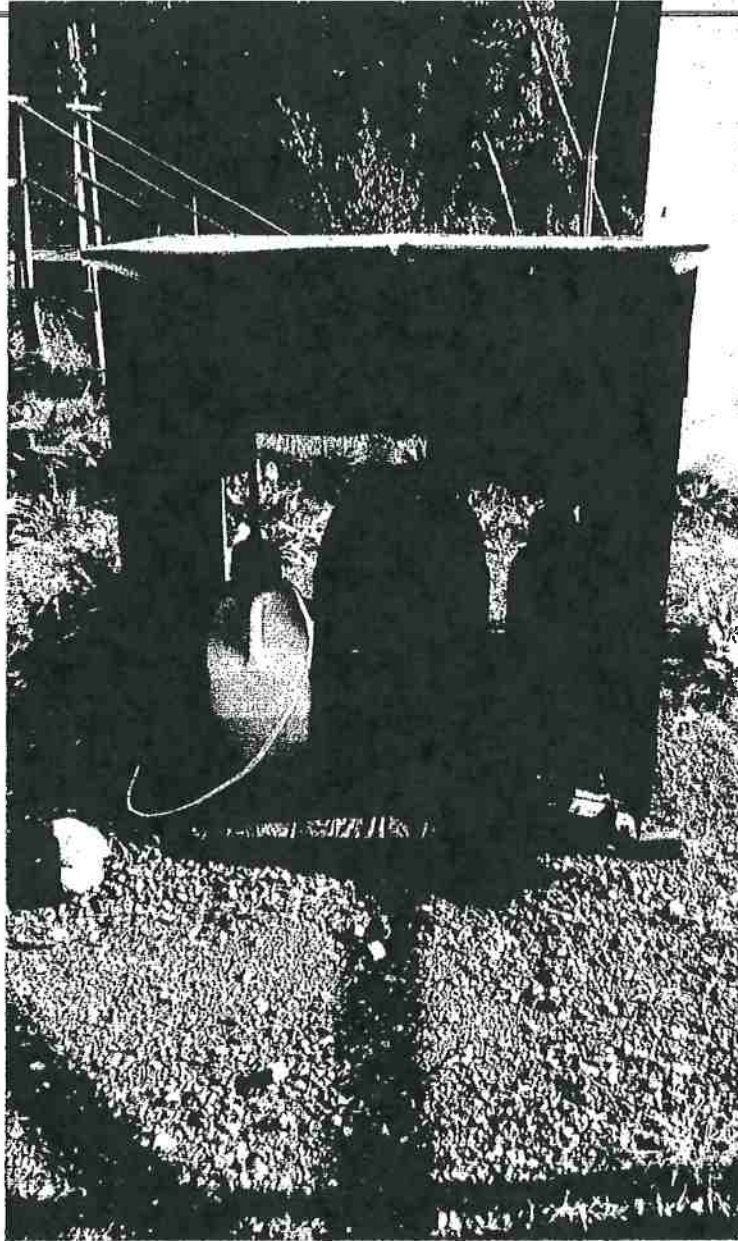
Pictures 23 and 24: These are photos of the storage sheds located on the eastern most developed area. Photo date of 1-19-2016.

Pictures



Picture 25: This is a picture of the 1,000-gallon gasoline tank located on the western developed area. It is situated between the two sheds and behind the brown tarp as shown in Picture 21 above. It has good rain and sidewind protection but lacks the secondary containment that is required. In order to be in compliance with the Order, secondary containment shall be for the entire capacity of the largest single container and shall have a permanent cover and sidewind protection, or be covered during non-working days and prior to and during rain events. Photo date of 1-19-2016.

Pictures



Picture 26: This is a picture of the portable generator and small gas and oil containers located on the eastern developed area. They are located off of the ground and are equipped with a small rain protection structure. In order to be in compliance with the Order, small portable gas and oil containers should be stored within a plastic container with a lid as a means of secondary containment. Photo date of 1-19-2016.

Pictures



Picture 27: This is a picture of the dead, harvested plant waste with inorganic material intermixed. In the future, plant waste piled to decompose or compost should be free of inorganic material. Photo date of 1-19-2016.

Site Plan
&
Maps

APN 222-083-007

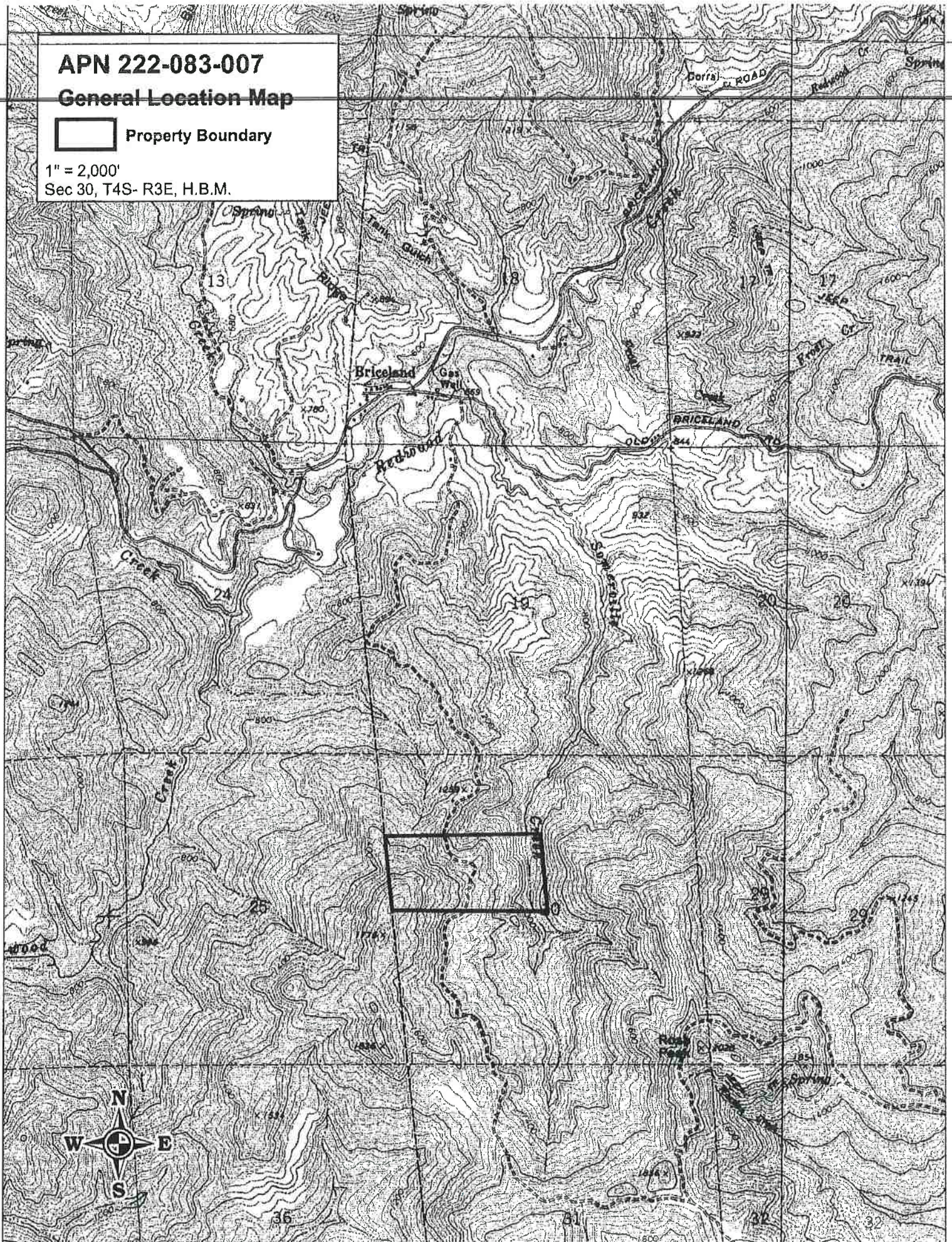
General Location Map









Property Boundary










1" = 2,000'







Sec 30, T4S- R3E, H.B.M.



APN 222-083-007
WRPP Map

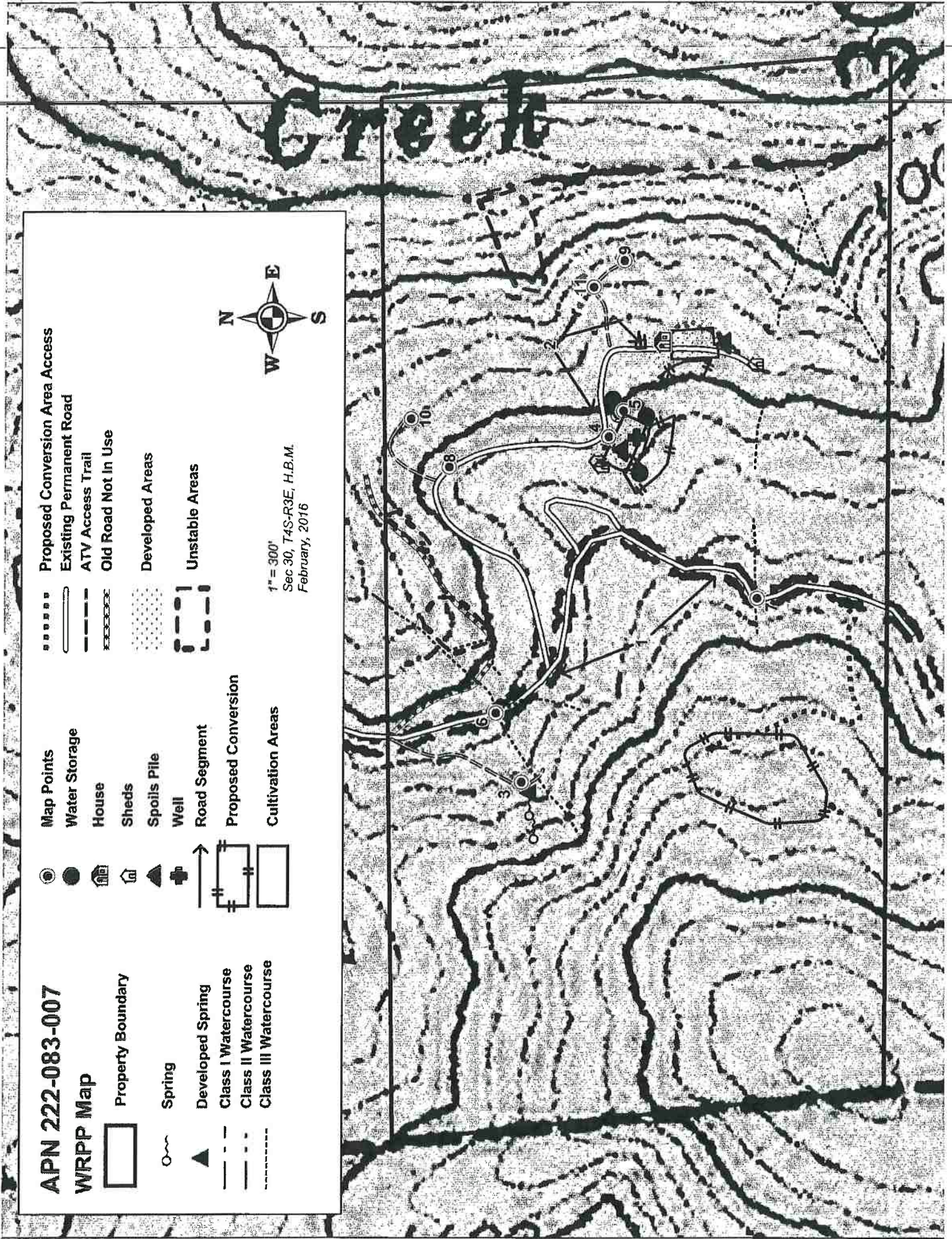
-  Property Boundary
-  Spring
-  Developed Spring
-  Class I Watercourse
-  Class II Watercourse
-  Class III Watercourse

-  Map Points
-  Water Storage
-  House
-  Sheds
-  Spoils Pile
-  Well
-  Road Segment
-  Proposed Conversion
-  Cultivation Areas

-  Proposed Conversion Area Access
-  Existing Permanent Road
-  ATV Access Trail
-  Old Road Not In Use
-  Developed Areas
-  Unstable Areas



1" = 300'
 Sec 30, T4S-R3E, H.B.M.
 February, 2016



APN 222-083-007 WRPP Map

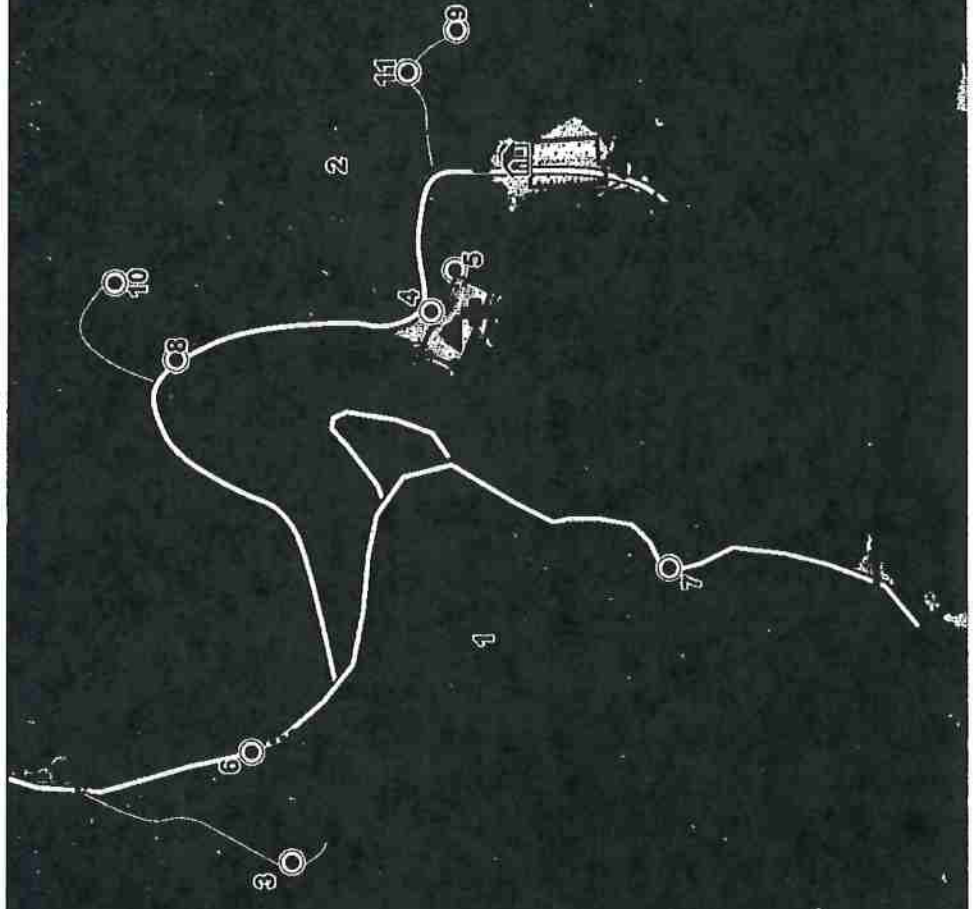
- Property Boundary
- Spring
- Developed Spring
- Class I Watercourse
- Class II Watercourse
- Class III Watercourse

- Map Points
- Water Storage
- House
- Sheds
- Spoils Pile
- Well
- Road Segment
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- Cultivation Areas

- Proposed Conversion Area Access
- Existing Permanent Road
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- Old Road Not in Use
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- Unstable Areas



1" = 300'
Sec 30, T4S-R3E, H.B.M.
February, 2016



Material
Safety
Data
Sheet
(MSDS)



Issue date 04/13/2017

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Reviewed on 04/13/2017

1 Identification

- **Product Identifier**
- **Trade name: Nuke Em® Insecticide and Fungicide**
- **Relevant identified uses of the substance or mixture and uses advised against:**
No further relevant information
- **Product Description** Insecticide and Fungicide
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**
Flying Skull Plant Products
13686 S Fir Street, Ste. B
Oregon City, Oregon 97045
Phone: 888-770-8808
Fax: 503-256-2402
www.flyingskull.net
- **Emergency telephone number: 888-770-8808**

2 Hazard(s) identification

- **Classification of the substance or mixture:**
The product does not need classification according to OSHA HazCom Standard 29 CFR paragraph (d) of §1910.1200(g) and GHS Rev 03.
- **Label elements:**
- **GHS label elements** Non-Regulated Material
- **Hazard pictograms:** Non-Regulated Material
- **Signal word:** Non-Regulated Material
- **Hazard statements:** Non-Regulated Material
- **Unknown acute toxicity:**
This value refers to knowledge of known, established toxicological or ecotoxicological values.
19 % of the mixture consists of component(s) of unknown toxicity.
- **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme
- **NFPA ratings (scale 0 - 4)**



Health = 0
Fire = 0
Reactivity = 0

- **HMIS ratings (scale 0 - 4)**



Health = 0
Fire = 0
Reactivity = 0

- **Hazard(s) not otherwise classified (HNOC):** None known

3 Composition/Information on Ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with non-hazardous additions.

• **Dangerous Components:**

Trade Secret	◊ Acute Tox. 4, H302; STOT SE 3, H335; Eye Irrit. 2B, H320	2-12%
Trade Secret	◊ Eye Irrit. 2A, H319	≤ 2.5%

(Contd. on page 2)



Issue date 04/13/2017

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Reviewed on 04/13/2017

Trade name: Nuke Em® Insecticide and Fungicide

Additional Information:

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (f) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets. Trade secret made in accordance with paragraph (f) of §1910.1200 of 29 CFR 1910.1200, the OSHA Hazard Communication Standard and U.S. Code of Federal Regulations.

4 First-Aid Measures

- **Description of first aid measures:**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** If skin irritation occurs, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If swallowed and symptoms occur, consult a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed:** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed:**
No further relevant information available.

5 Fire-Fighting Measures

- **Extinguishing media:**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture:** No further relevant information available.
- **Advice for firefighters:**
- **Protective equipment:**
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures:** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust). Dispose of the collected material according to regulations.
- **Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

• PAC-1:	
Trade Secret	61 mg/m ³
• PAC-2:	
Trade Secret	680 mg/m ³
• PAC-3:	
Trade Secret	810 mg/m ³

(Contd. on page 3)



Safety Data Sheet (SDS)
OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 04/13/2017

Reviewed on 04/13/2017

Trade name: Nute Em® Insecticide and Fungicide

7 Handling and Storage

- **Handling**
- **Precautions for safe handling:** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities:**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store in a cool, dry place.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s):** No further relevant information available.

8 Exposure Controls/Personal Protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters:**
- **Components with occupational exposure limits:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.
- **Exposure controls:**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:** Not required.
- **Material of gloves:** Not required.
- **Penetration time of glove material:** Not applicable.
- **Eye protection:**



Safety glasses recommended.

9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
- **General information**
- **Appearance:**
- **Form:** Liquid
- **Color:** Amber
- **Odor:** Slight fermentation
- **Odor threshold:** Not determined.
- **pH-value:** 4.0
- **Change in condition**
- **Melting point/Melting range:** Not determined.
- **Boiling point/Boiling range:** 100 °C (212 °F)
- **Flash point:** None

(Contd. on page 4)



Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 04/13/2017

Reviewed on 04/13/2017

Trade name: Nuke Em[®] Insecticide and Fungicide

- **Flammability (solid, gaseous):** Not applicable.
- **Ignition temperature:** Not applicable
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not self-igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
 - Lower:** Not determined.
 - Upper:** Not determined.
- **Vapor pressure @ 20 °C (68 °F):** 23 hPa (17 mm Hg)
- **Density:**
 - Relative density:** Not determined.
 - Vapor density:** Not determined.
 - Evaporation rate:** Not determined.
- **Solubility in / Miscibility with:**
 - Water:** Soluble.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic:** Not determined.
 - Kinematic:** Not determined.
- **Solvent content:**
 - Organic solvents:** 0.0 %
 - Water:** 78.4 %
- **Solids content:** 21.6 %
- **Other information:** No further relevant information available.

10 Stability and Reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological Information

- **Information on toxicological effects:**
- **Acute toxicity:**

• **LDLC50 values that are relevant for classification:**

Trade Secret		
Oral	LD50	1600 mg/kg (Mouse) 4070 mg/kg (Rat) 2000 mg/kg (Rabbit)

(Contd. on page 5)



Safety Data Sheet (SDS)
OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 04/13/2017

Reviewed on 04/13/2017

Trade name: Nuke Em® Insecticide and Fungicide

Table with 2 columns: Category and Information. Rows include: Trade Secret, Oral LD50 8000 mg/kg (Rat), Primary irritant effect, On the skin, On the eye, Additional toxicological information, Carcinogenic categories, IARC, NTP, and OSHA-Ca.

12 Ecological Information

- Toxicity:
Aquatic toxicity: No further relevant information available.
Persistence and degradability: No further relevant information available.
Behavior in environmental systems:
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Results of PBT and vPvB assessment:
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects: No further relevant information available.

13 Disposal Considerations

- Waste treatment methods:
Recommendation: Smaller quantities can be disposed of with household waste. Observe all federal, state and local environmental regulations when disposing of this material.
Uncleaned packagings
Recommendation: Disposal must be made according to official regulations.

14 Transport Information

- UN-Number: DOT, ADR/ADN, ADN, IMDG, IATA Non-Regulated Material
UN proper shipping name: DOT, ADR/ADN, ADN, IMDG, IATA Non-Regulated Material
Transport hazard class(es): DOT, ADR/ADN, ADN, IMDG, IATA Non-Regulated Material
Class: Non-Regulated Material

(Contd. on page 6)



Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 04/13/2017

Reviewed on 04/13/2017

Trade name: Nuke Em® Insecticide and Fungicide

- **Packing group:** Non-Regulated Material
- **DOT, ADR/ADN, IMDG, IATA:** Not applicable.
- **Environmental hazards:** Not applicable.
- **Special precautions for user:** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **UN "Modal Regulation":** Non-Regulated Material

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
- **SARA (Superfund Amendments and Reauthorization):**

• **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

• **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

• **TSCA (Toxic Substances Control Act):**

Trade Secret

Trade Secret

Trade Secret

7732-18-5 Water, distilled water, deionized water

• **California Proposition 65:**

• **Chemicals known to cause cancer:**

None of the ingredients are listed.

• **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

• **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

• **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

• **New Jersey Right-to-Know List:**

None of the ingredients are listed.

• **New Jersey Special Hazardous Substance List:**

None of the ingredients are listed.

