

Best Management Practices for Discharges of Waste Resulting from Marijuana 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. Some or all may be added to the Order as mandatory BMPs for all sites.

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.

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

- To avoid migrating fish and sedimentation of the stream channel, the construction season will be from June 15 to October 15. Exceptions may be requested on a site-specific basis. Work prior to June 15 or beyond October 15 may be authorized provided the work would be completed outside the rainy season, avoiding potentially rising stream flows and exposure of disturbed soils to significant rainfall.
- A 3-day (72-hour) forecast of rain will be the trigger for cessation of project construction and winterization/erosion protection of the work site.

Limitation on Earthmoving

- Disturbance to existing grades and vegetation will be limited to the actual site of the cleanup/remediation and necessary access routes.
- Placement of temporary access roads, staging areas, and other facilities will avoid or minimize disturbance to habitat as much as possible.

- Disturbance to native shrubs, woody perennials or tree removal on the streambank or in the stream channel will be avoided or minimized to the fullest extent possible.
- If trees over six inches dbh (diameter at breast height) are to be removed, they will 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.
- If shrubs and other non-woody riparian vegetation are disturbed, they will be replaced with similar native species appropriate to the site.
- Whenever feasible, finished grades will not exceed 1.5:1 side slopes. In circumstances where final grades cannot achieve 1.5:1 slope, additional erosion control or stabilization methods will be applied as appropriate for the project location.
- Spoils and excavated material not used during construction will be removed and placed outside of the 100-year floodplain, and stored/disposed of in compliance with Order conditions related to spoils management.
- Upon completion of grading, slope protection of all disturbed sites will be provided prior to November 1 through a combination of permanent vegetative treatment, mulching, geotextiles, and/or rock.
- Only native plant species will be used with the exception of non-invasive, non-persistent grass species used for short-term vegetative cover of exposed soils.
- Rock placed for slope protection will be the minimum necessary to avoid erosion, and will be part of a design that provides for native plant revegetation and minimizes bank armoring.

Limitations on Construction Equipment

- Dischargers and/or their contractors must ensure that chemical contamination (fuel, grease, oil, hydraulic fluid, solvents, etc.) of water and soils is prohibited during routine equipment operation and maintenance.
- Heavy equipment will not be used in flowing water.
- When possible, existing ingress or egress points will be used or work will be performed from the top of the creek banks.
- Use of heavy equipment will be avoided in a channel bottom with rocky or cobbled substrate.
- If access to the work site requires heavy equipment to travel on a rocky or cobbled substrate, a rubber tire loader/backhoe is the preferred vehicle.
- Wood or rubber mats will be placed on the streambed prior to use by any other types of heavy equipment.
- The amount of time this equipment is stationed, working, or traveling within the creek bed will be minimized.

- When heavy equipment is used, any woody debris and stream bank or streambed vegetation disturbed will be replaced to a pre-project density with native species appropriate to the site. If trees over six inches dbh are to be removed, they will be replaced by native species appropriate to the site at a 3:1 ratio.
- The use or storage of petroleum-powered equipment will 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 off site.
 - 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 off site.
 - Ensure that all construction debris is taken to appropriate landfills and all sediment disposed of in upland areas or off-site, beyond the 100-year floodplain.
 - Use dry cleanup methods (i.e. 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

- The work area will be restored to pre-construction condition or better.
- All exposed soil resulting from the cleanup/restoration activities will be revegetated using live planting, seed casting or hydroseeding.
- Any stream bank area left barren of vegetation as a result of cleanup/restoration activities will be stabilized following construction by seeding, replanting, or other agreed upon means with native trees, shrubs, and/or grasses appropriate to the site prior to November 1 in the year work was conducted.
- Soil exposed as a result of construction, soil above rock riprap, and interstitial spaces between rocks will be revegetated with native vegetation by live planting, seed casting, or hydroseeding prior to November 1 of the year work was completed.

- The spread or introduction of exotic plant species will 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.
- Removal of invasive exotic species is strongly recommended. Mechanical removal (hand tools, weed whacking, hand pulling) of exotics will be done in preparation for establishment of native perennial plantings.
- To the extent possible, revegetation will be implemented at the same time removal of exotic vegetation occurs.
- Native plants characteristic of the local habitat will be used for revegetation when implementing and maintaining cleanup/restoration work in riparian and other sensitive areas. Non-invasive, non-persistent grass species (i.e. barley grass) may be used for their temporary erosion control benefits to stabilize disturbed slopes and prevent exposure of disturbed soils to rainfall.
- Annual inspections for the purpose of assessing the survival and growth of revegetated areas and the presence of exposed soil will be conducted for two years following construction.
- Dischargers and/or their consultant(s) or third party representative(s) will note the presence of native/non-native vegetation and extent of exposed soil, and take photographs during each inspection.
- Dischargers and/or their consultant(s) or third party representative(s) will provide the location of each work site, pre- and post-construction 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

- Erosion control and sediment detention devices and materials will be incorporated into the cleanup/restoration work design and installed at the time of construction.
- Effective erosion control measures will be in-place at all times during construction. Construction within the 5-year flood plain will not begin until all temporary erosion controls (straw bales or silt fences that are effectively keyed-in) are in place down slope of cleanup/restoration activities.
- Non-invasive, non-persistent grass species (i.e. barley grass) may be used for their temporary erosion control benefits to stabilize disturbed slopes and prevent exposure of disturbed soils to rainfall.
- Upon work completion, all exposed soil present in and around the cleanup/restoration sites will be stabilized within 7 days.
- Soils exposed by cleanup/restoration operations will be seeded and mulched to prevent sediment runoff and transport.

Miscellaneous

In siting temporary stream crossings, identify locations where erosion potential is low. Avoid areas where runoff from roadway side slopes will spill into the side slopes of the crossing.

Vehicles and equipment shall not be driven, operated, fueled, cleaned, maintained, or stored in the wet or dry portions of a water body where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed.

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.

Avoidance of steep slopes, proper compaction, and minimization of fill can ensure the area is resilient to issues associated with faults and earthquakes. If cracks are observed, or new construction is anticipated, consultation with a qualified profession is appropriate.

Operations within the 100-year floodplain have an inherent hazard of impact due to inundation. Generally, these areas should be avoided. In the instance that roads are located within the 100-year floodplain, they should be at grade; bridges should have vented approaches and bridge deck should be above anticipated 100-year flood water surface elevations. Hydraulic calculations by a qualified profession may be appropriate to determine anticipated velocities and water surface elevations. Refuse and spoils shall not be stored within the hundred-year floodplain.

Construction-related dust shall be controlled. Dust control activities shall be conducted in such a manner that will not produce downstream 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, will be implemented as appropriate.

Short term construction-related emissions could include exhaust from construction equipment and fugitive dust from land clearing, earthmoving, movement of vehicles, and wind erosion of exposed soil during reservoir construction or removal, stream and/or riparian restoration. These impacts can be minimized via retrofitting equipment and use of low emissions vehicles when possible.

Position construction 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 will be employed:

- Plant materials used will be native to the site and will be locally collected if possible.
- Straw mulch will be applied at a rate of 2 tons per acre of exposed soils and will be secured to the ground using hand tools or by placement of jute matting.
- 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 will be utilized, if needed, to keep sediment from flowing into the adjacent water body.
- Planting above the ordinary high water line may occur at any time of the year.

Structure for Water Control and Stream Crossings

These practices will 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 will be employed for these types of projects :

- Culvert fill slopes shall be constructed at a 2:1 slope or will be armored with rock.
- All culverts in fish-bearing streams and in streams where fish have historically been found and may potentially re-occur, will 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

- If it is necessary to conduct work in or near a live stream, the work space will be isolated to avoid construction activities in flowing water.
- Water will be directed around the work site.
- Where available, existing ingress/egress points will be utilized and work will be performed from the top of the bank to the maximum extent possible.
- Use of heavy equipment in a channel will be avoided when possible. If access to the work site requires the use of heavy equipment within the channel, the first choice will be to use a rubber tire loader/backhoe. Only after this option has been determined infeasible will the use of tracked vehicles be considered.
- The amount of time construction equipment is stationed, working or traveling within the creek bed will be minimized.