• **Pennsylvania Right-to-Know List:**

None of the ingredients are listed.

• **Pennsylvania Special Hazardous Substance List:**

None of the ingredients are listed.

• **Carcinogenic categories:**

• **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

• **TLV (Threshold Limit Value established by ACGIH):**

None of the ingredients are listed.

(Contd. on page 7)



Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 04/13/2017

Reviewed on 04/13/2017

Trade name: Nuke Em® Insecticide and Fungicide

NIOSH-Ca (National Institute for Occupational Safety and Health):

None of the ingredients are listed.

- **GHS label elements:** Non-Regulated Material
- **Hazard pictograms:** Non-Regulated Material
- **Signal word:** Non-Regulated Material
- **Hazard statements:** Non-Regulated Material

National regulations:

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

- **Date of preparation / last revision:** 04/13/2017 / 2

Abbreviations and acronyms:

- ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- ACGIH: American Conference of Governmental Industrial Hygienists
- ENECS: European Inventory of Existing Commercial Chemical Substances
- ELINS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- NFPA: National Fire Protection Association (USA)
- HMS: Hazardous Materials Identification System (USA)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- NIOSH: National Institute for Occupational Safety and Health
- OSHA: Occupational Safety & Health Administration
- TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit
- Acute Tox. 4: Acute toxicity – Category 4
- Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
- Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

* **Data compared to the previous version altered.**

SDS created by MSDS Authoring Services www.msdsauthoring.com +1-877-204-9106

MSDS

Material Safety Data Sheet

Trade Name/Synonym: **Pure Neem Oil Organic Leaf Polish**
 Date Prepared: July 1, 2012
 Chemical Name: **100% Cold Pressed Neem Oil**
 Formula: **Extracts of Neem Seeds**

Section 1: Manufacturer or Supplier

Dyna-Gro Nutrition Solutions, 2775 Giant Road, Richmond, CA 94806, (800) 396-2476 Emergency (510) 233-0254

Section 2: Hazardous Ingredients

Contains no hazardous mixtures

Section 3: Physical Data & Ingredients

Physical State at STP: Liquid	pH: 6.5 – 7.5
Appearance: Brown	Specific Gravity: 0.9137
Odor: Garlic	Solubility in Water: Slightly Soluble
Boiling Point: > 392° F	Vapor Pressure at 20° C: < 1.33 EE-5 Pa
Melt/Freeze Point: 55° F	Vapor Density: Greater than air

Chemical or Common Name	%	CAS#	Exposure limits in air: ACGIH TLV: OSHA PEL :
Neem Oil	100%	8002-65-1	Not Established

Section 4: Fire & Explosion Hazard Data

Flash Point: >239° F
 Extinguishing Media to Use: Dry Chemicals, CO₂, Water or Water Based Foam
 Special Fire Fighting Procedures: None
 Unusual Fire & Explosion Risk: None

Section 5: Reactivity Hazard Data

Stability: Stable
 Incompatibility: None Noted
 Hazardous Decomposition: None
 Hazardous Polymerization: None

Section 6: Health Hazard Data

Effects of Over-Exposure: None Noted.

Health Hazards: Acute: May cause mild irritation to eyes and skin.
 Chronic: Repeated skin exposure may cause mild sensitization.

Emergency First Aid:

If Swallowed: Under 1 ounce does not have any harmful effects. For larger amounts, do not induce vomiting. Drink one or two glasses of water. Never give anything by mouth to an unconscious person. Call a physician.
 Skin Exposure: Wash with soap and water. Get medical attention if irritation persists.
 Eye Exposure: Flush eyes with water for 15 minutes. Call a physician.
 If Inhaled: Remove to fresh air. Get medical attention if irritation persists.



Absolute Aromas Limited
4 Riverway, Newman Lane
Alton, Hampshire, GU34 2QL
Phone: +44 (0) 1420 540 400, Fax: +44 (0) 1420 540 401
Email: relex@absolute-aromas.com Web: www.absolute-aromas.com

MATERIAL SAFETY DATA SHEET
In accordance with EEC Commission directive 91/155
Organic Neem Oil

1. Product Name and Company Identification

Product Name: Organic Neem Oil
Bulk Code: BOR091
Company Name: Absolute Aromas Limited
Company Address: 4 Riverway, Newman Lane, Alton, Hampshire, GU34 2QL, United Kingdom
Emergency Telephone: +44 (0)1420 540400

2. Composition and information on ingredients

CAS Number: 84696-25-3
Composition: Neem 100%
INCI Name: Azadirachta Indica Seed Extract
EINECS Number: -

3. Hazard Identification

This Product is not hazardous.

4. First aid Procedures

Skin Contact: If a reaction occurs, rinse irritated area with soap and water.
Eye Contact: Rinse with sterile water.
Inhalation: Remove from exposure site to fresh air.
Ingestion: No important measures required. Seek medical advice if necessary.

5. Fire Fighting Measures

Suitable Extinguishers: Carbon dioxide, Foams and inert powder
Unsuitable Extinguishers: Water
Fire Hazard: At high temperatures acrolein may be formed.

6. Accidental Release Measures

Personal Precautions: The usual precautions for handling chemicals should be observed.
Safety Clothing: N/A
Environmental Precautions: Contain the leak with earth or sand. Prevent from entering drains and sewers; if this cannot be done advise the local authority.
Clean Up Procedure: Absorb spillage onto sand or earth. Transfer to a suitable container for disposal.
Prohibited Materials: Oxidising substances.

7. Handling and Storage

Handling: Avoid spillage and eye contact.
Ventilation: N/A
Storage Conditions: Store at ambient temperature in a dark container. Store away from oxidizing substances e.g. Bleach. Store in sealed containers.
Fire Protection: Keep away from ignition sources and naked flames. Take precautions to avoid static discharges in working area.
Container materials: Metal or Plastic for bulk storage and glass or plastic for small quantities.

8. Exposure Control/ Personal Protection

Precautions:	Wash all items that come into contact with the product before and after each use.	
Engineering Control:	None.	
Control Limits:	Vary your carrier products to reduce the chance of acquiring a sensitivity reaction.	
<u>Personal Protection</u>		
Respiratory:	Not required.	
Hand Protection:	Wear Gloves If applicable	
Eye Protection:	Wear goggles if applicable	
Skin Protection:	Wear suitable protection clothing if applicable	
Other:	Evaluate the need of protection based on the application of the product.	

9. Physical & Chemical Properties

Physical State:	Paste to Oil	Oxidizing Properties:	N/A
Odour:	Bitter to light citrus	Melting Point:	N/A
Colour:	Dark Green to Brown	Specific Gravity:	0.958 to 0.964°C
PH Level:	Neutral	Vapour Pressure mm:	Not reported.
Boiling Point:	>100°C	Evaporation rate:	N/A
Flash Point:	>400°C.	Solubility in water:	Insoluble
Auto flammability:	N/A	Solubility in solvent:	Miscible
Explosive properties:	N/A		

10. Stability and Reactivity

The product is stable under normal storage conditions.

Conditions to avoid:	High Temperatures
Materials to avoid:	Strong oxidizing agents
Polymerisation Hazard:	Will not occur

11. Toxicological information

General:	Product is non-toxic
Acute LD50:	No Data Available
Carcinogenicity:	Not carcinogenic
Mutagenicity:	No Data Available

12. Ecological information

Biodegradability:	Biodegradable
Precautions:	Prevent surface contamination of soil, ground and surface water.

13. Disposal considerations

Recover the product where possible or bury in authorised landfill sites according to local authority regulations. Avoid disposing to drainage systems and into the environment. Seek expert advice.

14. Transport information

Road:	n/a
Rail:	n/a
Air:	n/a
Sea:	n/a

15. Regulatory information

Labels for Conveyance:	n/a
Labels for Supply:	n/a

16. Other information

Whilst Absolute Aromas Ltd gives the above advice in good faith, it is not intended to be a substitute for customers own testing to ascertain good safety procedures.

These regulations were designed for handling bulk products and to readily identify Toxic & Safety Data. Safety information is under continuous review.

MSDS

Material Safety Data Sheet

Trade Name/Synonym: Pure Neem Oil Organic Leaf Polish
 Date Prepared: July 1, 2012
 Chemical Name: 100% Cold Pressed Neem Oil
 Formula: Extracts of Neem Seeds

Section 1: Manufacturer or Supplier

Dyna-Gro Nutrition Solutions, 2775 Giant Road, Richmond, CA 94806, (800) 396-2476 Emergency (510) 253-0254

Section 2: Hazardous Ingredients

Contains no hazardous mixtures

Section 3: Physical Data & Ingredients

Physical State at STP: Liquid	pH: 6.5 - 7.5
Appearance: Brown	Specific Gravity: 0.9137
Odor: Garlic	Solubility in Water: Slightly Soluble
Boiling Point: > 392° F	Vapor Pressure at 20° C: < 1.33 EE-9 Pa
Melt/Freeze Point: 55° F	Vapor Density: Greater than air

Chemical or Common Name	%	CAS#	Exposure limits in air:
			ACGIH TLV: OSHA PEL:
Neem Oil	100%	8002-65-1	Not Established

Section 4: Fire & Explosion Hazard Data

Flash Point: >239° F
 Extinguishing Media to Use: Dry Chemicals, CO₂, Water or Water Based Foam
 Special Fire Fighting Procedures: None
 Unusual Fire & Explosion Risk: None

Section 5: Reactivity Hazard Data

Stability: Stable
 Incompatibility: None Noted
 Hazardous Decomposition: None
 Hazardous Polymerization: None

Section 6: Health Hazard Data

Effects of Over-Exposure: None Noted.

Health Hazards: Acute: May cause mild irritation to eyes and skin.
 Chronic: Repeated skin exposure may cause mild sensitization.

Emergency First Aid:

If Swallowed: Under 1 ounce does not have any harmful effects. For larger amounts, do not induce vomiting. Drink one or two glasses of water. Never give anything by mouth to an unconscious person. Call a physician.
 Skin Exposure: Wash with soap and water. Get medical attention if irritation persists.
 Eye Exposure: Flush eyes with water for 15 minutes. Call a physician.
 If Inhaled: Remove to fresh air. Get medical attention if irritation persists.

Section 7: Spill or Leak Procedures

- Environmental Hazard : Do not apply directly to bodies of water. This product is toxic to bees exposed to direct treatment.
- Steps to take if Spill Occurs : Ventilate the area. Absorb liquid and scrub the area with detergent and water. Avoid runoff into storm sewers and ditches leading to waterways.
- Waste Disposal Method : Dispose of all waste according to local, state and federal regulations. Mix with water and dispose of in approved landfill.

Section 8: Special Protection Information

- Respiratory Protection : No special requirements.
- Ventilation : Adequate ventilation
- Eye Protection : Safety goggles
- Protective Gloves : Rubber

Section 9: Handling & Storage Conditions

- Storage Temperature (Min./Max.) : 60° F / 95° F
- Shelf Life : Stable under normal storage conditions up to two years.
- Special Sensitivity : Keep from freezing.
- Handling Precautions : Do not drink, get in eyes, on skin or on clothing. Use in well ventilated area. Wash thoroughly with soap and water after handling.
- Storage Precautions : Do not keep near flame. Store in a cool, dry place.

The information contained herein is provided in good faith and is believed to be correct and equivalent to OSHA Form 174, as of the date hereof, but is issued without guarantee. Since conditions of use are beyond our control, user assumes all responsibility and risk.

MATERIAL SAFETY DATA SHEET

SECTION I - IDENTIFICATION OF PRODUCT

Manufacturers Name	Emergency Phone Number
Dr. Earth Company	(707) 448-4676
P.O. Box 460	Fax: (707) 448-4760
Winters, CA 95694	

Trade Name & Synonyms
Dr. Earth® Bat Guano 10-3-1

Chemical Name & Synonyms	Chemical Family
Fertilizing Compounds	Organic Solid

SECTION II - HAZARDOUS INGREDIENTS OF MIXTURES

Component	%
Total Nitrogen (N)	10.0
10.0 % Water insoluble organic nitrogen	
Available Phosphoric acid (P205)	3.0
Soluble Potash (K20)	1.0
Calcium (Ca)	—
Magnesium (Mg)	—
Sulfur (S)	—
Inert Ingredients	86.0

SECTION III - PHYSICAL DATA

Appearance & Odor: Dry granular, powdery, dark brown to light brown in color.		
Boiling Point (Degrees Fahrenheit)	Specific (Water = 1)	Bulk Density
N/A	N/A	N/A
Vapor Pressure (MM of Mercury)	Percent Volatile (By Volume)	
N/A	N/A	
Vapor Density (Air = 1)	Evaporation Rate (Butyl acetate = 1)	
N/A	N/A	
Solubility in Water		
Approx. 50% by Weight		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Specify Method/Degrees F)	Flammable Limits	Lower	Upper
N/A	% by Volume	N/A	N/A
Fire Extinguishing Media: Use that which is appropriate for the surrounding fire.			
Special Fire Fighting Procedures: Wear bunker gear & a self-contained breathing apparatus.			

SECTION V – HEALTH HAZARD DATA

Effects of Overexposure: May irritate sensitive individuals if on skin for prolonged period of time.

Emergency and First Aid Procedures:

If Swallowed: Induce vomiting, get medical attention.

If on Skin: Flush with soap and water, remove and launder contaminated clothing.

If in Eyes: Flush with plenty of water for at least 15 minutes.

If Inhaled: Remove to fresh air.

SECTION VI – REACTIVITY DATA

Stability	Unstable	Conditions to Avoid N/A
	Stable X	
Incompatibility (Materials to Avoid): None Known		
Hazardous Decomposition Products: None Known		
Hazardous Polymerization	May Occur	Conditions to Avoid N/A
	Will not Occur X	

SECTION VII – SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled: Sweep or scoop residue and remove. Mix with surrounding soil if possible; Recycle if possible.

Waste Disposal Method: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

SECTION VIII – SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify type): N/A	Mechanical (General): N/A
Ventilation: Use with adequate ventilation.	Local Exhaust: N/A
Protection Gloves: N/A	Eye Protection: N/A
Other Protective Equipment: Change cloths daily; bathe daily, wash cloths separately before reuse.	

SECTION IX – SPECIAL PRECAUTIONS

Precautions to be taken in handling and storing: Store in the original container, preferably in a locked storage area. **KEEP OUT OF REACH OF CHILDREN!**

Other precautions: Wash thoroughly after handling. Do not get in eyes; on skin or clothing do not breathe dust. Cover up open wounds contain live bacteria.

SECTION X – DOT INFORMATION AND DATE

DOT Classification and Label: Not required by DOT

California Organic Fertilizers, Inc.
SAFETY DATA SHEET – PHYTA-GROW BONE MEAL

Section 1. Identification

Product Identifier: Phyta-Grow Bone Meal

Chemical Name: Bone Meal

Recommended Use: Fertilizer

Manufacturer Name: California Organic Fertilizers, Inc.
10585 Industry Ave.

Hanford, CA 93230

Telephone Number: (559) 585-4705

Date of Preparation: October 27, 2016

Section 2. Hazard(s) Identification

Classification:

Physical – Not Hazardous

Health – Not Hazardous

Environment – Not Hazardous

Labeling: N/A

Hazard Statements: N/A

Precautionary Statements(s): Follow instructions before use.

Section 3. Composition / Information on Ingredients

Chemical Name	CAS No.	Concentration
Bone Meal	N/A	N/A

Section 4. First-Aid Measures

Inhalation: Remove to fresh air in case of inhalation; consult a physician.

Skin Contact: Remove contaminated clothing and launder before reuse. Wash open wound with soap and water. Get medical attention if irritation develops or persists.

Eye Contact: Immediately flush eyes with large quantities of water for fifteen minutes, holding the eyelids apart. Get medical attention if irritation persists.

Ingestion: If swallowed, rinse mouth with water; consult a physician.

Most important symptoms/effects, Acute: Inhalation of fine dust may cause respiratory irritation or acute breathing problems (choking). Ingestion of moderate amounts may cause nausea and vomiting. Exposure to open wound may cause irritation.

Delayed: None known.

Indication of immediate medical attention and special treatment, if necessary: None required under normal conditions of use.

Section 5. Fire-Fighting Measures

Suitable Extinguishing Media: Use media appropriate to the surrounding fire (water, CO₂, dry chemical foam).

Specific Hazards Arising from the Chemical: Avoid creating large dust clouds.

Special Protective Equipment and Precautions for Firefighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing.

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures: Wear appropriate protective clothing as described in Section 8.

Environmental Precautions: Report releases as required by local and federal authorities.

Methods and Materials for Containment and Cleaning Up: Collect by sweeping or using dustless method (vacuuming) and place in appropriate container for use or disposal.

Section 7. Handling and Storage

Precautions for Safe Handling: Do not breathe dust. Wear protective clothing and equipment as described in Section 8. Use with adequate ventilation and proper dust collection methods to keep exposure level below occupational exposure limits. Wash hands thoroughly with soap and water after use.

Avoid heavy dust in enclosed areas.

No special waste disposal precautions. Empty containers retain product residues. Follow all SDS precautions in handling empty containers.

Conditions for Safe Storage, Including Any Incompatibilities: Store in a cool, dry, well-ventilated area. Protect from physical damage.

Section 8. Exposure Controls / Personal Protection

Appropriate Engineering Controls: N/A

Ventilation Requirements: Not necessary under normal conditions of use.

Eye Protection: Wear goggles or face shield.

Respiratory Protection: Not necessary under normal conditions of use.

Hand Protection: Not necessary under normal conditions of use.

Other Equipment: N/A

Section 9. Physical and Chemical Properties

Appearance: Light brown or grey pellets.

Odor: Earthy odor.

Odor Threshold: N/A

Melting/Freezing Point: N/A

Flash Point: Not flammable

Specific Gravity: N/A

Flammability (solid, gas): Heavy fine dust clouds in enclosed areas may be flammable, avoid open flame or smoking around heavy dust.

Flammable Limits: Not flammable

Vapor Pressure: N/A

Partition Coefficient: N/A

Decomposition Temperature: N/A

pH: 6.5 to 7.5

Boiling Point: N/A

Evaporation Rate: N/A

Viscosity: N/A

UEL: N/A

Vapor Density: N/A

Auto-ignition Temperature: N/A

Section 10. Stability and Reactivity

Reactivity: Not reactive under normal conditions of use.

Chemical Stability: Stable.

Possibility of Hazardous Reactions: Avoid creating large dust clouds. Heavy fine dust in enclosed areas may ignite. No open fires or smoking in areas of heavy dust.

Conditions to Avoid: None known.

Incompatible Materials: None known.

Hazardous Decomposition Products: Hazardous polymerization will not occur.

Section 11. Toxicological Information

Inhalation: Consult a physician.

Ingestion: Consult a physician.

Skin Contact: Wash with soap and water.

Eye Contact: Wash with water for 15 minutes.

Chronic effects from short- and long-term exposure: None known.

Reproductive Toxicity: None of the components are known to cause reproductive or developmental toxicity.

Sensitization: None of the components are known to cause sensitization in animals or humans.

Mutagenicity: None of the components are known to cause mutagenic activity.

Carcinogenicity: Note listed as a carcinogen by IARC, NTP, OSHA or ACGIH

Acute Toxicity Values: N/A

Section 12. Ecological Information

Ecotoxicity: No data available.

Persistence and Degradability: Biodegradable organic substance.

Bioaccumulative Potential: Not expected to be bioaccumulative.

Mobility in Soil: Minimal

Other Adverse Effects: None known

Section 13. Disposal Considerations

Collect by sweeping and place in appropriate container for use or disposal. Comply with local disposal laws.

Section 14. Transport Information

	UN Number	Proper Shipping Name	Hazard Class	Packing Group	Environmental Hazard
DOT	None	Not Regulated	None	None	None
TDG	None	Not Regulated	None	None	None
IMDG	None	Not Regulated	None	None	None
IATA	None	Not Regulated	None	None	None

Special Precautions: None known.

Section 15. Regulatory Information

CERCLA: This product is not subject to CERCLA reporting requirements as it is sold. Many states have more stringent release reporting requirements. Report spills as required under federal, state and local regulations.

SARA Hazard Category (311/312): N/A

SARA 313 Information: This product contains the following chemicals subject to Annual Release Requirements Under SARA Title III, Section 313: None.

California Proposition 65: This product contains the following chemicals known to the State of California to cause cancer or reproductive toxicity (birth defects): None

EPA TSCA Inventory: N/A

Section 16. Other Information

NFPA Rating: Health = 0 Flammability = 0 Instability = 0
HMIS Rating: Health = 0 Flammability = 0 Physical Hazard = 0

SDS Revision History: All sections revised. Converted to GHS format.

Date of Preparation: October 27, 2016

Date of Last Revision: October 27, 2016

Important:

The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. California Organic Fertilizers, Inc. MAKES NO WARRANTIES EXPRESSED OR IMPLIED, CONCERNING THE ACCURACY OR COMPLETENESS OF THE INFORMATION AND DATA HEREIN. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE ARE SPECIFICALLY EXCLUDED. California Organic Fertilizers, Inc. will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete or otherwise misleading.

Material Data Safety Sheet

Identity (as used on label or list)

Bat Guano 3-16-1

Date Prepared

01/10/98

Section 1- Manufacturer

Down To Earth Distributors

P.O. Box 1419

Eugen, OR 97440

Section 2- Hazardous Ingredients / Identity Information

Hazardous Components (Specific Chemical Identity, Common Name) OSHA PEL, ACGIH TLV, Other limits

Amonia Nitrogen 35mg/M3

Phosphoric Acid 1mg/M3

Nuisance Dust 5mg/M3

Section 3 - Physical / Chemical Characteristics

Boiling Point 100 F

Specific Gravity (H₂O = 1) N/A

Vapor Pressure (aa Hg) N/A

Melting Point 100 F

Vapor Density (Air = 1) N/A

Evaporation Rate (Butyl Acetate + 1) N/A

Solubility in Water Not more than 20% by weight

Appearance and Odor Brown/beige fine free flowing powder: humus odor

Section 4 - Fire and Explosion Hazard Data

Flash point (Method Used)

N/A

Flammable Limits

N/A

LEL UEL

N/A N/A

Extinguishing Media

Water

Special Fire Fighting Procedures

None

Unusual Fire and Explosion Hazards

N/A

Section 5 - Reactivity Data

Stability

Stable

Condition to Avoid:

N/A

Incompatibility (Products to Avoid)

N/A

Hazardous Decomposition or Byproducts

None

Hazardous Polymerization

None

Section 6- Health Hazard Data

Route(s) of Entry	Inhalation?	Skin?	Ingestion?
	x	Open wound	x

Health Hazard (Acute or Chronic)

Potential of chronic lung infection (Histoplasmosis). This is a biologically active manure.

Carcinogenicity:

N/A

Signs and Symptoms of Exposure

Inhalation of amounts of dust will cause temporary breathing problem.

Ingestion of moderate amounts of any manure can cause nausea and vomiting

Section 7- Precaution for Safe Handling and Use

Steps to be taken in case material is released or spilled
Sweep up with broom or remove with vacuuming

Waste Disposal Method

Employ normal disposal methods

Precaution to be taken in handling and storing.
product should be kept in dry conditions

Other Precautions

None

Section 8- Control Measures

Respirator Protections

Dust mask with organic vapor filter. If wet, respirator is protective against ammonia.

Ventilation	Local Exhaust Sufficient	Mechanical	Special	Other
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Protective Gloves Not Required	Eye Protection Recommended	Other Protective Clothing or Equipment Not Required
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Work / Hygienic Practices

Bathe to remove dust and after use is recommended.

MATERIAL SAFETY DATA SHEET
Worm Castings

Latest update: Jan 19, 2013

PRODUCT IDENTIFICATION

Name: Worm Castings
Chemical Description: Worm Castings; NPK: N/A
Company: Applied Organic Solutions Inc (208) 346-7194

PHYSICAL /CHEMICAL CHARACTERISTICS

Specific Gravity: 0.47
pH: N/A
Solubility in water: 85-90%
Appearance: Black / Brown Powder
Odor: Not distinctive

FIRE AND EXPLOSION DATA

Flash Point Non-combustible
Flammable limits: Smolders when directly heated in flame
Extinguishing media: Water, CO2
Special firefighting procedures: No special methods required

REACTIVITY DATA

Stability Stable at normal temperatures and pressures.
Conditions to avoid: Contact w/ strong oxidants, aluminum, diazomethane, phosphorus;
winds.
Incompatibility: Contact with strong oxidizing agents.
Hazardous decomposition: Carbon monoxide, carbon dioxide.
Hazardous polymerization: Has not been reported.

TOXICOLOGY

Acute oral LD/50:	More than 11500 mg/Kg
Acute intravenous LD/50:	More than 58 mg/Kg female rats
Acute intraperitoneally LD/50:	Rats 550 mg/Kg
Acute dermal LD/50:	Non skin irritant
Eye toxicity:	Non irritant

HEALTH EFFECTS/FIRST AID INFORMATION

ROUTES OF ENTRY

Inhalation:	Dust can cause irritation of mucus membrane, sneezing and coughing.
Eyes:	Will irritate on contact, wash out quickly.
Ingestion:	Can cause upper GI tract disturbance.
Skin:	Brief contact with the skin is not toxic. Repeated or prolonged contact will dehydrate skin.
Signs/symptoms of exposure:	Eye irritation and or sneezing, coughing and difficulty breathing.
Carcinogenicity:	Ingredient not carcinogenic.

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin:	Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion:	If victim is conscious and alert, give 2-4 cups of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Inhalation:	Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

PRECAUTIONS FOR SAFE HANDLING AND USE

Respiratory protection:	If dusting occurs use approved respirator to eliminate exposure.
Ventilation:	Exhaust fan recommended in controlling any dusting.
Protective gloves/clothing:	Rubber or plastic.
Eye protection:	Splash goggles recommended where dusting is expected.
Work practices:	Use good housekeeping practices. Keep containers tightly closed.
Spills:	Avoid creating dust when cleaning up. Scoop, shovel or sweep to labeled containers for recycling/salvage if not contaminated by other material.

Waste disposal method: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Dispose of product in accordance with local and national regulation.
Container disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill.
Precautions in storing and handling: Avoid storage in wet or moist areas.

TRANSPORTATION

Follow the precautions indicated in the Safe Handling and Use of this MSDS.

DOT Proper shipping Name:	Not Applicable
DOT Label:	Not Applicable
US DOT:	No information available
IMO:	Not regulated as a hazardous material
IATA:	Not regulated as a hazardous material
RID/ADR:	Not regulated as a hazardous material
Canadian TDG:	No information available

ENVIRONMENTAL HAZARDS

No special precaution needed. Product is not a contaminant.

REGULATORY INFORMATION

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: Not available
Risk Phrases: N/A
Safety Phrases: N/A

OTHER INFORMATION

NOTES: We do not accept liability for loss, injury, or damage which may result from misuse. Data is solely for guidance purposes of safe handling and uses. We encourage users to conduct their own testing best suited for their purposes under their conditions.

MAXSEA

SOLUBLE SEAWEED PLANT FOOD

16-16-16 SAFETY DATA SHEET

1. Identification

Product Identification: Maxsea Plant Food - All Purpose 16-16-16 + Micros
Recommended use: Water-soluble concentrate - specialty fertilizer for plants
Manufacturer's Name: JT Dimmick PO Box 640 Garberville, CA 95542
Telephone: (707) 247-3316 **Fax:** (707) 247-3284
E-mail: maxsea@me.com **Website:** www.maxsea.biz
24-Hour Emergency Telephone Number – Poison Control Center (800) 222-1222

2. Hazard Identification

OSHA/GHS Classification: Not considered a hazardous material by OSHA/GHS.
Precautions: Keep out of reach of children and pets. Do not take internally.
Keep out of lakes, streams, ponds or reservoirs. Avoid run-off to drains.

3. Composition / Information on Ingredients

<u>Ingredients</u>	<u>CAS Registration Number</u>
Seaweed Powder	N/A
Blood Meal	N/A
Urea	57-13-6
Ammonium Phosphate	7722-76-1
Potassium Nitrate	7757-79-1
Sulfate of Potash	7778-80-5
Sodium Molybdate	7631-95-0
Sodium Borate	1303-96-4
Copper EDTA	14025-15-1
Iron EDTA	15708-41-5
Zinc EDTA	14025-21-9
Manganese EDTA	15375-84-5

4. First Aid Measures

Inhalation: Move to fresh air.
Skin Contact: Wash with soap and water.
Eye Contact: Flush with water, continue rinsing for 15 to 20 minutes.
Ingestion: Rinse mouth and sip warm water or milk. Do not induce vomiting.
Obtain emergency medical attention.

5. Fire-Fighting Measures

Extinguishing Media: Water spray or dry chemical – material is non-flammable.
Fire Fighting Procedures: Extinguish surrounding fuel feeding fire.
Precautions for Fire Fighters: Do not enter fire area without proper protective equipment, including respiratory protection.

6. Accidental Release Measures

Spill response: If material is uncontaminated, collect into a clean, dry container for reuse; follow original label directions. If contaminated, place in a suitable container for recycling or disposal in accordance with applicable regulations. Prevent product from entering drains or waterways.

7. Handling and Storage

Handling: Avoid damaging containers.
Storage: Store in a cool dry place with adequate ventilation.

8. Exposure Controls / Personal Protection

Respiratory: Respiratory protection is generally not needed. If required, use a MSHA/NIOSH approved respirator.
Ventilation: Use in areas of adequate ventilation.
Protective Gloves: Garden gloves are recommended.
Eye Protection: Eye and face protection is not required for routine use.
Other Protective Clothing or Equipment: Wear appropriate clothing to reduce exposure to skin.
Work / Hygienic Practices: Wash hands and skin areas after usage

9. Physical and Chemical Properties

Appearance: Natural brown granules, dark seaweed green in solution
Odor: Fresh, aroma of the ocean
Odor threshold: N/A
pH: N/A
Melting point / Freezing Point: 630 (F) / N/A
Initial boiling point / boiling range: N/A
Flash point: Non Flammable
Evaporation rate (butyl acetate+1): N/A
Upper / lower flammability: N/A
Vapor pressure (mm Hg.): N/A
Vapor density (air+1): N/A
Relative density: 60 lbs/cu ft.
Solubility in water: High
Partition coefficient - n-octanol/water: N/A
Auto-ignition temperature: N/A
Decomposition temperature: 750 (F)
Viscosity: N/A

10. Stability and Reactivity

Stability: Stable in normal usage and storage.
Hazardous Polymerization: Will not occur.
Conditions to Avoid: Heat over 200 degrees.
Incompatibilities: Strong acids, alkalies and oxidizers.
Hazardous Decomposition Products: N/A

The above information is based on knowledge that is believed to be reliable but does not purport to be all-inclusive. Always read and follow label directions. Revised 4/15/2016

1. Identification

Product Identification: Maxsea Plant Food – Bloom 3-20-20 + Micros
Recommended use: Water-soluble concentrate - specialty fertilizer for plants
Manufacturer's Name: JT Dimmick PO Box 640 Garberville, CA 95542
Telephone: (707) 247-3316 **Fax:** (707) 247-3284
E-mail: maxsea@me.com **Website:** www.maxsea.biz
24-Hour Emergency Telephone Number: Poison Control Center (800) 222-1222

2. Hazard Identification

OSHA/GHS Classification: Not considered a hazardous material by OSHA/GHS.
Precautions: Keep out of reach of children and pets. Do not take internally.
Keep out of lakes, streams, ponds or reservoirs. Avoid run-off to drains.

3. Composition / Information on Ingredients

<u>Ingredients</u>	<u>CAS Registration Number</u>
Seaweed Powder	N/A
Blood Meal	N/A
Urea	57-13-6
Ammonium Phosphate	7722-76-1
Monopotassium Phosphate	7778-77-0
Potassium Nitrate	7757-79-1
Sulfate of Potash	7778-80-5
Muriate of Potash	7447-40-7
Sodium Molybdate	7631-95-0
Sodium Borate	1303-96-4
Copper EDTA	14025-15-1
Iron EDTA	15708-41-5
Zinc EDTA	14025-21-9
Manganese EDTA	15375-84-5

4. First Aid Measures

Inhalation: Move to fresh air.
Skin Contact: Wash with soap and water.
Eye Contact: Flush with water, continue rinsing for 15 to 20 minutes.
Ingestion: Rinse mouth and sip warm water or milk. Do not induce vomiting.
Obtain emergency medical attention.

5. Fire-Fighting Measures

Extinguishing Media: Water spray or dry chemical – material is non-flammable.
Fire Fighting Procedures: Extinguish surrounding fuel feeding fire.
Precautions for Fire Fighters: Do not enter fire area without proper protective equipment, including respiratory protection.

6. Accidental Release Measures

Spill response: If material is uncontaminated, collect into a clean, dry container for reuse; follow original label directions. If contaminated, place in a suitable container for recycling or disposal in accordance with applicable regulations. Prevent product from entering drains or waterways.

7. Handling and Storage

Handling: Avoid damaging containers.

Storage: Store in a cool dry place with adequate ventilation.

8. Exposure Controls / Personal Protection

Respiratory: Respiratory protection is generally not needed. If required, use a MSHA/NIOSH approved respirator.

Ventilation: Use in areas of adequate ventilation.

Protective Gloves: Garden gloves are recommended.

Eye Protection: Eye and face protection is not required for routine use.

Other Protective Clothing or Equipment: Wear appropriate clothing to reduce exposure to skin.

Work / Hygienic Practices: Wash hands and skin areas after usage.

9. Physical and Chemical Properties

Appearance: Natural brown granules, dark seaweed green in solution

Odor: Fresh, aroma of the ocean

Odor threshold: N/A

pH: N/A

Melting point / Freezing Point: 630 (F) / N/A

Initial boiling point / boiling range: N/A

Flash point: Non Flammable

Evaporation rate (butyl acetate+1): N/A

Upper / lower flammability: N/A

Vapor pressure (mm Hg.): N/A

Vapor density (air+1): N/A

Relative density: 60 lbs/cu ft.

Solubility in water: High

Partition coefficient - n-octanol/water: N/A

Auto-ignition temperature: N/A

Decomposition temperature: 750 (F)

Viscosity: N/A

10. Stability and Reactivity

Stability: Stable in normal usage and storage.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Heat over 200 degrees.

Incompatibilities: Strong acids, alkalis and oxidizers.

Hazardous Decomposition Products: N/A

The above information is based on knowledge that is believed to be reliable but does not purport to be all-inclusive. Always read and follow label directions. Revised 4/15/2016

MSDS SHEETS

TM

PRODUCT NAME: CalMag

1. **INGREDIENTS:** Sulfates and nitrates of calcium, magnesium.

2. **PHYSICAL DATA:**

Physical Form: Liquid

Boiling Point: 100°C

Vap Press: N/A

Vap Density: N/A

Sol in Water: Completely soluble

Evaporation Rate: N/A

Appearance: Dark amber-colored liquid

Odor: None

3. **FIRE AND EXPLOSION HAZARD DATA:**

Flash Point: N/A

Method Used: N/A

FLAMMABLE LIMITS:

LFL: N/A

UFL: N/A

EXTINGUISHING MEDIA: This product is not combustible. Use any appropriate medium for extinguishing surrounding fires.

4. **REACTIVITY DATA:**

STABILITY: Stable.

POLYMERIZATION: Will not occur.

Conditions to Avoid: Water of crystallization from applicable components driven off at approximately 235° Fahrenheit / 113° Celsius.

Materials to Avoid: Solutions can be corrosive to metals. Avoid strong oxidizing and reducing agents.

Hazardous Decomposition Products: None.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS OR LEAKS: Wear protective equipment, including rubber boots, rubber gloves, rubber apron and chemical goggles. For small spills, sweep up and dispose of in DOT-approved waste containers. Comply with all applicable governmental regulations on spill reporting, and handling and disposal of waste.

6. FIRST AID:

IF INHALED: Remove to fresh air.

IN CASE OF EYE CONTACT: Flush eyes with a lot of running water.

IN CASE OF SKIN CONTACT: Wash skin with lots of soap and water. Remove contaminated clothing and shoes. Get medical attention if irritation persists.

IF SWALLOWED: Do not induce vomiting. Consult a physician.

7. HEALTH HAZARD INFORMATION:

PRIMARY ROUTES OF EXPOSURE: Skin or eye contact, swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE:

Eye Contact: May moderately irritate eyes.

Skin Contact: May irritate damp skin.

Swallowed: Swallowing may result in abdominal discomfort.

CHRONIC EFFECTS OF EXPOSURE: No specific information available.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE:

VENTILATION: Local mechanical exhaust ventilation at the point of use.

RESPIRATORY PROTECTION: NIOSH-Approved dust and vapor respirator or mask in the absence of adequate environmental controls at the point of use.

PROTECTIVE CLOTHING: Long-sleeved shirt, trousers, safety shoes and gloves.

EYE PROTECTION: Chemical goggles.

OTHER PROTECTIVE MEASURES: An eyewash and safety shower should be nearby and ready for use.

Cleaning Agents:

Physan-20- disinfectant

<https://www.planetnatural.com/product/physan-20/>

Pesticides and fungicides:

Green Clean- https://www.1000bulbs.com/product/172201/GROW-749800.html?utm_source=SmartFeedGoogleBase&utm_medium=Shopping&utm_term=GROW-749800&utm_content=Spider+Mites&utm_campaign=SmartFeedGoogleBaseShopping&gclid=Ci-emNGCvdACFZI7gQodnRAFIA

Nuke-em- <http://www.flyingskull.net/Flying-Skull-Nuke-Em-1-Gallon.html>

Dr. Zymes- <http://www.doctorzymes.com/pesticide-free-insecticide.php>

Ladybugs- <http://www.arbico-organics.com/product/2282/pest-solver-guide-aphids?gclid=CPHN5yUDvdACFUkigQodeFkNng>

Regalia- <http://marronebioinnovations.com/ag-products/brand/regalia/>

Neem Oil- <http://www.discoverneem.com/neem-oil-insecticide.html>

Fertilizers and biological inoculants:

Beneficial living center- Veg or bloom tea (full spectrum). 20 gal. Every other week
<http://www.beneficiallivingcenter.com/compost-tea/>

Beneficial Living Center- Grow- <http://www.beneficiallivingcenter.com/bic-brand-2/three-part-nutrient-system/veg/>

Beneficial Living Center- Bloom- <http://www.beneficiallivingcenter.com/bic-brand-2/three-part-nutrient-system/bloom-synthesis/>

Thrive alive- <http://www.hydrogalaxy.com/nutrients-supplements/thrive-alive-b1-green-10-lt/?gclid=CPI-9deFvdACFdYgQod7W4I1A>

Primordial Solutions Paleo Bloom- <http://www.hydrogalaxy.com/nutrientsadditives/primordial-solutions-paleo-bloom-5gal/?gclid=CO25taiHvdACFZA7gQodGbAO7Q>

Primordial Solutions Rootamentary- http://hydrobuilder.com/primordial-solutionsrootamentary.html?utm_source=google&utm_medium=shopping&utm_campaign=PSROOTAMENTARY&gclid=CJD6yYOHvdACFRYvgQodpygJRG

15 . Regulatory information

United States

HCS Classification : Not regulated.

U.S. Federal regulations : TSCA : All components listed.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
 SARA 302/304 emergency planning and notification: No products were found.
 SARA 302/304/311/312 hazardous chemicals: No products were found.
 SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.
 Clean Water Act (CWA) 307: No products were found.
 Clean Water Act (CWA) 311: No products were found.
 Clean Air Act (CAA) 112 accidental release prevention: No products were found.
 Clean Air Act (CAA) 112 regulated flammable substances: No products were found.
 Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

State regulations : No products were found.

California prop. 65: No products were found.

International lists : This product, (and its ingredients) is (are) listed on national inventories, or is (are) exempted from being listed, Australia (AICS), in Europe (EINECS/ELINCS), in Korea (TCCL), in Japan (METI), in the Philippines (RA6969).

16 . Other information

Hazardous Material Information System (U.S.A.) :

HMIS RATING

Health	0
Fire hazard	0
Physical Hazard	0
Personal protection	A

HAZARD RATINGS

- 4- Extreme
- 3- Serious
- 2- Moderate
- 1- Slight
- 0- Minimal

See section 8 for more detailed information on personal protection.

National Fire Protection Association (U.S.A.) :



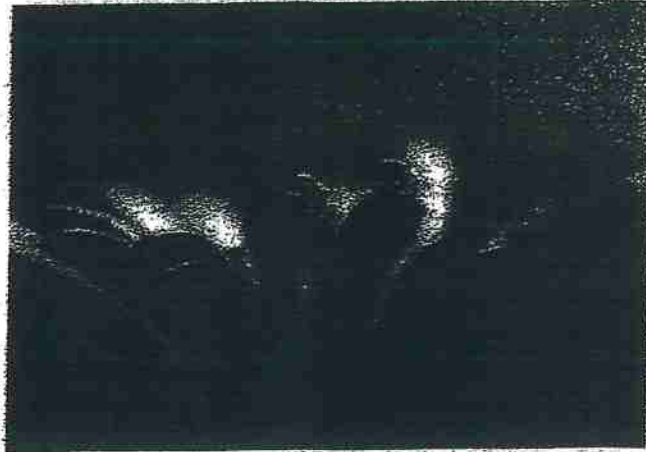
References : ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG.

Date of issue : 09/02/2011
Date of previous issue : 08/31/2006
Date of previous issue : 06/30/2004
Version : 3

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Bloom Synthesis



Bloom Synthesis the finishing nutrient in our three part system. Bloom Synthesis is a liquid water sol NPK formulation. Contains Compliments of Fish, Seaweed & Humic Acid.

- Nitrogen..... 6%
- Available Phosphate.....14%
- Soluble Potash.....6%

Veg Synthesis



Part one of our three part system, Veg Synthesis is a food grade, liquid water soluble, homogenized. Contains compliments of Fish, Seaweed & Humic Acids.

- Nitrogen.....16%
- Available Phosphate.....4%
- Soluble Potash.....8%

About Compost Tea

The Substrate - Quality in quality out. Worm castings, regular compost (thermophilic), and ancient forest humus are among the most popular. You can only extract and culture the organisms that are in your substrate. Diversity is key and make sure to include something produced locally. Locally made compost will have organisms that have adapted to compete with local pathogens. No two worm castings are alike, nor are any composts... Choose among the highest quality sources and mix them together for maximum diversity and density. Play with ratios and have fun with going all mad-scientist in this department. Please note, in order to extract fungal hyphae you need a 400 micron mesh bag. A nylon stocking will make a compost tea, but it's not the best option for the most diverse tea possible.

The Players - Meet the family: bacteria, fungi, protozoa and nematodes. Those are the major players. Bacteria are easy... they bloom quickly and there are bacteria adapted to eat most food sources. Protozoa are easy too, you just need to make sure you have diversity in your substrate. Fungi are challenging to get to grow in the tea; temperature and appropriate food sources are tricky, your best bet is to extract the fungi from a high fungal substrate. Beneficial predatory nematodes won't reproduce in the tea because their life cycle is too long, you need to get them from your substrate and they are only in high quality substrates. Mycorrhizae also will not reproduce in a compost tea, they need a plant root to colonize to reproduce, so only add them to the end of your tea brew if at all.

Air - More is better. The microbes living in your compost tea are aerobic, they will "breathe" the dissolved oxygen out of your tea at an astonishing rate. Don't cut corners here. It is hard to overdo the aeration. You want the air bubbles to agitate your substrate and knock off organisms from the organic matter into the compost tea. It is possible however to have bubbles that are too big or too small. Extremely large bubbles will disrupt fungal hyphae and small bubbles may cut them like a knife. Sandstone air diffusers or airstones do work decently enough, but aren't ideal because they are hard to clean and can house bacteria that throw off your future brews. We use PVC blowers with appropriately sized holes to aerate our tea.

Water - The life-blood. Municipal tap water has chlorine and sometimes chloramines. These chemicals are designed to kill microorganisms. Chlorine will off gas whereas chloramines do not. If you are on municipal water check your water district for chloramines. Well water is good if it is not too full of minerals. You may still brew decent tea but high levels of any given mineral will change the conditions and select for some organisms over others resulting in less diversity. Reverse osmosis water works perfectly fine. Consider filtering your water and consider "structuring" your water for maximum results.

Food For the Microbes - Organic matter. Most organic matter can be used as food by some kind of microbe. By organic I don't mean certified by some agency, but something carbon based that was likely recently alive. Many microbes can even utilize "inorganic" things like minerals and salts. Kelp and fish are popular additives, but you can add guanos, various plants, or just about anything else in the right proportion. The key being the words "the right proportion," which is difficult to determine as there are so many variables in compost tea. Every new food source will change the conditions and therefore the entire tea. Exercising restraint is advised without a microscope because too much food can disrupt the balanced diversity and create potentially harmful brewing conditions. Be very mindful about what quality of each ingredient you put in too, fish for example can range from heat treated dry powders to enzymatically digested cold-process hydrolysate. Hydrolysate is most ideal for tea, but beware of what is used to stabilize the pH, most use a lot of phosphoric acid which disrupts microbial diversity. Find a fish where the phosphorous levels are lower than the nitrogen. A fish that is 2-4-3 is likely full of phosphoric acid even if it doesn't say it on the label.