- If the substrate of a seasonal pond, creek, stream or water body is altered during work activities, it will be returned to approximate pre-construction conditions after the work is completed.

Temporary Stream Diversion and Dewatering: All Live Streams

- For construction in a flowing or pooled stream or creek reach, or where access to the stream bank from the channel bottom is necessary, the work area will be isolated with the use of temporary cofferdams upstream and downstream of the work site and all flowing water will be diverted around the work site throughout the construction period.
- Other approved water diversion structures will be utilized if installation of cofferdams is not feasible.
- Cofferdams will be constructed with the use of off-site river-run gravel and/or sand bags. The upstream end of the upstream cofferdam will also be reinforced with thick plastic sheeting to minimize leakage.
- The diversion pipe will consist of a large plastic HDPE or ADS pipe or similar material, of a sufficient diameter to safely accommodate expected flows at the site during the full construction period.
- The pipe will be protected from construction activities to ensure that bypass flows are not interrupted.
- Continuous flow downstream of the work site will be maintained at all times during construction.
- When construction is complete, the flow diversion structure will be removed in a manner that allows flow to resume with a minimum of disturbance to the substrate.

Protection of Sensitive Species

Sensitive species - Consult with federal, state and local agencies regarding location of rare, threatened or endangered species.

Prior to commencing work, designate and mark a no-disturbance buffer to protect sensitive species and communities.

All work performed within waters of the state shall be completed in a manner that minimizes impacts to beneficial uses and habitat. Measures shall be employed to minimize land disturbances that will adversely impact the water quality of waters of the state. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete Project implementation.

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.

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 upon completion of the construction of the detention basin.

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

A. Site Maintenance, Erosion Control, Drainage Features

Road drainage is critical to ensuring the integrity of the road and to prevent and minimize sediment discharges to watercourses. Proper design and location of roads is critical to ensuring that a road can be adequately drained and is best accomplished through consultation with a qualified professional. If inspection identifies surface rills or ruts, road surfacing and drainage likely needs maintenance.

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 structure at an adequate interval to avoid erosion, techniques can be used including armoring (e.g. rock of adequate size and depth to remain in place under traffic and flow conditions) and velocity dissipaters (e.g. gravel-filled "pillows" in an inside ditch to trap sediment). 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.

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.

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.

Any spoils associated with road maintenance shall be placed in a stable location where it cannot enter a watercourse. Side cast should be minimized and should be avoided on unstable areas or where it has the potential to enter a watercourse.

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.

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.

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.

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.

B. Stream Crossing Maintenance

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 fords, culverts, and bridges.

Rock fords are only appropriate when temporary and minor moisture or over-land flow is expected, not when a bed and bank is present. Additionally, rock fords are only 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.

Culverts and bridges are appropriate for streams with defined bed and bank. They must be sized to ensure the 100-year streamflow event can pass unimpeded. Additionally, crossings must allow migration of aquatic life during all life stages; water depth and velocity can inhibit migration of adult and juvenile fish species.

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 profession is appropriate to evaluate maintenance or replacement needs and opportunities.

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 flow or capture other debris, the wood should be removed or re-oriented with the streamflow.
- If sediment is accumulated within a culvert and limits flow capacity, the culvert should be cleaned-out and the sediment spoiled to a stable location with no potential to discharge into a stream.
- Ditch-relief culverts shall also be inspected regularly, and cleared of debris and sediment. In some cases a trash rack or post at the culvert inlet can reduce plugging.

The roadway adjacent to and over the crossing is an area of potential discharge. All road surfaces approaching a crossing should 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.

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. 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.

C. Protecting Stream and River Corridors:

Buffer width must be in compliance with Tier category.