Cleanliness - Clean your bucket/barrel between each batch, clean the air bubbler, clean the tea bag. You don't need sterility, don't worry about bleach or peroxide, but you need to scrub off all the old biofilm that develops from the last batch or else you'll throw off your tea culture.

Water Pumps & Sprayers - They can mess up your hard work. Propeller water pumps may bash the fungal hyphae, as will the mechanism that sprayers use to disperse the water into a spray. You can buy special diaphragm pumps to pump the tea, as well as special nozzles for sprayers that don't damage the fungi in your tea. But don't stress, it's not the end of the world if you don't have this gear, most of the bacteria will be fine and even bashed up fungal hyphae can often regrow into full fungal colonies. Any tea is better than no tea, we just want you to be aware how to be an experts like us! Just avoid pumping the tea if possible (use gravity), and if you can avoid using an atomizer to spray it that would be best.

The Conclusion - There are a hundred ways to brew good compost tea, and many ways to brew excellent compost tea. If you follow the general principles explained here, you'll likely brew something your plants benefit from and you'll avoid brewing anything damaging to your garden. Remember that everything you add will change the whole brew. Every variable that changes will change the types and numbers of each organism. Without a microscope it can be challenging to know if you are creating a diverse and dense culture. The more biology the better: more numbers, more diversity. Since you can never brew two brews exactly alike, tweak the brew slightly each time, playing with different inputs in small amounts, sometimes adding some things, and omitting them other times. We offer free compost tea brewing consultations and analysis at the Beneficial Living Center and Garden Supplies, so bring your tea down and we'll throw it under the scope and give you some pointers.



BLC COMPOST TEA RECIPE

Water Temperature

50°	60°	70°	80°
72 hours	48 hours	24 hours	24 hours

Gallons of Dechlorinated Water

	5	15	50	300
Compost (inquire BLC staff for best mixes)	2 cups	4 cups	8 cups	1-2 gallons*
Worm Castings	1 cup	2 cups	4 cups	1 gallon*
BLC Fish Fusion	4-8 oz	8-16 oz	16-32 oz	0.75-1.5 gal
Soluble Kelp Powder (add approx 1/2 way through brewing)	1 tsp	1 tbsp	1/4 cup	1.5 cups
Molasses (add no more than 12 hours before application)	2-4 oz	6-12 oz	24-48 oz	1-2 gallons

Advanced Compost Tea (the above ingredients with these)

BLC MC ² (Micro-Cultured Compost)	1 cup	2 cups	4 cups	0.5-1.5 gals
Baseline Liquid Compost or Anasazi Gold Liquid Humic Acid	1/4 cup	1/3 cup	1 cup	5-6 cups
Trace Minerals/Glacial Rock Dust/Azomite	1/4 cup	1/3 cup	1 cup	5 cups
BLC Microbe Fire	2-4 oz	6-12 oz	24-48 oz	1-2 gallons
MicrobeZen (add after diluting, before application)				0.5-1 oz per gallon of diluted BLC Tea
Sea Green (add after diluting, before application)				0.5mL - 1mL per gallon of diluted BLC Tea

Upgrade Ingredients (add sometimes, switch up for maximum biodiversity)

Baseline Granular Compost	1/4 cup	1/3 cup	1 cup	2-4 cups
Frass	1/4 cup	1/3 cup	1 cup	5-6 cups
Bokashi	1/4 cup	1/3 cup	1 cup	5-6 cups
Companion (<i>Bacillus subtilis</i>)	1 tbsp	3 tbsp	1/3 cup	2-3 cups
Soluble Humic Powder, Aminos or Fulvics	1 tsp	1 tbsp	3-4 tbsp	1-1.5 cups
Oatmeal (powdered) (to boost fungal population)	1-2 tbsp	1-2 cups	3-6 cups	18-36 cups
Yucca (add near the end of the brewing process if using an extract)	1-2 tsp	1-2 tbsp	3-6 tbsp	1-2 cups
Guanos, Meals, Etc... (organic NPK/minerals)				Varies

Flower Tea Sidebrew

We suggest brewing this separately and adding in to your final tea before application

Brew for 24-48 hours

	5 into 50 gallons	5 into 300 gallons
High Phosphorous Guano (smallest particle size best)	1 cup	2-3 cups
Molasses	1 oz	2-3 oz
True Blooms	10-20 mL	20-30 mL

Please note this flower tea is not for nutrients, but to culture phosphorous solubilizing bacteria

For foliar teas - apply full strength or dilute up to 1:2

Foliar Tea (brew only 24 hours) 5 gallon batch

Worm Castings	2 cups
Soluble Kelp Powder	1 tsp
Baseline or Anasazi Gold Liquid Humic Acid	1/2 oz
Companion	1 oz
Sea Green (add after brew before spraying)	2.5 mL
True Blooms (add after brew before spraying)	5-10 mL

Actinovate, OG Biowar, etc... Use as directed and add near end of brew time

**ALWAYS REMOVE TEA BAG
AFTER 24 HOURS OF BREWING
FOR ALL SOIL DRENCH & FOLIAR TEAS**

Beneficial Living Center and Garden Supplies

148 South G Street (across from the Arcata Marsh)

707-633-6125

MATERIAL SAFETY DATA SHEET

MARIL PRODUCTS, INC.
320 West 6th Street
Tustin, CA 92780
(714) 544-7711
www.physon.com

EMERGENCY TELEPHONE
(800) 424-9300 - CHEMTREC

Poisonex Classifications

Health: 3
Fire: 1
Reactivity: 0

PRODUCT NAME:
PHYSAN 20

DATE ISSUED:
November 15, 2005

LAST REVISION:
November 15, 2005

SECTION I: IDENTITY

TRADE NAME: Physon 20
CHEMICAL FAMILY: Quaternary ammonium compound
CHEMICAL NAME: Mixture of alkyl dimethyl benzyl ammonium chloride and alkyl dimethyl ethyl benzyl ammonium chloride
COMMENTS: Physon 20 is a concentrate and must be diluted before use.

SECTION II: HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

<u>Components</u>	<u>OSHA-PEL</u>	<u>%</u>
1. n-Alkyl (C14-60%; C16-30%; C12-5%; C18-5%) DIMETHYL BENZYL AMMONIUM CHLORIDE (CAS # 68991-01-5)	None	10%
2. n-Alkyl (C12-68%; C14-32%) DIMETHYL ETHYL BENZYL AMMONIUM CHLORIDE (CAS # 68956-79-6)	None	10%
3. WATER		80%

SECTION III: PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: 212°F
Vapor Pressure: N/A
Vapor Density: N/A
Solubility in Water: Complete
Appearance and Odor: Colorless liquid with a Benzaldehyde Odor
Specific Gravity: 0.9808
Melting Point: N/A
Evaporation Rate: N/A

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

Flash Point: >200°F Pinsky Martins Closed Cup
Flammable Limits: N/A
Extinguishing Media: Water
Special Fire Fighting Procedures: None
Unusual Fire and Explosion Hazards: None

SECTION V: REACTIVITY DATA

Stability:	Stable
Incompatibility:	Anionic Materials, Strong Oxidizers
Hazardous Decomposition (or by-products):	None
Hazardous Polymerization:	Will Not Occur

SECTION VI: HEALTH HAZARD DATA:

Routes of Entry:

Inhalation:	N/A
Eye Contact:	Burning, Irritation and Redness
Skin Contact:	Burning, Irritation and Redness
Ingestion:	Irritation, Difficulty Breathing and Circulatory Shock Concentrate may be harmful Acute Oral LD50 = 1,000 Mg/Kg (Rat)

First Aid:

Skin:	Rinse area for 15 minutes
Eyes:	Rinse area for 15 minutes and call a doctor
Ingestion:	Drink large quantities of milk, eggwhite, gelatin or water and call a doctor.

Chemical Listed as Carcinogen By:

OSHA:	No
I.A.R.C. Monograph:	No
National Toxicology Program:	No

SECTION VII: PRECAUTIONS FOR SAFE HANDLING AND USE

Spills:	Rinse Spills with water to drain
Waste Disposal:	Waste material should be placed in container and disposed of at a landfill. Conform to local provisions.
Handling/Storage:	Store in a dry place at temperatures not lower than 32° or higher than 120°F

SECTION VIII: CONTROL MEASURES

Respiratory Protection:	None
Ventilation:	Mechanical (General)
Protective Gloves:	Rubber or Neoprene
Protective Clothing/Equipment:	Face Shield
Eye Protection:	Chemical Goggles

Important Information about using Eliminator for Pest Control

Eliminator is a fermentation product and the citric acid can cause phytotoxicity if used in direct sunlight or in ambient temperatures over 90 degrees. ALWAYS TEST PRODUCT ON SMALL AREA BEFORE USING TO ENSURE NO COLLATERAL DAMAGE TO PLANTS. It can be used from seed to post-harvest.

FOR BEST RESULTS: Use product in the evening. You can apply with a sprayer for complete coverage when the sun is off your plants and the ambient temperature has decreased. **WE SUGGEST EVENING TO ENSURE NO PHYTOTOXICITY.** Drench your plants to get complete coverage. Safe to use in all growing stages. This is a contact product, it must make full contact with pests, eggs and larvae.

The application rate that we suggest is ½ cup per gallon of warm water, if higher application needed for severe infestation, use 1 cup per gallon of warm water for pest control. Test application rates by taking an infected sample, spray thoroughly with your different application rates, and write on the jar which application rates you used. Check back in about 20 to 30 minutes to see which rate worked better. This is how you will know which application rate works for targeted pests. Increase dose as needed. ALWAYS TEST FIRST TO ENSURE NO ADVERSE REACTIONS. May rinse off in early morning to assure no phytotoxicity.

We suggest using water between 70 and 98 degrees to increase chances of 100% success rate. Colder water will take longer to kill the insects. We suggest that before adding Eliminator to your water that you adjust the pH at 6.0 to 7.0. Do not adjust after you put the Eliminator in the water. We also suggest using in the evening to ensure that Eliminator will not evaporate and can continue working as well as decreasing any chances for phytotoxicity.

We also recommend that you use Integrated Pest Management. If you use **Eliminator**, create a barrier, and **Beneficial Insects** you will be successful. Some of the pests are the size of a pinhead and can hide, it is important that you try to spray inside the curled leaves and flowers where eggs, larvae and adults hide. Sometimes when you spray it may seem like the infestation is worse, we have been told that they are releasing eggs as they die, so you may see an increase in larvae if you wait 2 or 3 days before treating again. That is why we recommend 3 treatments in a row. Eliminator will work when it hits its target so it is important to drench your plant. After you have knocked down your population of Bad Bugs with the Eliminator, you can release your Beneficial Insects.

We have been told the Russet and Broad Mites may live in the soil. You can also do a soil drench. Put 2 cups of Eliminator in a 5 gallon bucket filled with warm water and disperse evenly on damp soil. Water in to ensure coverage.

Use a **barrier** at the bottom of your plants after you sprayed so the mites will not walk back up your plant. If using stakes, put a **barrier** at the bottom of the stakes. Cut off any branches or plant matter that is touching the ground.

Russet Mites and Broad Mites use the wind, aphids, cucumber beetles and white flies to travel. It is best to keep using as a preventive once you have eliminated your pest problem.

We recommend spraying 3 days in a row, in the evening and when outside temperatures are below 80 degrees F. Wait 3 days before spraying again, then spray again every 3 days until you see new growth and no signs of the mites. Then use as a preventative to ensure you keep them off your plants and out of your garden. Use at a rate of ½ cup of Eliminator to 1 gallon of warm water

DO NOT LEAVE PRODUCT IN DIRECT SUNLIGHT. DO NOT LEAVE PRODUCT IN TEMPERATURES OVER 110 DEGREES. STORE IN A COOL, DRY PLACE. DO NOT LET PRODUCT FREEZE.

DO NOT USE IF YOU HAVE USED AN OIL BASED PRODUCT ON YOUR PLANT OR OTHER PEST CONTROL PRODUCTS. YOU MAY BE ABLE TO RINSE OFF OTHER RESIDUES BEFORE USING, test on one plant to ensure that there are no issues.

CAN BE USED TO ELIMINATE FUNGUS, MOLDS AND MILDEWS as well. Use ¼ cup of Eliminator per gallon of warm water as a preventative. Spray entire plant. If using to eliminate powdery mildew or other fungal diseases, use ½ cup of Eliminator to 1 gallon of warm water, spray entire plant. Soil drench at 1 cup per 5 gallon bucket of warm water, water into soil evenly around root system of plant.

IF YOU ENCOUNTER NEW LEAVES HAVING TWISTED GROWTH OR LEAF BURN YOUR PLANTS WILL BE FINE. YOU PROBABLY USED IT WHEN THE SUN WAS ON YOUR PLANTS OR THE SUN HIT A SPOT THAT WAS STILL WET WHILE ON YOUR PLANTS. THIS IS WHY WE STRONGLY SUGGEST USING IT IN THE EVENING. WE HAVE NOT EXPERIENCED ANY ABNORMALITIES OR PLANT BURN WHEN USED AS DIRECTED AND IN THE EVENING.

If you have an infestation, there will be damage on your leaves. Our product has citric acid, the acids will accelerate the deterioration of the mite damage by browning on your leaves that would naturally occur over time. If there is no damage, the leaves will not turn brown. Don't worry, you should see new growth within 3 days. The old damage will not go away, always look at your new growth.

CDFW 1600
Permit

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
REGION 1 – NORTHERN REGION
619 Second Street
Eureka, CA 95501

RECEIVED

JUL 11 2016

CDFW - EUREKA



STREAMBED ALTERATION AGREEMENT

NOTIFICATION No. 1600-2016-0094-R1

Unnamed Tributary to Somerville Creek, Tributary to Redwood Creek,
Tributary to the South Fork Eel River, Tributary to the Eel River and the
Pacific Ocean

Mr. Dejan Petrushevski
Petrushevski Water Diversion and Stream Crossings Project
3 Encroachments

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and Mr. Dejan Petrushevski (Permittee).

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, the Permittee initially notified CDFW on March 10, 2016, that the Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, CDFW has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, the Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, the Permittee agrees to complete the project in accordance with the Agreement.

PROJECT LOCATION

The project to be completed is located within the Redwood Creek watershed, approximately 1.6 miles south of the town of Briceland, County of Humboldt, State of California. The project is located in Section 30, T4S, R3E, Humboldt Base and Meridian; in the Briceland U.S. Geological Survey 7.5-minute quadrangle; Assessor's Parcel Numbers 222-083-07; latitude 40.0863 N and longitude 123.8973 W at the Point of Diversion (POD).

PROJECT DESCRIPTION

The project is limited to three encroachments (table 1). One encroachment is for water diversion from a spring that provides water to a residence for domestic use. Work for the water diversion will include use and maintenance of the water diversion infrastructure. The other encroachments include installation of a rocked ford and a culvert at Class III stream crossing locations. Work for these projects will include excavation, placement of the culvert and rock armoring, and relocation of the fill material.

Table 1. Project encroachments with description.

ID	Latitude/Longitude	Description
POD-1	40.0861, -123.8965	Water diversion from a spring
Crossing-1	40.0863, -123.8962	Installation of minimum diameter 24" culvert
Crossing-2	40.0846, -123.8945	Installation of a rocked ford
Well	40.0854, -123.8946	Existing well used for irrigation

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include: Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch*), steelhead trout (*O. mykiss*), amphibians, reptiles, aquatic invertebrates, mammals, birds, and other aquatic and riparian species.

The adverse effects the project could have on the fish or wildlife resources identified above include:

Impacts to water quality:

increased water temperature;
reduced instream flow;
temporary increase in fine sediment transport;

Impacts to bed, channel, or bank and direct effects on fish, wildlife, and their habitat:

loss or decline of riparian habitat;
direct impacts on benthic organisms;

Impacts to natural flow and effects on habitat structure and process:

cumulative effect when other diversions on the same stream are considered;
diversion of flow from activity site;
direct and/or incidental take;
indirect impacts;
impediment of up- or down-stream migration;
water quality degradation; and
damage to aquatic habitat and function.

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

The Permittee shall meet each administrative requirement described below.

- 1.1 Documentation at Project Site. The Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to CDFW personnel, or personnel from another state, federal, or local agency upon request.
- 1.2 Providing Agreement to Persons at Project Site. The Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of the Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3 Adherence to Existing Authorizations. All water diversion facilities that the Permittee owns, operates, or controls shall be operated and maintained in accordance with current law and applicable water rights.
- 1.4 Change of Conditions and Need to Cease Operations. If conditions arise, or change, in such a manner as to be considered deleterious by CDFW to the stream or wildlife, operations shall cease until corrective measures approved by CDFW are taken. This includes new information becoming available that indicates that the bypass flows and diversion rates provided in this agreement are not providing adequate protection to keep aquatic life downstream in good condition or to avoid "take" or "incidental take" of federal or State listed species.
- 1.5 Notification of Conflicting Provisions. The Permittee shall notify CDFW if the Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, CDFW shall contact the Permittee to resolve any conflict.
- 1.6 Project Site Entry. The Permittee agrees to allow CDFW employees access to any property it owns and/or manages for the purpose of inspecting and/or monitoring the activities covered by this Agreement, provided CDFW: a) provides 24 hours advance notice; and b) allows the Permittee or representatives to participate in the inspection and/or monitoring. This condition does not apply to CDFW enforcement personnel.

2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, the Permittee shall implement each measure listed below.

- 2.1 Permitted Project Activities. Except where otherwise stipulated in this Agreement, all work shall be in accordance with the Permittee Notification received on March 10, 2016, together with all maps, BMP's, photographs, drawings, and other supporting documents submitted with the Notification.
- 2.2 Maximum Diversion Rate. The maximum instantaneous diversion rate from the water intake shall not exceed 20% of the total flow at any time.
- 2.3 Bypass Flow. The Permittee shall pass sufficient flow at all times to keep all aquatic species including fish and other aquatic life in good condition below the point of diversion.
- 2.4 Forbearance Period - Irrigation. The Permittee shall add sufficient water storage and/or water conservation measures by June 15, 2016, and the Permittee shall bypass 100% of the flow from June 15 to October 15 in 2016. The Permittee shall forbear diverting stream flow for irrigation from May 15 to October 15 of each year beginning in 2017.
- 2.5 Domestic Water Use. Water diverted during the irrigation forbearance period shall be used strictly for domestic use. **No more than 200 gallons per day shall be diverted for domestic use during the forbearance period** beginning June 15, 2016. Water shall be diverted only if the Permittee can adhere to conditions 2.2 and 2.3 of this Agreement.
- 2.6 Measurement of Diverted Flow. The Permittee shall install a device acceptable to CDFW for measuring the quantity of water diverted to and from the spring and well. This measurement shall begin as soon as this Agreement is signed by the Permittee. The Permittee shall record the quantity of water pumped to and from the system on a weekly basis. Alternatively, the Permittee can record the frequency of pumping and the time to fill storage.
- 2.7 Intake Structure. No polluting materials (e.g., particle board, plastic sheeting, bentonite) shall be used to construct or screen, or cover the diversion intake structure.
- 2.8 Intake Screening. Screens shall be installed on intakes wherever water is diverted, and shall be in place whenever water is diverted. Openings in intakes shall not exceed 1/8 inch diameter (horizontal for slotted or square openings) or 3/32 inch for round openings. The Permittee shall regularly inspect, clean, and maintain screens in good condition.
- 2.9 Intake Shall Not Impede Aquatic Species Passage. The water diversion structures shall be designed, constructed, and maintained such that they do not constitute a barrier to upstream or downstream movement of aquatic life.

- 2.10 Water Conservation. The Permittee shall make best efforts to minimize water use, and to follow best practices for water conservation and management.
- 2.11 Water Storage Maintenance. Storage tanks shall have a float valve to shut off the diversion when tanks are full to prevent overflow from being diverted when not needed. The Permittee shall install any other measures necessary to prevent overflow of tanks resulting in more water being diverted than is used.
- 2.12 State Water Code. This Agreement does not constitute a valid water right. The Permittee shall comply with State Water Code sections 5100 and 1200 et seq. as appropriate for the water diversion and water storage. The application for this registration is found at:
http://www.swrcb.ca.gov/waterrights/publications_forms/forms/docs/sdu_registration.pdf.

Stream Crossings

- 2.13 Work Period. All work, not including water diversion, shall be confined to the period June 15 through October 15 of each year. Work within the active channel of a stream shall be restricted to periods of **no stream flow and dry weather**. Precipitation forecasts and potential increases in stream flow shall be considered when planning construction activities. Construction activities shall cease and all necessary erosion control measures shall be implemented prior to the onset of precipitation.
- 2.14 Excavated Fill. Excavated fill material shall be placed in locations where it cannot deliver to a watercourse. To minimize the potential for material to enter the watercourse during the winter period, all excavated and relocated fill material shall be tractor contoured (to drain water) and tractor compacted to effectively incorporate and stabilize loose material into existing road and/or landing features.
- 2.15 Runoff from Steep Areas. The Permittee shall make preparations so that runoff from steep, erodible surfaces will be diverted into stable areas with little erosion potential or contained behind erosion control structures. Erosion control structures such as straw bales and/or siltation control fencing shall be placed and maintained until the threat of erosion ceases. Frequent water checks shall be placed on dirt roads, cat tracks, or other work trails to control erosion.
- 2.16 Culvert Installation.
- 2.16.1 Existing fill material in the crossing shall be excavated down vertically to the approximate original channel and outwards horizontally to the approximate crossing hinge points (transition between naturally occurring soil and remnant temporary crossing fill material) to remove any potential unstable debris and voids in the older fill prism.

- 2.16.2 Culvert shall be installed to grade, aligned with the natural stream channel, and extend lengthwise completely beyond the toe of fill. If culvert cannot be set to grade, it shall be oriented in the lower third of the fill face, and a downspout or energy dissipator (such as boulders, rip-rap, or rocks) shall be installed above or below the outfall as needed to effectively control stream bed, channel, or bank erosion (scouring, headcutting, or downcutting).
- 2.16.3 Culvert bed shall be composed of either compacted rock-free soil or gravel. Bedding beneath the culvert shall provide for even distribution of the load over the length of the pipe, and allow for natural settling and compaction to help the pipe settle into a straight profile. The crossing backfill materials shall be free of rocks, limbs, or other debris that could allow water to seep around the pipe, and shall be compacted.
- 2.16.4 Culvert inlet, outlet (including the outfall area), and fill faces shall be armored where stream flow, road runoff, or rainfall energy is likely to erode fill material and the outfall area.
- 2.16.5 Permanent culverts shall be sized to accommodate the estimated 100-year flood flow [i.e. ≥ 1.5 times the width of the active (bankfull) channel width or the 100-year flood size, whichever is greater], including debris, culvert embedding, and sediment loads.
- 2.17 Rock Armor Placement.
- 2.17.1 No heavy equipment shall enter the wetted stream channel.
- 2.17.2 No fill material, other than clean rock, shall be placed in the stream channel.
- 2.17.3 Rock shall be sized to withstand washout from high stream flows, and extend above the ordinary high water level.
- 2.17.4 Rock armoring shall not constrict the natural stream channel width and shall be keyed into a footing trench with a depth sufficient to prevent instability.
- 2.18 Project Inspection. The Project shall be inspected by Timberland Resource Consultants or a licensed engineer to ensure that the crossings and spillway were built as designed. A copy of the inspection report, including photographs of each site, shall be submitted to CDFW within 90 days of completion of this project.
- 2.19 Stream Protection. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete washings, oil or petroleum products, or other deleterious material from project activities shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into the stream. All project materials and

debris shall be removed from the project site and properly disposed of off-site upon project completion.

- 2.20 Equipment Maintenance. Refueling of machinery or heavy equipment, or adding or draining oil, lubricants, coolants or hydraulic fluids shall not take place within stream bed, channel and bank. All such fluids and containers shall be disposed of properly off-site. Heavy equipment used or stored within stream bed, channel and bank shall use drip pans or other devices (e.g., absorbent blankets, sheet barriers or other materials) as needed to prevent soil and water contamination.
- 2.21 Hazardous Spills. Any material, which could be hazardous or toxic to aquatic life and enters a stream (i.e. a piece of equipment tipping-over in a stream and dumping oil, fuel or hydraulic fluid), the Permittee shall immediately notify the California Emergency Management Agency State Warning Center at 1-800-852-7550, and immediately initiate clean-up activities. CDFW shall be notified by the Permittee within 24 hours at 707-445-6493 and consulted regarding clean-up procedures.

3. Reporting Measures

- 3.1 Measurement of Diverted Flow. Copies of the **water diversion records (condition 2.6)** shall be submitted to CDFW at 619 Second Street, Eureka, CA 95501 office **no later than December 31 of each year beginning in 2016**.
- 3.2 Project Inspection. The Permittees **shall submit the Project Inspection Report (condition 2.18)** to CDFW, LSA Program at 619 Second Street, Eureka, CA 95501.

CONTACT INFORMATION

Written communication that the Permittee or CDFW submits to the other shall be delivered to the address below unless the Permittee or CDFW specifies otherwise.

To Permittee:

Mr. Dejan Petrushevski
P.O. Box 2114
Redway, California 95560
707-225-8298
deanpetrush@gmail.com

To CDFW:

Department of Fish and Wildlife
Northern Region
619 Second Street
Eureka, California 95501
Attn: Lake and Streambed Alteration Program
Notification #1600-2016-0094-R1

LIABILITY

The Permittee shall be solely liable for any violation of the Agreement, whether committed by the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute CDFW's endorsement of, or require the Permittee to proceed with the project. The decision to proceed with the project is the Permittee's alone.

SUSPENSION AND REVOCATION

CDFW may suspend or revoke in its entirety this Agreement if it determines that the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before CDFW suspends or revokes the Agreement, it shall provide the Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide the Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the Agreement, and include instructions to the Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused CDFW to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes CDFW from pursuing an enforcement action against the Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects CDFW's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 *et seq.* (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

CDFW may amend the Agreement at any time during its term if CDFW determines the amendment is necessary to protect an existing fish or wildlife resource.

The Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and the Permittee. To request an amendment, the Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by the Permittee in writing, as specified below, and thereafter CDFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, the Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

EXTENSIONS

In accordance with FGC section 1605(b), the Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, the Permittee shall submit to CDFW a completed CDFW "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). CDFW shall process the extension request in accordance with FGC 1605(b) through (e).

If the Permittee fails to submit a request to extend the Agreement prior to its expiration, the Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (FGC section 1605(f)).

EFFECTIVE DATE

The Agreement becomes effective on the date of CDFW's signature, which shall be: 1) after the Permittee signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at http://www.wildlife.ca.gov/habcon/ceqa/ceqa_changes.html.

TERM

This Agreement shall **expire five years** from date of execution, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. The Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of the Permittee, the signatory hereby acknowledges that he or she is doing so on the Permittee's behalf and represents and warrants that he or she has the authority to legally bind the Permittee to the provisions herein.

AUTHORIZATION

This Agreement authorizes only the project described herein. If the Permittee begins or completes a project different from the project the Agreement authorizes, the Permittee may be subject to civil or criminal prosecution for failing to notify CDFW in accordance with FGC section 1602.

CONCURRENCE

The undersigned accepts and agrees to comply with all provisions contained herein.

FOR Mr. Dejan Petrushevski



Dejan Petrushevski

07/08/16

Date

FOR DEPARTMENT OF FISH AND WILDLIFE



Gordon Leppig

Senior Environmental Scientist Supervisor

7/14/16

Date

Best
Management
Practices
(BMP'S)

Best Management Practices for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects

I. Introduction

Best management practices (BMPs) provided here may be applicable to prevent, minimize, and control the discharge of waste and other controllable water quality factors associated with site restoration/cleanup/remediation and site operations and maintenance. These BMPs are all considered enforceable conditions under the Order as applicable to a given site, and are referenced by and made conditions in the mitigated negative declaration (CEQA document) for the Order, as well.

This appendix to Order No. R1-2015-0023 includes section II. Standard BMPs for Construction, section III. BMPs for Site Maintenance and Operations (per standard conditions), and section IV. References. For additional BMP suggestions, staff encourage consultation of the various manuals listed in section IV. References, many of which are available online for free.

II. Standard BMPs for Construction

Where applicable during restoration, remediation, cleanup, or site maintenance activities, the following BMPs will be used.

A. General BMPs to Avoid or Minimize Adverse Impacts

Temporal Limitations on Construction

1. To avoid impacting migrating fish and causing erosion and sedimentation of the stream channel, the project work season shall be from May 1 to October 15. If operations are to be conducted during the winter period from October 15 to May 1, a winter period operating plan must be incorporated into the project work plan. This plan shall include specific measures to be taken in the winter operating period to avoid or substantially lessen erosion and sedimentation into surface waters.
2. A 2-day (48-hour) forecast¹ of rain shall be the trigger for temporary cessation of project activities and winterization/erosion protection of the work site.

¹ Any weather pattern that is forecasted by NOAA to have a 50% or greater probability of producing precipitation in the project area. The permittee shall obtain and keep for record likely precipitation forecast information from

Limitation on Earthmoving

3. Disturbance to existing grades and vegetation shall be limited to the actual site of the cleanup/remediation and necessary access routes.
4. Placement of temporary access roads, staging areas, and other facilities shall avoid or minimize disturbance to habitat.
5. Disturbance to native shrubs, woody perennials or tree removal on the streambank or in the stream channel shall be avoided or minimized. If riparian trees over six inches dbh (diameter at breast height) are to be removed, they shall be replaced by native species appropriate to the site at a 3:1 ratio. Where physical constraints in the project area prevent replanting at a 3:1 ratio and canopy cover is sufficient for habitat needs, replanting may occur at a lesser replacement ratio.
6. If shrubs and non-woody riparian vegetation are disturbed, they shall be replaced with similar native species appropriate to the site.
7. Whenever feasible, finished grades shall not exceed 1.5:1 side slopes. In circumstances where final grades cannot achieve 1.5:1 slope, additional erosion control or stabilization methods shall be applied as appropriate for the project location.
8. Spoils and excavated material not used during project activities shall be removed and placed outside of the 100-year floodplain, and stored/disposed of in compliance with Order conditions related to spoils management.
9. Upon completion of grading, slope protection of all disturbed sites shall be provided prior to the rainy season through a combination of permanent vegetative treatment, mulching, geotextiles, and/or rock, or equivalent.
10. Vegetation planting for slope protection purposes shall be timed to require as little irrigation as possible for ensuring establishment by the commencement of the rainy season.
11. Only native plant species shall be used with the exception of non-invasive, non-persistent grass species used for short-term vegetative cover of exposed soils.
12. Rock placed for slope protection shall be the minimum necessary to avoid erosion, and shall be part of a design that provides for native plant revegetation and minimizes bank armoring.

Limitations on Construction Equipment

13. Dischargers and/or their contractors shall ensure that chemical contamination (fuel, grease, oil, hydraulic fluid, solvents, etc.) of water and soils is prohibited during routine equipment operation and maintenance.
14. Heavy equipment shall not be used in flowing water. Please refer to BMPs 57 through 64 for dewatering of live streams.

the National Weather Service Forecast Office (e.g. by entering the zip code of the project's location at <http://srh.noaa.gov/forecast>).

15. When possible, existing ingress or egress points shall be used or work shall be performed from the top of the creek banks.
16. Use of heavy equipment shall be avoided or minimized in a channel bottom with rocky or cobbled substrate.
17. If project work or access to the work site requires heavy equipment to travel on a channel bottom with rocky or cobbled substrate, wood or rubber mats shall be placed on the channel bottom prior to use by heavy equipment.
18. Heavy equipment shall not introduce chemicals or foreign sediment to the channel (e.g., remove mud from tracks or cover channel work area with plastic sheeting prior to heavy equipment entry).
19. The amount of time this equipment is stationed, working, or traveling within the channel shall be minimized.
20. When heavy equipment is used, any woody debris and stream bank or streambed vegetation disturbed shall be replaced to a pre-project density with native species appropriate to the site. If riparian trees over six inches dbh are to be removed, they shall be replaced by native species appropriate to the site at a 3:1 ratio per BMP 5.
21. The use or storage of petroleum-powered equipment shall be accomplished in a manner that prevents the potential release of petroleum materials into waters of the state (Fish and Game Code 5650). To accomplish this, the following precautionary measures shall be followed:
 - Schedule excavation and grading activities for dry weather periods.
 - Designate a contained area for equipment storage, short-term maintenance, and refueling. Ensure it is located at least 50 feet from waterbodies.
 - Inspect vehicles for leaks and repair immediately.
 - Clean up leaks, drips and other spills immediately to avoid soil or groundwater contamination.
 - Conduct major vehicle maintenance and washing offsite (except as necessary to implement BMP 18).
 - Ensure that all spent fluids including motor oil, radiator coolant, or other fluids and used vehicle batteries are collected, stored, and recycled as hazardous waste offsite.
 - Ensure that all construction debris is taken to appropriate landfills and all sediment disposed of in upland areas or offsite, beyond the 100-year floodplain.
 - Use dry cleanup methods (e.g., absorbent materials, cat litter, and/or rags) whenever possible. If necessary for dust control, use only a minimal amount of water.
 - Sweep up spilled dry materials immediately.

Revegetation and Removal of Exotic Plants

22. The work area shall be restored to pre-project work condition or better.

23. All exposed soil resulting from the cleanup/restoration activities shall be revegetated using live planting, seed casting or hydroseeding.
24. Any stream bank area left barren of vegetation as a result of cleanup/restoration activities shall be stabilized by seeding, replanting, or other means with native trees, shrubs, and/or grasses appropriate to the site prior to the rainy season in the year work was conducted.
25. Soil exposed as a result of project work, soil above rock riprap, and interstitial spaces between rocks shall be revegetated with native vegetation by live planting, seed casting, or hydroseeding prior to the rainy season of the year work is completed.
26. The spread or introduction of exotic plant species shall be avoided to the maximum extent possible by avoiding areas with established native vegetation during cleanup/restoration activities, restoring disturbed areas with appropriate native species, and post-project monitoring and control of exotic species.
27. Removal of invasive exotic species is strongly recommended. Mechanical removal (hand tools, weed whacking, hand pulling) of exotics shall be done in preparation for establishment of native perennial plantings.
28. Revegetation shall be implemented after the removal of exotic vegetation occurs. Erosion control implementation shall be timed in accordance with BMPs 1 and 2.
29. Native plants characteristic of the local habitat shall be used for revegetation when implementing and maintaining cleanup/restoration work in riparian and other sensitive areas. 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.
30. Annual inspections for the purpose of assessing the survival and growth of revegetated areas and the presence of exposed soil shall be conducted for three years following project work.
31. Dischargers and/or their consultant(s) or third party representative(s) shall note the presence of native/non-native vegetation and extent of exposed soil, and take photographs during each inspection.
32. Dischargers and/or their consultant(s) or third party representative(s) shall provide the location of each work site, pre- and post-project work photos, diagram of all areas revegetated and the planting methods and plants used, and an assessment of the success of the revegetation program in the annual monitoring report as required under the Order.

Erosion Control

33. 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.

34. Erosion control materials shall be, at minimum, stored on-site at all times during approved project work between May 1 and October 15.
35. 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.
36. 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.
37. Upon work completion, all exposed soil present in and around the cleanup/restoration sites shall be stabilized within 7 days.
38. Soils exposed by cleanup/restoration operations shall be seeded and mulched to prevent sediment runoff and transport.

Miscellaneous

39. During temporary stream crossing siting, locations shall be identified where erosion potential is low. Areas where runoff from roadway side slopes will spill into the side slopes of the crossing shall be avoided.
40. Vehicles and equipment shall not be driven, operated, fueled, cleaned, maintained, or stored in the wet or dry portions of a waterbody where wetland vegetation, riparian vegetation, or aquatic organisms may be impacted.
41. Riparian vegetation, when removed pursuant to the provisions of the work, shall be cut off no lower than ground level to promote rapid re-growth. Access roads and work areas built over riparian vegetation shall be covered by a sufficient layer of clean river run cobble to prevent damage to the underlying soil and root structure. The cobble shall be removed upon completion of project activities.
42. Avoidance of earthwork on steep slopes and minimization of cut/fill volumes, combined with proper compaction, shall occur to ensure the area is resilient to issues associated with seismic events and mass wasting. If cracks are observed, or new construction is anticipated, consultation with a qualified professional is appropriate.
43. Operations within the 100-year floodplain shall be avoided. Refuse and spoils shall not be stored within the hundred-year floodplain. If roads are located within the 100-year floodplain, they shall be at grade; bridges shall have vented approaches and bridge deck shall be above anticipated 100-year flood water surface elevations. Consultation with a qualified professional is required for project work within the floodplain. .
44. Project work-related dust shall be controlled. Dust control activities shall be conducted in such a manner that will not produce sediment-laden runoff. Dust control measures, including pre-watering of excavation/grading sites, use of water trucks, track-out prevention, washing down vehicles/equipment before leaving site, and prohibiting grading/excavation activities during windy periods, shall be implemented as appropriate.

45. Short term impacts from project work-related emissions can be minimized via retrofitting equipment and use of low emissions vehicles when possible.
46. Position vehicles and other apparatus so as to not block emergency vehicle access.

B. BMPs for Specific Activities

Critical Area Planting, Channel Vegetation and Restoration and Management of Declining Habitats

The following measures shall be employed:

47. Plant materials used shall be native to the site and shall be locally collected if possible.
48. Straw mulch shall be applied at a rate of 2 tons per acre of exposed soils and, shall be secured to the ground.
49. When implementing or maintaining a critical area planting above the high water line, a filter fabric fence, straw wattles, fiber rolls and/or hay bales shall be utilized to keep sediment from flowing into the adjacent water body.

Structure for Water Control and Stream Crossings

These practices shall be used generally to replace or retrofit existing culverts and to install culverts where water control is needed at a stream crossing or road ditch to restore natural hydrology, and to reduce potential diversions and road-related erosion. In addition to the general limitations set forth in the previous section, the following measures shall be employed for these types of projects:

50. Culvert fill slopes shall be constructed at a 2:1 slope or shall be armored with rock.
51. All culverts in fish-bearing streams and in streams where fish have historically been found and may potentially re-occur, shall be designed and constructed consistent with NMFS Southwest Region's Guidelines for Salmonid Passage at Stream Crossings (NMFS 2000) and CDFG's Culvert Criteria for Fish Passage (CDFG 2002).

Limitations on Work in Streams and Permanently Poned Areas

52. If it is necessary to conduct work in or near a live stream, the work space shall be isolated to avoid project activities in flowing water.
53. Water shall be directed around the work site.
54. Ingress/egress points shall be utilized and work shall be performed from the top of the bank to the maximum extent possible.
55. Use of heavy equipment in a channel shall be avoided or minimized. Please refer to BMPs 57 through 64 for dewatering of live streams. The amount of time construction equipment is stationed, working or traveling within the creek bed shall be minimized.

68. All equipment, including but not limited to excavators, graders, barges, etc., that may have come in contact with extremely invasive animals (e.g. zebra mussels or new Zealand mud snails) or plant (e.g., Arundo donax, scotch broom, pampas grass) or the seeds of these plants, shall be carefully cleaned before arriving on site and shall also be carefully cleaned before removal from the site, to prevent spread of these plants.
69. Vegetation shall be established on disturbed areas with an appropriate mix of California native plants and/or seed mix. All initial plantings and seed shall be installed prior to completion of the project work.

III. BMPs for Site Maintenance and Operations (per standard conditions)

The following BMPs are intended to address compliance with the standard conditions. Individual or multiple BMPs may be selected to address compliance with a given standard condition depending on site-specific conditions. BMPs are considered enforceable conditions as applicable to a given site.

A. Site Maintenance, Erosion Control, Drainage Features

70. Drainage of roads, clearings, fill prisms, and terraced areas is critical to ensuring their integrity and to prevent or minimize sediment discharges to watercourses. Proper design and location of roads and other features is critical to ensuring that a road or other feature be adequately drained and is best accomplished through consultation with a qualified professional. If inspection identifies surface rills or ruts, surfacing and drainage likely needs maintenance.
71. Surfacing of exposed/disturbed/bare surfaces can greatly reduce erosion associated with runoff. BMP features such as vegetative ground cover, straw mulch, slash, wood chips, straw wattles, fiber rolls, hay bales, geotextiles, and filter fabric fences may be combined and implemented on exposed/disturbed/bare surfaces as appropriate to prevent or minimize sediment transport and delivery to surface waters. Non-invasive, non-persistent grass species (e.g. barley grass) may be used for their temporary erosion control benefits to stabilize bare slopes and prevent exposure of bare soils to rainfall. If utilized, straw mulch shall be applied at a rate of 2 tons per acre of exposed soils and, if warranted by site conditions, shall be secured to the ground. Consultation with a qualified professional is recommended for successful site-specific selection and implementation of such surface treatments. Guidance literature pertaining to such BMPs is referenced in section IV. of this document.
72. Road surfacing, especially within a segment leading to a watercourse, is critical to prevent and minimize sediment delivery to a watercourse and maintain road integrity for expected uses. Road surfacing can include pavement, chip-seal, lignin, rock, or other material appropriate for timing and nature of use. Steeper sections of road require higher quality rock (e.g. crushed angular versus river-run) to remain in place.

73. Road shaping to optimize drainage includes out-sloping and crowning; shaping can minimize reliance on inside ditches. Drainage structures can include rolling dips and water bars within the road surface and ditch-relief culverts to drain inside ditches. Adequate spacing of drainage structures is critical to reduce erosion associated with runoff. Generally speaking, steep slopes require greater frequency of drainage structures. The drainage structures shall be maintained to ensure capture of and capacity for expected flow. The outlets of the structures shall be placed in such a manner as to avoid discharge onto fill, unstable areas, or areas that can enter a watercourse. If site conditions prohibit drainage structures at an adequate interval to avoid erosion, bioengineering techniques² are the preferred solution (e.g. live fascines), but other techniques may also be appropriate including armoring (i.e. 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). In the case that inside ditches need maintenance, grade ditches only when and where necessary, since frequent routine mechanical grading can cause erosion of the ditch, undermine banks, and expose the toe of the cutslope to erosion. Do not remove more leaves and vegetation than necessary to keep water moving, as vegetation prevents scour and filters out sediment.
74. Road drainage shall be discharged to a stable location away from a watercourse. Use sediment control devices, such as check dams, sand/gravel bag barriers, and other acceptable techniques, when it is neither practical nor environmentally sound to disperse ditch water immediately before the ditch reaches a stream. Within areas with potential to discharge to a watercourse (i.e. within riparian areas of at least 200 feet of a stream) road surface drainage shall be filtered through vegetation, slash, or other appropriate material or settled into a depression with an outlet with adequate drainage. Caution should always be exercised with catchment basins in the event of failure.
75. Any spoils associated with site maintenance shall be placed in a stable location where it cannot enter a watercourse. Sidecasting shall be minimized and shall be avoided on unstable areas or where it has the potential to enter a watercourse.
76. Do not sidecast when the material can enter the stream directly or indirectly as sediment. Sidecast material can indirectly enter the stream when placed in a position where rain or road runoff can later deliver it to a channel that connects with the stream.
77. Disconnect road drainage from watercourses (drain to hill slopes), install drainage structures at intervals to prevent erosion of the inboard ditch or gull formation at the hill slope outfall, outslope roads.

² A Primer on Stream and River Protection for the Regulator and Program Manager: Technical Reference Circular W.D. 02-#1, San Francisco Bay Region, California Regional Water Quality Control Board (April 2003) http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stream_wetland/streamprotectionircular.pdf

78. Ditch-relief culverts shall also be inspected regularly, and cleared of debris and sediment. To reduce plugging, 15 to 24-inch diameter pipes shall be the minimum size considered for ditch relief culverts and shall be informed by site-specific conditions.
79. Grade ditches only when and where necessary, since frequent routine mechanical grading can cause erosion of the ditch, undermine banks, and expose the toe of the cutslope to erosion. Do not remove more grass and weeds than necessary to keep water moving, as vegetation prevents scour and filters out sediment.
80. Use sediment control devices, such as check dams, sand/gravel bag barriers, and other acceptable techniques, when it is neither practical nor environmentally sound to disperse ditch water immediately before the ditch reaches a stream.

B. Stream Crossing Maintenance

81. Proper maintenance of stream crossings is critical to ensure support of beneficial uses of water. Regular inspection and maintenance is necessary to identify, in a timely manner, if problems are occurring. Crossings include rock fords³, armored fills with culverts³, and bridges³.
82. Rock fords are appropriate when temporary and minor moisture or over-land flow is expected, not typically when a bed and bank is present; exceptions may be justified if warranted by site specific conditions. Additionally, rock fords are appropriate if aquatic life is not present. An adequate layer of crushed angular rock shall be maintained at rock fords such that soil compaction is minimized under expected traffic levels.
83. Stream crossings consisting of armored fills with culverts and bridges are appropriate for streams with defined bed and bank². They shall be sized to ensure the 100-year streamflow event can pass unimpeded. Additionally, crossings shall allow migration of aquatic life during all life stages potentially supported by that stream reach; water depth and velocity can inhibit migration of adult and juvenile fish species.
84. Stream crossing design and installation is best accomplished with the assistance of a qualified professional. Site conditions can change over time (e.g. channel filling or incision); consultation with a qualified professional is appropriate to evaluate maintenance or replacement needs and opportunities.
85. Regular inspection of the stream crossing is appropriate to identify changed conditions within the stream channel (e.g., bank erosion, headward incision, and channel filling).
 - If large wood is accumulated upstream or within the crossing that could impede or deflect flow and result in erosion or debris capture, the wood

³ Explanation of term, available within the following document (as of the date of the Order):
http://www.pacificwatershed.com/sites/default/files/handbook_chapter_download_page.pdf

- should generally be removed. In some cases, it may be appropriate to re-orient debris with the streamflow.
- If sediment or debris is accumulated within a culvert and limits flow capacity, the short term solution should generally be to clean out the culvert and place the debris and sediment in a stable location with no potential to discharge into a stream. In some cases a trash rack, post, or other deflection structure at the culvert inlet can reduce plugging.
 - If sediment is accumulated in a culvert without other debris accumulation and limits flow capacity, the long term solution may generally involve changing the culvert's slope, diameter, or embedment in the streambed.
86. The roadway adjacent to and over the crossing is an area of potential discharge. All road surfaces approaching a crossing shall be drained before the crossing, adequately filtered through vegetation or other material, and not discharged to a watercourse. If turbid water is discharged at a stream crossing, additional measures to control erosion at the source(s) or to remove sediment prior to discharge shall be implemented. Road surfaces shall be of rock, pavement, or other material appropriate for type and level of use.
87. If a culvert is used, the approaches and fill slopes shall be properly compacted during installation and shall be stabilized with rock or other appropriate surface protection to minimize surface erosion and slumping to the receiving waters. If possible, the road surface over the culvert shall have a critical-dip to ensure that if the culvert becomes plugged, water can flow over the road surface without washing away the fill prism. If site-specific conditions do not allow for a critical dip, alternatives such as emergency overflow culverts, oversized culverts, flared inlets, and debris racks may be warranted.

C. Riparian and Wetland Protection and Management:

88. Buffer width will be in compliance with Tier category.
89. Trees within riparian areas shall be retained for natural recruitment to streams. Large woody debris (LWD) shall be retained in stream or within riparian areas. The size of wood that can be beneficial to the stream will vary depending on the size of the stream (i.e., larger pieces of wood are necessary to withstand flows in large streams). In the event that LWD or trees are disturbed during excavation, care shall be taken to separate the LWD from soil. The pieces shall be stockpiled separately until they can be replaced in appropriate locations to enhance instream or riparian conditions. Placement of instream wood for habitat enhancement should be done under the consultation of a qualified professional and in conformance with applicable regulatory permits.
90. Avoidance of disturbance in riparian areas (within 200 feet of a watercourse) should result in protection and restoration of the quality/health of the riparian stand so as to promote: 1) shade and microclimate controls; 2) delivery of wood to channels, 3) slope stability and erosion control, 4) ground cover, and 5) removal of excess nutrients. This recognizes the importance of the riparian zone

with respect to temperature protection, sediment delivery, its importance with respect to the potential for recruitment of large wood, and removal of nutrients transported in runoff. In the event that past disturbance has degraded riparian conditions, replanting with native species capable of establishing a multi-storied canopy will ensure these riparian areas can perform these important ecologic functions.

D. Spoils Management

To ensure spoil pile stability and to reduce the potential for spoil pile slope failure or transport to waters of the state, the following measures shall be implemented when placing or disposing of spoils onsite:

91. Rip compacted soils prior to placing spoils to prevent the potential for ponding under the spoils that could result in spoil site failure and subsequent sedimentation;
92. Compact and contour stored spoils to mimic the natural slope contours and drainage patterns to reduce the potential for fill saturation and failure;
93. Ensure that spoil materials are free of woody debris, and not placed on top of brush, logs or trees.
94. Spoils shall not be placed or stored in locations where soils are wet or unstable, or where slope stability could be adversely affected.
95. Do not locate spoil piles in or immediately adjacent to wetlands and watercourses.
96. Store spoil piles in a manner (e.g. cover pile with plastic tarps and surround base of pile with straw wattle) or location that would not result in any runoff from the spoil pile ending up in wetlands and watercourses.
97. Separate organic material (e.g., roots, stumps) from the dirt fill and store separately. Place this material in long-term, upland storage sites, as it cannot be used for fill.
98. Keep temporary disposal sites out of wetlands, adjacent riparian corridors, and ordinary high water areas as well as high risk zones, such as 100-year floodplain and unstable slopes.
99. After placement of the soil layer, track walk the slopes perpendicular to the contour to stabilize the soil until vegetation is established. Track walking creates indentations that trap seed and decrease erosion of the reclaimed surfaces.
100. Revegetate the disposal site with a mix of native plant species. Cover the seeded and planted areas with mulched straw at a rate of 2 tons per acre. Apply jute netting or similar erosion control fabric on slopes greater than 2:1 if site is erosive.

E. Water Storage and Use

WATER USE

101. Conduct operations on a size and scale that considers available water sources and other water use and users in the planning watershed.
102. Implement water conservation measures such as rainwater catchment systems, drip irrigation, mulching, or irrigation water recycling. (Also see BMPs for Irrigation, below)
103. Take measures to minimize water diversion during low flow periods.
104. Options for documentation of water diversions and/or water usage may include the use of water meter devices and date-stamped photographs of water meter readings.
105. Hauled water utilized for irrigation shall be documented via receipt or similar, and show the date, name, and license plate of the water hauler, and the quantity of water purchased.
106. Apply water at agronomic rates (do not overwater plants).

WATER STORAGE

107. If using a water storage tank, do not locate the tank in a flood plain or next to equipment that generates heat. Locate the tank so it is easy to install, access, and maintain.
108. Vertical tanks should be installed according to manufacturer's specifications and placed on firm, compacted soil that is free of rocks/sharp objects and capable of bearing the weight of the tank and its maximum contents. In addition, a sand or pea gravel base with provisions for preventing erosion is highly recommended. Installation sites for tanks 8,000 gallons or more must be on a reinforced concrete pad providing adequate support and enough space to attach a tank restraint system (anchor using the molded-in tie down lugs with moderate tension, being careful not to over-tighten), especially where seismic or large wind forces are present.
109. Horizontal tanks shall be secured with bands and/or hoops to prevent tank movement.
110. Design and construct storage ponds in properly sited locations, off-stream. Plant vegetation along the perimeter of the pond. Construct berms or excess freeboard space around the perimeter of the pond to allow for sheet flow inputs.
111. Provide adequate outlet drainage for overflow of ponds, including low impact designs, to promote dispersal and infiltration of flows.
112. Place proper lining or sealing in ponds to prevent water loss.

113. Storage bladders are not encouraged for long term water storage reliability. If they are utilized, ensure that they are designed to store water, and that they are sited to minimize potential for water to flow into a watercourse in the event of a catastrophic failure. Used bladders (e.g. military surplus bladders) shall be checked for interior residual chemicals and integrity prior to use. Inspect bladder and containment features periodically to ensure integrity.

F. Irrigation Runoff

114. Irrigate at rates to avoid or minimize runoff.
115. Regularly inspect for leaks in mains and laterals, in irrigation connections, or at the ends of drip tape and feeder lines. Repair any found leaks.
116. Design irrigation system to include redundancy (i.e., safety valves) in the event that leaks occur, so that waste of water is prevented and minimized.
117. Recapture and reuse irrigation runoff (tailwater) where possible, through passive (gravity-fed) or active (pumped) means.
118. Construct retention basins for tailwater infiltration; percolation medium may be used to reduce pollutant concentration in infiltrated water. Constructed treatment wetlands may also be effective at reducing nutrient loads in water. Ensure that drainage and/or infiltration areas are located away from unstable or potentially unstable features.
119. Regularly replace worn, outdated or inefficient irrigation system components and equipment.
120. Use mulches (e.g. wood chips or bark) in cultivation areas that do not have ground cover to prevent erosion and minimize evaporative loss.
121. Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.
122. Employ rain-triggered shutoff devices to prevent irrigation after precipitation.

G. Fertilizers, Soil Amendments, Pesticides, Petroleum Products, and Other Chemicals

123. Evaluate irrigation water, soils, growth media, and plant tissue to optimize plant growth and avoid over-fertilization.
124. Reference Department of Pesticide Regulations Guidance (see Attachments E-1 and E-2 of Order No. R1-2015-0023)
125. All chemicals shall be stored in a manner, method, and location that ensures that there is no threat of discharge to waters of the state.
126. Products shall be labeled properly and applied according to the label.
127. Use integrated pest management strategies that apply pesticides only to the area of need, only when there is an economic benefit to the grower, and at times when runoff losses are least likely, including losses of organic matter from dead plant material.

128. Periodically calibrate pesticide application equipment.
129. Use anti-backflow devices on water supply hoses, and other mixing/loading practices designed to reduce the risk of runoff and spills.
130. Petroleum products shall be stored with a secondary containment system.
131. Throughout the rainy season, any temporary containment facility shall have a permanent cover and side-wind protection, or be covered during non-working days and prior to and during rain events.
132. Materials shall be stored in their original containers and the original product labels shall be maintained in place in a legible condition. Damaged or otherwise illegible labels shall be replaced immediately.
133. Bagged and boxed materials shall be stored on pallets and shall not be allowed to accumulate on the ground. To provide protection from wind and rain throughout the rainy season, bagged and boxed materials shall be covered during non-working days and prior to rain events.
134. Have proper storage instructions posted at all times in an open and conspicuous location.
135. Prepare and keep onsite a Spill Prevention, Countermeasures, and Cleanup Plan (SPCC Plan) if applicable⁴.
136. Keep ample supply of appropriate spill clean-up material near storage areas.

H. Cultivation-Related Wastes

137. Cultivation-related waste shall be stored in a place where it will not enter a stream. Soil bags and other garbage shall be collected, contained, and disposed of at an appropriate facility, including for recycling where available. Pots shall be collected and stored where they will not enter a waterway or create a nuisance. Plant waste and other compostable materials be stored (or composted, as applicable) 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.
138. Imported soil for cultivation purposes shall be minimized. The impacts associated with importation of soil include, but are not limited to increased road maintenance and the increased need for spoils management. Use of compost increases the humic acid content and water retention capacity of soils while reducing the need for fertilizer application. In the event that containers (e.g. grow bags or grow pots) are used for cultivation, reuse of soil shall be maximized to the extent feasible.

⁴ SPCC plans are required for over 1,320 gallons of petroleum stored aboveground or 42,000 gallons below ground. Additionally, any type of storage container requires an SPCC if it is larger than 20,000 gallons, or if the cumulative storage capacity on-site exceeds 100,000 gallons (Health and Safety Code section 25270-25270.13) A sample SPCC can be found here:
<http://www.calcupa.net/civica/filebank/blobdload.asp?BlobID=3186>

139. Spent growth medium (i.e. soil and other organic medium) shall be handled to minimize discharge of soil and residual nutrients and chemicals to watercourses. Proper handling of spent soil could include incorporating into garden beds, spreading on a stable surface and revegetation, storage in watertight dumpsters, covering with tarps or plastic sheeting prior to proper disposal, and use of techniques to reduce polluted runoff described under Item F. Irrigation Runoff.
140. Other means of handling cultivation-related waste may be considered on a site-specific basis.

I. Refuse and Human Waste

141. Trash containers of sufficient size and number shall be provided and properly serviced to contain the solid waste generated by the project. Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers. Use lined bins or dumpsters to reduce leaking of liquid waste. Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on. This might include berming or grading the waste handling area to prevent run-on of stormwater. Make sure trash container areas are screened or walled to prevent off-site transport of trash. Consider using refuse containers that are bear-proof and/or secure from wildlife. Refuse shall be removed from the site on a frequency that does not result in nuisance conditions, transported in a manner that they remain contained during transport, and the contents shall be disposed of properly at a proper disposal facility.
142. Ensure that human waste disposal systems do not pose a threat to surface or ground water quality or create a nuisance. Onsite treatment systems should follow applicable County ordinances for human waste disposal requirements, consistent with the applicable tier under the State Water Resources Control Board Onsite Waste Treatment System Policy⁵.

⁵ Available at: http://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_policy.pdf (as of the date of the Order).

IV. References

Handbook for Forest, Ranch, & Rural Roads: A Guide for Planning, Designing, Constructing, Reconstructing, Upgrading, Maintaining, and Closing Wildland Roads
http://www.pacificwatershed.com/sites/default/files/handbook_chapter_download_page.pdf

A Water Quality and Stream Habitat Protection Manual for County Road Maintenance in Northwestern California Watersheds
<http://www.5counties.org/roadmanual.htm>

Construction Site BMP Fact Sheets
<http://www.dot.ca.gov/hq/construc/stormwater/factsheets.htm>

EPA Riparian/Forested Buffer
<http://water.epa.gov/polwaste/npdes/swbmp/Riparian-Forested-Buffer.cfm>

Creating Effective Local Riparian Buffer Ordinances
http://www.rivercenter.uga.edu/publications/pdf/riparian_buffer_guidebook.pdf

How to Install Residential Scale Best Management Practices (BMPs) in the Lake Tahoe Basin
<http://www.tahoebmp.org/Documents/Contractors%20BMP%20Manual.pdf>

Spoil Pile BMPs
http://michigan.gov/documents/deq/deq-wb-nps-sp_250905_7.pdf

Sanctuary Forest Water Storage Guide
http://agwaterstewards.org/images/uploads/docs/1213661598_Water_Storage_Guide.pdf

Natural Resources Conservation Service-USDA, "Ponds - Planning, Design, Construction", Agriculture Handbook
http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_030362.pdf

Division of Safety of Dams size requirements
<http://www.water.ca.gov/damsafety/jurischart/>

Water Tanks: Guidelines for Installation and Use
http://dnn7.snydernet.com/_pdf/_septic/Septic%20Catalog%202010.pdf

BEST MANAGEMENT PRACTICES (BMP's) University of California Cooperative Extension
http://www.waterboards.ca.gov/sandiego/water_issues/programs/wine_country/docs/updates081910/ucce_bmps.pdf

California Stormwater Quality Association
Section 4: Source Control BMPs
<https://www.casqa.org/sites/default/files/BMPHandbooks/sd-12.pdf>

CA DOT Solid Waste Management Plan
<http://www.dot.ca.gov/hq/construc/stormwater/WM-05.pdf>

State Water Resources Control Board Onsite Wastewater Treatment System (OWTS) policy
http://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_policy.pdf

California Stormwater Quality Association

Section 4: Source Control BMPs

<https://www.casqa.org/sites/default/files/BMPHandbooks/sd-32.pdf>

California Riparian Habitat Restoration Handbook

http://www.conservation.ca.gov/dlrp/watershedportal/InformationResources/Documents/Restoration_Handbook_Final_Dec09.pdf

The Practical Streambank Bioengineering Guide

http://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/idpmcpu116.pdf

150728_KVG_ef_AppendixB_BMP

California
Regional Water
Quality Control
Board

Order No. 2015-0023

Wavier of Waste Water Discharge
Requirements

&

General Water Quality Certification for
Cannabis Cultivation & Associated Activities
or Operation with Similar Environmental
Effects In the Norther Coast Region

California Regional Water Quality Control Board
North Coast Region

Order No. 2015-0023

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

The California Regional Water Quality Control Board, North Coast Region, (hereinafter Regional Water Board) finds that:

Overview

1. The North Coast Region is inundated with cannabis cultivation in headwaters and main river systems, with active, developed sites in steep and rugged terrain. With the increase in use and cultivation of cannabis since the voters' passage of the Compassionate Use Act (Prop 215) and the legislature's passage of AB 420, the unregulated activity of cannabis cultivation has grown increasingly year by year, with land area under cultivation increasing exponentially over the past decade. The increased cultivation throughout the North Coast Region has resulted in significant waste discharges and a loss of instream flows associated with improper development of rural landscapes on privately-owned parcels, and the diversion of springs and streams, to the cumulative detriment of beneficial uses of water.
2. The purpose of this Order is to provide a water quality regulatory structure to prevent and/or address poor water quality conditions and adverse impacts to water resources associated with cannabis cultivation on private land. Under this Order, any landowner or operator cultivating cannabis that results in a discharge of waste to an area that could affect waters of the State (including groundwater) will fall within one of three tiers depending on the nature of their operation and risk to water quality.¹ Properties with site characteristics or development that have impacts that cannot be ultimately mitigated to less than significant levels require regulation under a separate and individual order.
3. This Order applies to any person engaged in cultivating cannabis and associated activities, on private land, that discharge waste to any area that could affect waters of

¹ This Order does not apply to any parcel with a cumulative area of cannabis cultivation or operations with similar environmental effects of less than 2,000 square feet where there is no potential for discharge of waste.

the state including landowners, operators, lessees, tenants and occupiers² (hereinafter referred to as "Dischargers"). Subject to approval from the Executive Officer, Dischargers with similar operations to cannabis cultivation³ may also elect to enroll and comply with this Order to ensure their discharges are authorized. Landowners are responsible for the conditions, activities, and operations occurring on properties that they own. These activities have the potential to result in impacts to water resources, including discharges of waste to receiving waters. Landowners are responsible for discharges of waste and water resource impacts both from recent site development and activities underway, as well as discharges of waste from past or legacy development/features⁴ on the properties that they own. Cannabis cultivators, whether landowners or tenants, are also responsible for water resource and water quality impacts associated with their occupancy of and activities on a property. Compliance with this Order may require information from or cooperation between both landowners and their tenants.

4. Discharges and related controllable water quality factors from the following activities covered under this Order include:
 - a. Maintenance of developed areas and drainage features.
 - b. Stream crossing maintenance and improvement, including culvert sizing and installation, non-culverted stream crossing installation, culvert cleaning, culvert improvement and repair, and culvert and non-culverted stream crossing replacement.
 - c. Activities within and adjacent to wetlands and riparian zones.
 - d. Spoil storage and disposal.
 - e. Water diversion, storage, and use.
 - f. Irrigation runoff from cannabis cultivation and other similar growing operations.
 - g. Fertilizer, soil amendments, petroleum products, biodiesel, and pesticide/herbicide/rodenticide storage, use, and waste disposal.
 - h. Waste handling and disposal, including empty soil/soil amendment/fertilizer/pesticide bags and containers, empty plant pots or containers, dead or harvested plant waste, spent growth medium, and other cultivation-associated wastes.

² A lessee/occupier has primary responsibility for compliance; however, if the lessee/occupier fails to clean up or comply and/or cannot be reached, the landowner must assume responsibility (see Vallico Park, State Water Board WQO 86-18).

³ Operations with similar environmental effects do not include agricultural operations otherwise subject to existing agricultural permits or those in development.

⁴ Legacy features are considered controllable sediment delivery sites as defined in footnote 25.

- i. Household refuse, human waste and domestic wastewater.
 - j. Site remediation/cleanup/restoration activities including, but 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 or maintaining water bars, ditch relief culverts and overside drains, removing berms, stabilizing unstable areas, reshaping cutbanks, and rocking native-surfaced roads.
5. This Order authorizes discharges of waste from cannabis cultivation sites and associated activities listed above. Most of the potential water quality impacts from the listed activities are associated with erosion and sediment delivery⁵ and/or changes to riparian systems that may reduce shade and affect water temperatures, over allocation of water sources, and chemical/pollutant discharges from areas under cultivation or material/waste storage areas. This Order contains requirements that eliminate, minimize, or mitigate these impacts to protect and/or restore water quality. Listed activities that also require water quality certification are subject to additional requirements described in findings 28-31 and General Water Quality Certification. This Order does not authorize dredge and fill activities that result in a permanent loss of wetlands and other waters.
 6. This Order does not preclude the need for permits that may be required by other governmental agencies for the activities listed in finding 4, nor does it supersede any requirements, ordinances, or regulations of any other regulatory agency, including necessary certification and permitting for the application of pesticides and herbicides and proper handling and disposal of solid and domestic wastes.
 7. This Order does not apply to land use activities subject to other permitting programs (e.g., industrial activities, animal waste, mining, forestry), and hazardous waste cleanup.
 8. This Order does not authorize discharges of waste associated with any new development of sites for cannabis cultivation or related activities. Dischargers must obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ) for construction projects (individual or part of a common development) that disturb one or more acres of land surface, specifically for new site preparation and development.⁶ Timberland conversion requires permitting through CalFIRE and subsequent enrollment under Order No. R1-2004-0030, General Waste Discharge Requirements for Discharges Related to Timber Activities on Non-Federal Lands in the North Coast Region. In addition, any new site development involving dredge or fill in waters of the

⁵ Fine sediment waste discharges into surface waters impact many beneficial uses including those associated with fish habitat and health, domestic, municipal, and agricultural water supplies, and recreation.

⁶ Construction activities subject to the Construction General Permit include clearing, grading and disturbances to the land surface such as stockpiling, or excavation, but do not include regular maintenance activities performed to repair roads and related facilities.

United States must apply for and receive coverage under Clean Water Act section 401 water quality certification. Many sites in the North Coast include steep slopes, highly erodible soils, or unstable areas. Land development on sites with these characteristics often requires design and oversight by a licensed engineer, geologist, or other appropriate California-licensed individual during construction to ensure that constructed features on the site are stable and do not represent a threat to the beneficial uses of water or public health and safety.

9. This Order does not in any way authorize, endorse, sanction, permit or approve the cultivation, possession, use, sale or other activities associated with cannabis. Individuals engaging in cannabis cultivation and other activities risk prosecution under federal, state, or local law.

Water Quality Regulation

10. Water Code section 13260(a) 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. This Order conditionally waives the requirement to file a ROWD for discharges and associated activities described in finding 4.
11. The *Water Quality Control Plan for the North Coast Region* (Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives to protect waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. Economic considerations were evaluated as required by law during the development of these objectives. Compliance with the conditions, prohibitions, and provisions contained in this Order will implement these previously-developed water quality objectives and protect beneficial uses.
12. Activities described in finding 4 that involve construction and other work in waters of the United States may require a federal permit pursuant to section 404 of the Clean Water Act. Section 401 of the Clean Water Act (33 U.S.C. §1341) requires every applicant for a federal license or permit to apply for and receive water quality certification from the state. State water quality certification conditions shall become conditions of any federal license or permit for the project. This Order includes a Section 401 General Water Quality Certification for activities and associated discharges described in finding 4.
13. The federal Clean Water Act section 303(d) requires the states to determine waterbody compliance with water quality objectives and to develop a list of impaired waterbodies.

Federal regulations require that a Total Maximum Daily Load (TMDL) be developed for 303(d)-listed waterbodies for each pollutant of concern. The US Environmental Protection Agency (EPA) has established TMDLs for 25 impaired stream segments in the North Coast Region. The Regional Water Board has adopted five additional TMDLs for impaired stream segments in the North Coast Region with accompanying implementation plans.

14. The majority of the North Coast TMDLs developed to date address sediment and temperature impairments, most with common approaches. The TMDLs typically list COLD⁷ as an important beneficial use. While specific load allocations and targets may vary slightly, all address the need to reduce and prevent excess sediment inputs and decrease water temperature by protecting and restoring natural shade or conditions equivalent to natural shade.
15. Implementation of this Order will address sediment and temperature impairments by requiring: 1) the application of Best Management Practices (BMPs) to avoid excess sediment and other waste discharges; 2) the protection and maintenance of riparian conditions and shade; 3) inventories, prioritization and remediation of sediment delivery sites; 4) implementation and effectiveness monitoring of BMPs and documentation of the monitoring results; 5) water conservation and measures to ensure that water diversions do not unreasonably impact beneficial uses; and 6) on-going education and outreach. For activities identified in finding 4, it is anticipated that compliance with the conditions contained in this Order will serve to prevent or minimize a site's contribution to watershed impairments and, thus, represent compliance or progress toward compliance with applicable sediment and temperature TMDLs, subject to periodic review, monitoring and reassessment.
16. It is evident that the over-diversion of surface water for cannabis cultivation continues to impact instream beneficial uses. The impacts are compounded by the cumulative effect of many dischargers drawing on the same water source, which is often the biggest problem in regulating nonpoint sources. The State Water Board, Division of Water Rights is the agency with authority to oversee and regulate water rights. The Regional Water Board does not have jurisdiction to determine the scope and extent of any water right, or grant or make changes to water rights permits and licenses; however, it may request that the State Water Board consider various water right actions and refer cases to the Office of Enforcement. Additionally, the Regional Water Board may require information pursuant to Water Code section 13267.

Under Water Code 174, "[i]t is also the intention of the Legislature to combine the water rights, water quality, and drinking water functions of the state government to provide for coordinated consideration of water rights, water quality, and safe and reliable drinking water." Accordingly, this Order contains information requirements pursuant to

⁷ Cold Freshwater Habitat (COLD): Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Water Code section 13267, and general guidance provisions for water quality as it relates to the diversion and use of surface water.

Program Framework

17. In order to prevent and/or address poor water quality conditions and adverse impacts to beneficial uses associated with cannabis cultivation on private land, any landowner or operator cultivating cannabis that results in a discharge of waste to an area that could affect waters of the state (including groundwater) will fall within one of three tiers depending on the nature of their operation and risk to water quality.

Tier 1:

The first tier is for dischargers with low risk to water quality based on certain physical characteristics of the operation such as slope, proximity to surface water, and scale of the operation. Specifically, slopes⁸ are no more than 35%; cultivation areas⁹ are no more than 5000 square feet; no cultivation areas or associated facilities¹⁰ are located within 200 feet of a surface water (i.e., wetland, Class I, II, or III¹¹ streams); and Tier 1 Dischargers do not directly divert surface water from May 15 through October 31.¹²

⁸ The Tier 1 slope criteria apply to areas within and adjacent to the cultivation area; if the cultivation area has been terraced, the slope shall be calculated as the average of the up and down gradient slopes.

⁹ Cultivation area: The sum of the area(s) of cannabis cultivation and/or operations with similar environmental effects as measured around the perimeter of each discrete cultivation area on a single parcel of land.

¹⁰ Associated facilities include those constructed or placed features that facilitate plant cultivation (including but not limited to storage buildings, material and water storage areas, and irrigation systems).

¹¹ A wetland is: An area that is covered by shallow water or where the surface soil is saturated, either year round or during periods of the year; where that water coverage has caused a lack of oxygen in the surface soil; and has either no vegetation or plants of a type that have adapted to shallow water or saturated soil. Some examples are fresh water marshes, bogs, riparian areas, vernal pools, coastal mud flats and salt marshes.

California Forest Practice Rules define a Class I watercourse as 1) a watercourse providing habitat for fish always or seasonally, and/or 2) providing a domestic water source; a Class II watercourse is 1) a watercourse capable of supporting non-fish aquatic species, or 2) a watercourse within 1000 feet of a watercourse that seasonally or always has fish present; and a Class III watercourse is a watercourse with no aquatic life present, and that shows evidence of being capable of transporting sediment to Class I and Class II waters during high water flow conditions after completion of timber operations.

¹² Persons who are diverting water pursuant to a riparian water right, and move to storage for the purpose of meeting Tier 1 characteristics or for any other reason, must apply for and obtain an appropriate water right. The Department of Fish and Wildlife, in collaboration with the State Water Resources Control Board, has developed an expedited process for applying conditions to Small Domestic Use registrations for diversions that meet certain criteria. Registrations that meet these criteria are known as Emergency Tank Storage Registrations. A "small irrigation" registration process is also available in certain locations for water diversions not associated with the primary dwelling (i.e. commercial crop). Additional information on these programs is provided here (as of the date of the Order):

http://www.swrcb.ca.gov/waterrights/water_issues/programs/registrations/index.shtml Others may need to file an application for a water right under the regular permitting process. (See generally http://www.swrcb.ca.gov/waterrights/board_info/faqs.shtml.)

Dischargers in this tier must adhere to certain standard conditions contained in this Order at section I.A. Dischargers must certify that their site meets Tier 1 characteristics and standard conditions. (See Appendix C.)

A copy of the self-certification and this Order must be retained on site and shown to Regional Water Board staff on request. Enrollment, annual fee, and annual reporting are required for Tier 1, and dischargers are subject to civil liabilities and other formal enforcement actions if standard conditions are not met. If a site meets Tier 1 characteristics but does not meet standard conditions, the discharger must enroll under Tier 2 and follow Tier 2 requirements. Once standard conditions are met, (by development and full implementation of a water resource protection plan), a discharger may re-enroll under Tier 1.

Tier 2:

Tier 2 is for dischargers with operations that present a higher threat to water quality and water resources. The site does not meet the characteristics of Tier 1, or the site meets the Tier 1 characteristics but does not meet standard conditions. Tier 2 Dischargers must develop and implement a water resource protection plan that includes management measures to be implemented to meet standard conditions. Required components of the water resource protection plan are detailed in this Order at section I.B. A copy of the water resource protection plan and this Order must be retained on site and shown to Regional Water Board staff on request. Enrollment, an annual fee, and annual reporting are required for Tier 2, and dischargers are subject to civil liabilities and other formal enforcement actions if standard conditions are not met and/or a water resource protection plan is not prepared or implemented according to schedules established in the water resource protection plan.

Dischargers with cultivation areas less than 10,000 square feet that have fully implemented a water resource protection plan and are determined by Staff or an approved third party to pose a low threat to water quality based on full compliance with standard conditions qualify for star status (Tier 2*). This includes sites that may be over 5,000 square feet, but otherwise meet Tier 1 site characteristics. Tier 2* Dischargers may be subject to a lower fee requirement.

Tier 3:

The third tier is for dischargers with sites requiring cleanup, restoration, and/or remediation based on current or past land development/management activities that have resulted in a discharge or threatened discharge in violation of water quality standards. Such conditions may include, but are not limited to, filled watercourses or wetlands, perched fill, steep cut slopes, roads, or fill prisms that cannot be stabilized sufficiently to prevent erosion and sediment delivery to surface waters (either on or off site). Tier 3 Dischargers must develop and implement a cleanup and restoration plan as detailed in this Order at section I.C., and comply with applicable standard conditions. Enrollment and annual fee through the life of cleanup activities is required for Tier 3, and dischargers are subject to civil liabilities and other formal enforcement actions if applicable standard conditions are not met and a cleanup plan is not developed or implemented. Tier 3 Dischargers who are cultivating cannabis concurrent with or

following site cleanup activities must adhere to all standard conditions and develop and implement a water resource protection plan for cannabis cultivation activities. Tier 3 Dischargers who are cultivating cannabis concurrent with site cleanup are also subject to Tier 2 annual fees and annual reporting, and are subject to civil liabilities and other formal enforcement actions if standard conditions are not met or a water resource protection plan is not prepared and implemented according to schedules established in the water resource protection plan.

18. Dischargers fall within one of the above three tiers. Dischargers shall be in the tier that covers the most impactful part of the operations (i.e., different sections of property are not divided among the tiers). All sites, regardless of size or tier, are subject to the standard conditions in section I.A. Tier 2 Dischargers are also subject to section I.B.; Tier 3 Dischargers are subject to sections I.A. and I.C. and, if cultivating cannabis before, during, or following cleanup activities, are also subject to section I.B.

Some site-specific characteristics or cultivation operation characteristics may represent a higher threat to water quality than suggested by tier characteristic description, warranting regulation under higher tier requirements. Such sites will typically be identified by staff based on field inspection observations, or by recommendations made by approved third parties. Subject to approval from the Executive Officer, dischargers with operations that are similar to or whose potential impacts to water resources are similar to those posed by cannabis cultivation may also elect to enroll and comply with this Order to ensure their discharges are authorized.

19. This Order requires control of erosion and drainage features, proper soil disposal, proper stream crossing maintenance and improvements, water conservation, proper storage and handling of fertilizers and soil amendments, refuse and human waste, and petroleum products and other chemicals, and riparian management and protection. Standard conditions I.A. further describe the required site conditions. All Tier 1 Dischargers are responsible for ensuring that standard conditions are met. For more complex properties, 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. Plans can range from a simple description of the management practices to be implemented, to comprehensive descriptions of existing sources of waste discharge and elevated water temperatures, management practices employed to control the sources, and a monitoring and reporting program to document actions taken to control the sources and the effectiveness of such actions. The level of detail required in a plan will be dependent on the site-specific characteristics of an activity/operation. Plans must be kept available on the site and subject to inspection.
20. Appendix B provides best management practices (BMPs) that may be applicable to prevent, minimize, control and mitigate the discharge of waste and other controllable water quality factors. All BMPs in Appendix B are considered enforceable conditions under the Order as applicable to a given site. Some or all may be added to the Order as mandatory BMPs for all sites.

21. Third party programs - Tiers 1 and 2 Dischargers have the option to enroll, participate and comply with this Order through an approved, third party program. Third party programs can increase the program effectiveness and administrative efficiency of the Order, provided that the program meets certain elements (including sufficient feedback mechanisms to Regional Water Board). Third party programs can help meet some or all of the following:

- Tracking names of enrolled (and non-enrolled) dischargers.¹³ This includes data entry in the California Integrated Water Quality System (CIWQS), using a unique and secure identifier and providing a framework for annual compliance reporting to CIWQS or other program as approved by the Executive Officer.
- Collecting and submitting required fees.¹⁴
- Managing communication and notifications between enrolled dischargers and the Regional Water Board, including informing growers of the program and status of implementation.
- Assisting dischargers with identifying the proper tier for a specific site.
- Assisting self-certification requirements for dischargers meeting Tier 1 characteristics.
- For Tier 2 Dischargers, developing sample water resource protection plans, helping individual dischargers to develop individual plans, and/or developing a more comprehensive community plan which individual dischargers agree to abide by. Plans must include a timeline for implementation as appropriate.
- Assisting dischargers in implementing water resource protection plans. This must include site inspections and documentation of timely implementation or installation of management measures per schedule in the water resource protection plan, and evaluation of their effectiveness in meeting intended objectives.
- Monitoring and reporting to Regional Water Board, including compliance with the Order, and effectiveness of management measures.

Compliance Assistance and Enforcement

22. Tier 1 Dischargers are required to meet standard conditions. Regional Water Board staff will be available to assist dischargers with complying with standard conditions, upon request. If standard conditions cannot be met, discharger must enroll under Tier 2 and develop and implement a water resource protection plan until standard conditions can be met. Once standard conditions are met, discharger may move to Tier 1. Tier 1 Dischargers must complete a self-certification (see Appendix C), indicating that the site meets Tier 1 characteristics and standard conditions, and retain the self-certification

¹³ Tracking individual enrollments is a basic function that third parties must perform to facilitate implementation of the conditions of this Order and to provide the basic spatial information for watershed-scale program effectiveness reporting.

¹⁴ A third party must collect fees from enrollees, in accordance with the State Water Board fee schedule contained in title 23 of the California Code of Regulations, and submit them to the State Water Board. The fees invoiced by the State Water Board will be based on each enrollee's tier status.

and this Order on site. The self-certification must be made available to Regional Water Board staff upon request. Tier 2 Dischargers and Tier 3 Dischargers (who are cultivating cannabis) are required to keep on the site a water resource protection plan, and implement the plan. Tier 3 Dischargers are also required to develop, submit and implement a cleanup and restoration plan. Staff may either confirm the adequacy of a water resource protection plan, or require that improvements be made. Similarly, staff may confirm that a site is Tier 3 and require cleanup and abatement actions and/or issue a separate cleanup and abatement order under Water Code section 13304.

23. Staff may conduct onsite inspections to assess compliance with conditions, and provide technical assistance or guidance, where necessary. Staff will conduct a certain number of routine inspections on a yearly rotation. Individual sites to inspect are prioritized based on threat to water quality (i.e. amount of land disturbance, proximity to watercourses and wetlands, etc.), and level of individual or third party program participation under the Order. Watershed or subwatershed areas may also be selected based on observable density or number of developed cultivation sites, or significant observed or reported instream impacts. Inspections allow Regional Water Board staff to confirm that dischargers have correctly identified their appropriate tier for coverage under this Order and are complying with applicable conditions and requirements. Inspections also serve to validate third-party program efficacy.
24. The Regional Water Board participates in environmental crimes and other multi-agency task forces in several counties, as well as a statewide and a federal task force. Some task force activities include identifying cultivation sites through various methods including, but not limited to, aerial surveillance, satellite imagery, and complaints received from the public or from other law enforcement agencies. It is the Regional Water Board's intent to coordinate environmental task force activities with this Order to the extent possible.
25. Dischargers who failed to enroll in this Order but can demonstrate compliance with the substantive requirements of this Order (including plans, schedule, and reasonable progress in bringing conditions on the site into compliance with the Order) may be subject to any additional enforcement response for failure to enroll and at a minimum must subsequently enroll and pay applicable fees for the time they should have been enrolled. Dischargers may be referred to organizations or groups that can provide technical assistance or support. The Regional Water Board prefers that water quality impacts be regulated under this Order to the extent possible. However, the Executive Officer reserves the right to require the discharger to submit a Report of Waste Discharge (ROWD) and/or to take other actions, including enforcement, as appropriate.
26. If water quality violations or impacts are confirmed, enforcement response may include requirements to clean up and abate violation conditions, restore impacted watercourses, remove and properly dispose of waste earthen material and other wastes, repair or remove stream crossings, upgrade roads, improve site drainage, and/or stabilize bare, erodible soils. If already enrolled under this Order, dischargers with cleanup obligations will need to comply with Tier 3 requirements of this Order. If not enrolled, dischargers must enroll and comply with this Order, and pay all applicable

fees for the time that they should have been enrolled, or otherwise be subject to an individual order. Enforcement response may also include assessment of penalties for violations, discharges of waste, or failure to comply with cleanup orders.

27. Nothing in this Order precludes actions to enforce any directly applicable requirements, prohibitions, or provisions, or to require cleanup and abatement of existing sources of pollution, where appropriate.

General Water Quality Certification

28. Remediation/cleanup/restoration activities described in finding 4 that involve construction and other work in waters of the United States may require a permit from the Army Corps of Engineers pursuant to section 404 of the Clean Water Act. Section 401 of the Clean Water Act (33 U.S.C. §1341) requires every applicant for a federal license or permit to provide the licensing or permitting federal agency with section 401 certification that the project will be in compliance with state water quality standards and implementation plans promulgated pursuant to section 303 of the Clean Water Act, and other appropriate requirements of state law (33 U.S.C. § 1313). The Regional Water Board Executive Officer may issue a decision on a water quality certification application. (Cal. Code Regs., tit. 23, § 3838, subd. (b).) State water quality certification conditions shall become conditions of any federal license or permit for the project.
29. The Regional Water Board may issue a general water quality certification for a class or classes of activities that are the same or similar, or involve the same or similar types of discharges and possible adverse impacts to water quality if it determines that these activities are more appropriately regulated under a general certification rather than individual certifications. (Cal. Code Regs., tit. 23, §3861.) General certifications apply for a fixed term not to exceed five years, must be conditioned to require notice to the Regional Water Board prior to commencement of the activity, and include appropriate monitoring and reporting requirements. A fee is also required pursuant to California Code of Regulations, title 23, section 3833, sub.(b)(3).
30. The General Water Quality Certification contained in this Order shall not apply to activities that will: 1) result in significant unavoidable environmental impacts including permanent impacts to wetlands and other waters from dredge and fill activities, and/or violation of water quality standards; 2) result in the direct or indirect take of any listed species; or 3) expose people and/or structures to potential adverse effects from flooding, landslides or soil erosion. (Cal. Code Regs., tit. 23, §3861, subd. (d).)
31. This Order includes a General Water Quality Certification for activities covered under this Order that may require a federal permit. General certification conditions in addition to waiver conditions are provided for in section V. General 401 Water Quality Certification of this Order. A discharger seeking Clean Water Act section 401 certification for a project shall notify the Regional Water Board 60 days prior to the proposed commencement of the activity and submit information regarding the construction schedule and other relevant information including an appropriate fee. Unless the Regional Water Board determines that the project or activity does not meet

the specified criteria for coverage under the General Water Quality Certification, this Order will provide Clean Water Act section 401 certification for the federal permit required for that project. The discharger may not commence the activity until the Regional Water Board notifies the discharger that the work is authorized. A list of projects authorized by this General Water Quality Certification will be posted on the Regional Water Board's website and shall serve as notice to the Army Corps of Engineers of project coverage. Projects that do not meet the criteria for coverage under the general certification must apply for individual certification.

Procedure

32. Tier 1 Dischargers shall complete and submit the applicable Tier 1 section of the Notice of Intent (NOI) form (Appendix A) and monitoring report self-certification (Appendix C) and retain a copy of the completed forms on-site with a copy of this Order. Tier 1 Dischargers may demonstrate enrollment and certification of compliance via alternative communication by participating in an approved third party program. The self-certification is meant to confirm that the site falls within Tier 1 scope and is meeting standard conditions. The self-certification must be provided for review upon request of Regional Water Board staff. Dischargers are encouraged to request a site inspection by an approved third party or Regional Water Board staff to confirm Tier 1 status. Tier 2 Dischargers shall complete and submit an NOI Form, and monitoring report (Appendix C). Tier 2 Dischargers must retain on site a copy of their NOI, monitoring reports, water resource protection plan and a copy of this Order. These documents must be provided for review upon request of Regional Water Board staff. Tier 3 Dischargers must complete and submit NOI Form, monitoring report, and submit a cleanup and restoration plan to the Regional Water Board for review and approval. Once a cleanup and restoration plan has been fully implemented, Tier 3 Dischargers submit a Notice of Completion and upon approval by the Executive Officer, may move out of Tier 3. If any Discharger ceases operations and wants to terminate permit coverage, the Discharger shall notify the Regional Water Board or an approved third party. The Discharger must demonstrate compliance with standard conditions and water resource protection plans and cleanup and restoration plans, as applicable.

The timeframe for compliance with this Order, including filing NOI forms, water resource protection plans, and cleanup and restoration plans, is described in section II.

33. A third party program seeking approval from the Executive Officer to fulfill some or all of the elements listed in finding 21 must submit a proposal to the Regional Water Board (see Order at II.B). The proposal must demonstrate the substantive and procedural mechanisms to serve the function it is applying for. Third Parties are encouraged to work with Regional Water Board staff as early as possible (even prior to order adoption) to calibrate their program to the requirements of this Order

Fees

34. Under Water Code section 13269 subdivision (a)(4), a regional water board may include as a condition of a waiver the payment of an annual fee. Annual fees are

established by the State Water Board in accordance with Water Code section 13260 subdivisions (d) and (f). A discharger seeking coverage under this Order in Tiers 1, 2 or 3 will be required to pay an annual fee as set forth in California Code of Regulations title 23, section 2200.

Monitoring and Reporting

35. Water Code section 13267, subdivision (a), authorizes the Regional Water Board to investigate the quality of any waters of the state within its region in connection with any action relating to the Basin Plan. Water Code section 13267, subdivision (b) provides that the Regional Water Board, in conducting an investigation, may require Dischargers to furnish, under penalty of perjury, technical or monitoring program reports. A technical report, and restoration and monitoring work plan required by this Order, pursuant to Water Code section 13267, is necessary to ensure that the prior harm and future threat to water quality created by the discharges described above are properly assessed, abated, and controlled.

The Monitoring and Reporting Program (MRP) is detailed in this Order at section I.D and Appendix C. Tier 1 Dischargers must inspect their site periodically and re-certify that it meets Tier 1 characteristics and standard conditions annually. Annual updates to the certification shall be maintained on site with the initial self-certification and copy of the Order.

Tier 2 Dischargers must 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 must submit annual reports that document implementation and effectiveness of management measures. Tier 2 annual reporting is a function that may be provided through an approved third party program. Tier 3 Dischargers must incorporate monitoring and reporting elements into their cleanup and restoration plans for approval by the Executive Officer. At a minimum, the monitoring and reporting must document completion and effectiveness of the specified cleanup and restoration actions in the plan.

Anticipating that this program will result in an increased rate of site restoration and stream crossing replacement on sites across the region following Order adoption, Regional Water Board staff will implement comprehensive activity tracking by mapping Tier 3 cleanup and restoration sites and individual instream work proposed under Tier 2 water resource protection plans, including those covered under the provisions of this Order or through other individual or general orders issued by the Regional or State Water Board. Staff may draw information from Geotracker and SMARTS, the Regional Water Board's timber tracking database, and other available sources to help correlate cleanups and activities or restoration or remediation work in streams or wetlands that are proposed and underway in individual watersheds and subwatersheds. Comprehensive activity tracking will enable the Regional Water Board to direct activity timing under this Order as necessary to limit the number of individual potential construction-related impacts occurring at any given time in any given

watershed. Specifically, where cleanup activities or restoration or remediation work in streams or wetlands are proposed to be implemented on several properties within a subwatershed, staff will consult with project consultants and other sources to stagger the timing of implementation.

Additional Findings

36. State Water Board Resolution No. 68-16 Statement of Policy with Respect to Maintaining High Quality of Waters in California (Resolution No. 68-16) requires that regional water boards, in regulating the discharge of waste, to maintain high quality waters of the state, require that any discharge not unreasonably affect beneficial uses, and not result in water quality less than that described in regional water board's policies. This order is addressing an existing, previously unregulated discharge, and water quality impacts have already occurred. With the exception of certain cleanup activities, the order is not anticipated to result in new discharges. Compliance with the terms of this order should result in an improvement in water quality at and downstream of these sites. Any increase in further degradation to water quality as a result of this Order is not anticipated. This Order is consistent with Resolution No. 68-16 because it will result in a net benefit to water quality by improving existing environmental conditions currently impacted by this activity. The Order is designed to protect or recover instream beneficial uses and does not promote or authorize the permanent lowering of high quality waters. Mitigation measures are available and will be required to reduce to less-than-significant levels any potentially significant water quality impacts from cleanup/remediation and restoration activities. Implementation of this Order is a good first step toward bringing this largely un-regulated activity into compliance with the Basin Plan.

37. As lead agency under the California Environmental Quality Act (CEQA), the Regional Water Board provided notice of intent to adopt a mitigated negative declaration (SCH No. 2015042074) for this Order on April 24, 2015 (Cal. Code Regs., tit. 14, § 15072). The mitigated negative declaration reflects the Regional Water Board's independent judgment and analysis. After considering the document and comments received during the public review process, the Regional Water Board hereby determines that the proposed project, with mitigation measures, will not have a significant effect on the environment. The documents or other materials, which constitute the record, are located at 5550 Skylane Blvd, Suite A, Santa Rosa, CA 95403. The Regional Water Board will file a Notice of Determination within five days from the issuance of this order. Mitigation measures necessary to reduce or eliminate significant impacts on the environment and monitoring and reporting are incorporated as conditions of approval below.

38. The Regional Water Board has reviewed the contents of this Order, its accompanying Initial Study and Mitigated Negative Declaration, written public comments and testimony provided after notice and hearing and finds that the adoption of this Order is consistent with the Basin Plan, and is in the public interest.

THEREFORE, IT IS HEREBY ORDERED that pursuant to Water Code sections 13263, subdivision (a), 13267, and 13269, the Regional Water Board waives the requirement to submit a report of waste discharge and the requirement to establish waste discharge requirements [WDRs] for activities described in finding 4. Dischargers shall comply with the following:

- I. As described in the findings above, 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., and Tier 3 Dischargers are subject to sections I.A., I.B.(if cultivating cannabis), and I.C. The Executive Officer has sole discretion to determine that a given site belongs in a specific tier, or to require the submittal of an individual report of waste discharge under Water Code section 13260.

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 disconnected¹⁵, as feasible,

¹⁵ 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)

from surface waters, including wetlands, ephemeral, intermittent and perennial streams.

- 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.¹⁶
- 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.¹⁷

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.

¹⁶ 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.

¹⁷ If infeasible to install a critical dip, an alternative solution may be chosen.

The Regional Water Board or its Executive Officer may apply additional or alternative¹⁸ conditions on enrollment, including site-specific riparian buffers and other BMPs beyond those identified in water resource protection plans to ensure water quality protection.

- 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. Spoils¹⁹ shall not be stored or placed in or where they can enter any surface water.
- 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-12²⁰ watershed or at a smaller hydrologic watershed as determined necessary by the Regional Water Board Executive Officer.

¹⁸ 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.

¹⁹ 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.

²⁰ 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.
- c. For Tier 2 Dischargers, if possible, develop off-stream storage facilities to minimize surface water diversion during low flow periods (see also footnote 11).
- d. Water is applied using no more than agronomic rates.²¹
- 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 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.

²¹ "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.

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. (See also Appendix E.)

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 stored²² 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.

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 outsloping 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

²² Plant waste may also be composted, subject to the same restrictions cited above for cultivation-related waste storage.

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.

These protection and mitigation measures have been developed to prevent or reduce the environmental impacts and represent minimum, enforceable standards by which cleanup activities shall be conducted under this Order.

B. Water Resource Protection Plan

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 below. Dischargers must keep this plan on site, and produce it upon request by Regional Water Board staff. Dischargers shall implement plans, including the identified management practices in a manner that is protective of water quality. If time is needed to meet standard conditions, the plan must include a timeline with measurable milestones.²³ 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.

Any proposed work in streams and wetlands, as described in 3-5 below shall be submitted to the Regional Water Board for review and authorization 60 days prior to commencement. (See Appendix D.) In the alternative, dischargers may opt to seek authorization for instream work through other individual or general orders.²⁴

²³ Generally, compliance with standard conditions is expected in the shortest time possible, and no later than the expiration of this Order (five years). However, in recognizing the challenges associated cumulative water use and cleanup of legacy conditions (available resources, studies, additional permitting, etc.), compliance schedules for standard condition 1.5.a, and standards for which corrective work is needed under Order section II.5.c may extend beyond Order expiration and continue through any reissuance of the Order.

²⁴ See e.g.

http://www.waterboards.ca.gov/northcoast/water_issues/programs/water_quality_certification.shtml

1. Map of property including areas of operations, roads, water bodies, all cleared/developed areas, and including general drainage patterns and directions.
2. Applicable design drawings and schematics for watercourse structures, fish passages, roads, septic tanks, fill prisms, pads, ponds, or any other constructed feature that has been designed or engineered.
3. Assessment of current conditions and identification of any features needing improvements to correct the function of any roads or developed areas, drainage features or measures, encroachments into riparian buffer areas, controllable sediment delivery sites,²⁵ including stream crossings in need of correction (undersized, improperly installed, improperly maintained, or otherwise substandard).
4. Detailed list of specific management practices designed to meet standard conditions in I.A., above, incorporating applicable standard BMPs from Appendix B, and any improvement work needed to bring site features into compliance with the standard conditions. Management practices must address erosion control/stability, stream crossing construction/maintenance, riparian protection, road construction and maintenance, spoils storage and disposal, chemical handling and management, waste handling and disposal, irrigation runoff, and water storage and use.
5. If site problems are identified, include a prioritization and implementation schedule for corrective action based on potential impacts to the beneficial uses of water, and a plan to inspect the site to evaluate the effectiveness of corrective action and identify where additional work may be needed. Proposed work in streams and wetlands shall be designed by a qualified registered professional and shall incorporate applicable standard BMPs from Appendix B.
6. List of chemicals stored onsite, and information about use (e.g., quantities used and frequency applied).
7. Monitoring element (see discussion at section I.D.) to ensure that BMPs are being implemented and to evaluate their effectiveness.
8. Water Use: Plan shall record water source, relevant water right documentation, and amount used monthly.²⁶ Plan must describe water conservation measures and document approach to ensure that the quantity and timing of water use is not impacting water quality objectives and beneficial uses (including cumulative

²⁵ Controllable sediment delivery sites are generally areas that are discharging or have the potential to discharge sediment to waters of the state, that are caused or affected by human activity, and may feasibly and reasonably respond to prevention and minimization management measures.

²⁶ All water sources shall be recorded, including alternative sources such as rain catchment and groundwater, and/or hauled water. Hauled water shall be documented as specified in the MRP.

impacts based on other operations using water in the same watershed). Water use will be presumed to not adversely impact water quality under one of the following scenarios:

- No surface water diversions from May 15-Oct 31.
- Water diversion pursuant to a local plan that is protective of instream beneficial uses.
- Other options: (e.g., % of flow present in stream; riffle depth; gage at bottom of Class I stream; AB2121 equations; DFW flow recommendations; promulgated flow objective in Basin Plan).

C. Cleanup and Restoration Plan

Pursuant to Water Code section 13304, Tier 3 Dischargers shall submit to the Regional Water Board a cleanup and restoration plan, prepared by a California registered civil engineer or professional geologist, that contains the elements listed below. Once the cleanup and restoration plan is approved by the Executive Officer, the Discharger shall implement the plan, incorporating any additional conditions or monitoring and reporting provision included in the Executive Officer's approval.

1. Map of property including areas of operations, roads, water bodies, all cleared/developed areas, all structures, and general drainage patterns and directions.
2. Design drawings at 1:12000 or larger scale (e.g., 1:6000) that delineate existing site conditions including existing and buried surface waters, projected restored slopes and surface waters, restoration plan work points, spoil disposal sites, re-vegetation planting areas, and any other features or site construction details to complete the scope of work; design and construction standards for earthen material compaction and stabilization and for re-planting of exposed soils with native vegetation; and erosion control methods and standards for unanticipated precipitation during remediation.
3. Plan and Schedule to accomplish the following:
 - a. Remove all earthen material and other discharged or placed debris from surface waters, including instream dams.
 - b. Restore the vegetative and hydrological functions of the damaged streams wetlands, and drainages to ensure the long term recovery of the affected surface waters.
 - c. Provide for free-draining, dispersed runoff from all disturbed surfaces, such that hydrologic connectivity is eliminated, gullying is prevented, and water is directed to stable slope areas. Unstable sidecast spoil materials shall be removed or stabilized so they do not fail and deliver sediment to a nearby watercourse.

- d. Replant the slopes and streamside areas with native vegetation to increase shading, prevent erosion and provide streamside protection.
 - e. Control erosion and sediment delivery prior to, during, and following site restoration efforts, until vegetation is established.
4. To the extent possible, all work shall be completed prior to the first winter after plan approval. Depending on the extent of the work, the timing of plan submittal and approval, need for permits by other agencies, or other restrictions, it may require more than one construction season to complete work. The plan shall provide details and specifications, both in the narrative plan and as applicable in design drawings, for site winterization as needed to minimize and control erosion and sediment delivery over winter periods while construction is underway.
 5. Monitoring and reporting element to document timely completion and effectiveness of specified cleanup actions in the plan, including the implementation and effectiveness of management measures, according to the schedule approved in the plan.
 6. The cleanup and restoration plan shall incorporate all applicable management measures identified in the accompanying CEQA document and Appendix B.
 7. Development of the cleanup and restoration plan shall include consideration of (and make appropriate provision for) site-specific conditions or features that may warrant additional special BMPs, such as presence of expansive soils, presence of landslides and unstable features, proximity to earthquake faults or 100-year floodplains, or other unique geological or paleontological features. If the cleanup site is located in an Alquist-Priolo Earthquake Fault Zone or an area with substantial evidence of a known fault, the cleanup and restoration plan will consider fault rupture hazard during the siting, design, and monitoring of applicable site features in order to minimize the impact to public safety. The cleanup and restoration plan shall also consider hazards associated with strong seismic ground shaking and seismic-related ground failure, including liquefaction, during the siting, design, and monitoring of applicable site features in order to minimize the impact to public safety.
 8. Any hazardous waste generated from the demolition of structures or impoundments shall be disposed of in designated hazardous waste landfills.

D. Monitoring and Reporting Program

Tier 1 Dischargers shall inspect their site periodically and re-certify that it meets Tier 1 characteristics and standard conditions annually (Appendix C). Annual updates to the certification shall be maintained on site with the initial certification and copy of the Order.

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.

Under an approved third party program, watershed-scale program effectiveness shall be reported in a consistent/compatible manner (i.e., consistent with how other approved third party programs assisting with implementation of this Order are reporting) that enables region-wide comparison of subwatershed reports. The required summary information includes the following information:

- Number of enrollees in each tier category, by subwatershed;
- Total fees charged;
- Compliance status (for example, how many Tier 2 Dischargers are either in the process of developing water resource protection plans, how many have developed and are implementing plans, how many are in compliance with standard conditions, how effective are BMPs, what changes or improvements are proposed to improve program effectiveness or compliance rate); and
- Monitoring information for each of the parameters listed in the MRP.

Tier 3 Dischargers shall incorporate a monitoring and reporting element into their cleanup and restoration plans for approval by the Executive Officer. At a minimum, the monitoring and reporting must document completion and effectiveness of the specified cleanup actions in the plan. Tier 3 Dischargers shall also submit an annual report (Appendix C) by March 31 of each year.

Regional Water Board staff will develop and implement comprehensive activity tracking by mapping Tier 3 cleanup sites and individual stream crossings proposed for replacement under Tier 2 water resource protection plans. Staff may draw information from Geotracker and SMARTS, the North Coast Region's timber tracking database, and other available sources to help correlate cleanups activities or restoration or remediation work in streams or wetlands that are proposed and underway in individual watersheds and subwatersheds. Regional Water Board staff will direct activity timing under this Order as necessary to limit the number of individual potential construction-related impacts occurring at any given time in any given watershed. Specifically, where cleanup activities or restoration or remediation work in streams or wetlands are proposed to be implemented on several properties within a subwatershed, staff will consult with project consultants and other sources to stagger the timing of implementation.

II. Procedure

- A. Tier 1, 2, and 3 Dischargers shall apply for coverage by submitting a completed Notice of Intent (NOI) Form (Appendix A) and monitoring report (Appendix C) by February 15, 2016 (~180 days from adoption of the Order) or upon 30 days of notification from the Regional Water Board staff to comply with requirements of this Order. Dischargers who begin operations after the effective date of this Order must file an NOI prior to commencement of cultivation operations. Tier 1 and 2 Dischargers may enroll through an approved third party program stating their commitment to comply with the conditions of the Order. The submission of the NOI, either directly to the Regional Water Board or an approved third party program constitutes notice that the Discharger requests and receives authorization to discharge pursuant to this Order. If a Discharger ceases operations and wants to terminate permit coverage, the Discharger shall notify the Regional Water Board or an approved third party. The Discharger must demonstrate compliance with standard conditions and water resource protection plans and cleanup and restoration plans, as applicable.

Completed forms shall be signed and sent to the Regional Water Board, to the following address:

Northcoast@waterboards.ca.gov (preferable)

or signed and certified to:

North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

Dischargers under Tier 2 shall develop and begin implementing a water resource protection plan by 180 days from the submittal date of the NOI. Dischargers under Tier 3 shall develop and submit to the Regional Water Board a cleanup and restoration plan by 45 days from the submittal date of the NOI. Dischargers under Tier 3 shall begin implementation of the cleanup and restoration plan no later than 30 days from the Executive Officer's approval of the plan (unless the approved cleanup plan provides alternative timelines) and complete the cleanup and restoration work consistent with the approved timelines. The Executive Officer has discretion to require plan submittals earlier or later, and may grant a time extension for plan submittal or deadlines in the cleanup and restoration plan for good cause shown.

- B. Any third party program must receive approval by the Regional Water Board Executive Officer in order to serve individual dischargers under the Order. The Executive Officer has the authority to deny a third party application based on lack of experience/qualifications, incomplete applications, insufficient detail/scope of proposed work, or at their discretion. To ensure that a third party program is qualified to assist with implementation of this Order for Tier 1

and/or Tier 2 enrollees, third parties must submit a proposal to the Regional Water Board. Third party proposals shall include the following as applicable:

1. Program Purpose: Statement of the functions listed in Order finding 21 which the third party proposes to fulfill, including procedures to implement the proposed functions/roles.
 2. Technical experience and qualifications of the third party program necessary for implementation of technical functions/roles.
 3. Demonstration of organizational capacity and funding mechanisms to administer the program.
 4. Sample water resource protection plan.
 5. Framework for annual compliance reporting to CIWQS or other program, as approved by the Executive Officer.
 6. Sample liability waiver that demonstrates that the responsibility falls to the landowner/operator of the site to meet the stated terms and conditions of this Order.
 7. Framework for confirmation of compliance with standard conditions and developed plans and addressing non-compliance by individual third party enrollees.
- C. If a third party proposal is approved, the Executive Officer will send an approval letter that will identify the third party's geographic boundaries and/or applicable responsibilities for coverage of selected Tier(s). All approved third party programs will be listed on the North Coast Regional Water Board website. The approval is conditional and subject to a probationary period.

III. General Terms and Provisions

- A. Dischargers shall comply with all mitigation measures identified in the accompanying mitigated negative declaration. CEQA mitigation measures shall constitute enforceable conditions under this Order.
- B. All erosion and sediment control devices, management measures and mitigations prescribed in a water resource protection plan shall be maintained in good working order.
- C. Compliance with Order conditions will ensure that no significant environmental impact to water quality occurs from an activity covered by this Order. Activities that have potentially significant impacts to water quality that cannot be reduced

to less than significant levels are not eligible for coverage under this Order and the Discharger(s) will need to submit a Report of Waste Discharge to the Regional Water Board and obtain individual authorization for that activity.

- D. Dischargers shall obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ) for construction projects that disturb one or more acres of soil, specifically for new site preparation and development. Dischargers shall submit to Regional Water Board staff a copy of the Stormwater Pollution Prevention Plan (SWPPP) developed for the site in compliance with that Permit.²⁷
- E. This Order shall not apply to any discharges for which a WDR or waiver of WDR is issued under a separate action of the state or Regional Water Board.
- F. Dischargers shall allow Regional Water Board staff entry onto the affected property, for the purposes of observing, inspecting, and/or collecting samples or other monitoring information to document compliance with this Order.
- G. Dischargers shall comply with all applicable water quality standards, requirements, and prohibitions specified in the Basin Plan, and policies adopted by the State Water Board.
- H. Projects covered under this Order shall not discharge substances in concentrations toxic to human, plant, animal or aquatic life. Projects covered under this Order shall not discharge waste classified as "hazardous" as defined in California Code of Regulations, title 22, section 66261 and Water Code section 13173.
- I. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). Dischargers are responsible for meeting all other applicable requirements of local, state, and federal regulations and/or required permits.
- J. Operations shall not occur within 250 feet of: 1) public, preschool, and K-12 facilities; 2) federal or state parks; 3) military bases; and 4) Native American cultural sites.

²⁷ Construction activities subject to the Construction General Permit include clearing, grading and disturbances to the ground such as stockpiling, or excavation, but do not include regular maintenance activities performed to repair roads and related facilities.

- K. Dischargers shall not cause a pollution, contamination, or nuisance as defined by Water Code section 13050.
- L. This Order does not preclude the need for permits that may be required by other governmental agencies, including necessary certification and permitting for the application of pesticides and herbicides.
- M. Nothing in this Order shall be construed to mean that the Regional Water Board is authorizing, permitting, endorsing, or approving the cultivation of cannabis. This Order only places restrictions on waste discharges and other controllable water quality factors from the activity to the extent that the activity is occurring.
- N. Subject to approval from the Executive Officer, Dischargers with operations that are similar to or whose potential impacts to water resources are similar to those posed by cannabis cultivation may also elect to enroll and comply with this Order to ensure their discharges are authorized.
- O. This Order shall not create a vested right and all such discharges shall be considered a privilege, as provided for in Water Code section 13268.
- P. In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under applicable state law, including but not limited to administrative civil penalties under Water Code section 13350.
- Q. Nothing in this Order precludes actions to enforce any directly applicable prohibition or provisions found in the Basin Plan, or to require independent clean up and abatement of existing sources of pollution, where appropriate.
- R. This Order expires upon Regional Water Board adoption of a superseding regulatory action or after five years, whichever occurs first. This Order is conditional and may be terminated at any time by the State Water Resources Control Board or Regional Water Board.
- S. Appendices A, C, D, and E to this Order are procedural elements that may be updated by Executive Officer at any time.

IV. General Prohibitions

- A. The placement or disposal of earthen materials, soil, silt, plant waste, slash, or other organic, or inorganic refuse, rubbish, and solid waste, bio-stimulatory substances and/or water containing elevated temperatures above background conditions, and/or chemicals, such as but not limited to pesticides, fertilizers, or other substances into any stream or watercourse is prohibited.

B. The placing or disposal of earthen materials, soil, silt, plant waste, slash, or other organic, or inorganic refuse, rubbish, and solid waste, water containing elevated temperatures above background conditions, chemicals, bio-stimulatory substances, and/or chemicals such as but not limited to pesticides, fertilizers or other substances in a location where such may discharge into streams or watercourses is prohibited.

C. The discharge of any waste not specifically regulated by this order is prohibited.

V. General 401 Water Quality Certification

THE REGIONAL WATER BOARD HEREBY CERTIFIES that projects in compliance with the conditions of the Order above will comply with sections 301, 302, 303, 306, and 307 of the Clean Water Act, and with applicable provisions of State law, subject to the following additional terms and conditions:

1. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Water Code section 13330 and title 23, California Code of Regulations, section 3867.
2. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to title 23, California Code of Regulations, section 3855, subdivision (b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
3. Certification is conditioned upon total payment of any fee required under California Code of Regulations, title 23, section 3833, subdivision (b)(3). Annual Fee Schedules are detailed in the California Code of Regulation, title 23, section 2200.
4. This general certification applies only to projects subject to the waiver. Dischargers may seek coverage under this Order for similar activities subject to public notice and approval by the Regional Water Board Executive Officer.
5. A Discharger seeking water quality certification coverage for stream crossing replacements or for proposed remediation/cleanup/restoration activities in surface waters shall notify the Regional Water Board 60 days prior to commencement of the activity and submit information regarding the construction schedule and other relevant information including an appropriate fee. Work may not commence until the discharger is provided authorization by the Executive Officer of the Regional Water Board either through coverage under this Order or through another individual or general water quality certification.
6. The authorization of this certification for any General Water Quality Certification or dredge and fill activities expires five (5) years from the date the activity commences.

7. Upon completion of the project, Discharger shall submit a Notice of Completion certifying that all the conditions and monitoring and reporting requirements of this Order have been met.
8. All Order requirements, standard conditions, general terms and provisions, and prohibitions are enforceable conditions of this General Water Quality Certification.
9. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under state law. For purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process, or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this certification.
10. This General Water Quality Certification portion of the Order may be modified as needed by the Executive Officer of the Regional Water Board.

I, Matthias St. John, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, North Coast Region on August 13, 2015.



Water Boards 10:41:41 -07'00'

Matthias St. John
Executive Officer

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Appendices

Appendix A: Enrollment Form

Appendix B: Best Management Practices

Appendix C: Monitoring and Reporting Program

Appendix D: Surface Water Correction Workplan Requirements

Appendix E1: Department of Pesticide Regulation Document - Legal Pest Management Practices for Marijuana Growers in California

Appendix E2: Department of Pesticide Regulation Informational Document - Pesticide Use on Marijuana