Trees within riparian areas shall be retained for natural recruitment. 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 (e.g., larger pieces of wood are necessary to withstand flows in large streams). Generally speaking, LWD includes logs of at least 4 inches diameter and at least 6 feet long, and root wads of at least 8 inches diameter and at least 6 feet long. To function in the stream, LWD needs to extend into the bankfull channel at least four inches. In the event that LWD or trees are disturbed during excavation, care should be taken to separate the pieces from soil. The pieces should be stockpiled separately until they can be replaced in appropriate locations to enhance instream or riparian conditions.

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

To ensure spoil pile stability and to reduce the potential for spoil pile slope failure or transport to waters of the state, it is advisable to implement the following measures in placing or disposing of spoils onsite:

- 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;
- Compact and contour stored spoils to mimic the natural slope contours and drainage patterns to reduce the potential for fill saturation and failure;
- Ensure that spoil materials are free of woody debris, and not placed on top of brush, logs or trees.

Do not locate spoil piles in or immediately adjacent to wetlands and watercourses, or in a manner or location that would result in any runoff from the spoil pile ending up in wetlands and watercourses.

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.

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.

Spread material, which is not planned to be reused, in compacted layers, generally conforming to the local topography.

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.

Revegetate the disposal site with a mix of native plant species. Cover the seeded and planted areas with mulched straw at a rate of 1 to 1 ½ 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

USE

Conduct operations on a size and scale that considers available water sources and other water use and users in the planning watershed.

Implement water conservation measures such as rainwater catchment systems, drip irrigation, mulching, or irrigation water recycling. (Also see BMPs for Irrigation, below)

Take measures to minimize water diversion during low flow periods.

Apply water at agronomic rates (do not overwater plants).

STORAGE (ponds and vessels)

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.

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.

Horizontal tanks must be secured with bands and/or hoops to prevent tank movement.

Water storage must be off-stream, not in watercourses.

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.

Provide adequate outlet drainage for overflow of ponds, including low impact designs, to promote dispersal and infiltration of flows.

Place proper lining or sealing in ponds to prevent water loss.

Storage bladders are not encouraged. Where they are used, ensure that they are designed to store water, and that they are located in a method and manner that minimizes potential for water to flow into a watercourse in the event of a catastrophic failure. Inspect bladder and containment features periodically to ensure integrity.

F. Irrigation Runoff

Irrigate at rates to avoid or minimize runoff.

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.

Recapture and reuse irrigation runoff (aka tailwater) where possible, through passive (gravity-fed) or active (pumped) means.

Construct retention ponds for percolating tailwater through ground. Ensure that drainage and/or infiltration areas are located away from unstable or potentially unstable features.

Regularly replace worn, outdated or inefficient irrigation system components and equipment.

Use mulches (such as wood chips or bark) in planter areas that do not have ground cover to prevent erosion and minimize evaporative loss.

Leave a vegetative barrier along the property boundary and interior watercourses to act as a pollutant filter.

Employ rain-triggered shutoff devices to prevent irrigation after precipitation.

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

Evaluate irrigation water, soils, growth media, and plant tissue to optimize plant growth and avoid over-fertilization.

Reference Department of Pesticide Regulations Guidance

All chemicals must be stored in a manner, method, and location that ensures that there is no threat of discharge to waters of the state.

Products must be labeled properly and applied according to the label.

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.

Periodically calibrate pesticide application equipment.

Use anti-backflow devices on water supply hoses, and other mixing/loading practices designed to reduce the risk of runoff and spills.

Petroleum products must be stored with a secondary containment system.

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.

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.

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.

Have proper storage instructions posted at all times in an open and conspicuous location.

Prepare and keep onsite a Spill Prevention, Countermeasures, and Cleanup Plan (SPCC Plan).

Keep ample supply of appropriate spill clean-up material near storage areas.

H. Cultivation Related Wastes

Planting waste shall be stored in watertight dumpsters or securely covered from wind and rain by covering the waste with tarps or plastic sheeting.

I. Refuse and Human Waste

Dumpsters of sufficient size and number shall be provided and properly serviced to contain the solid waste generated by the project.

Full dumpsters shall be removed from the site and the contents shall be disposed of properly.

Follow County ordinances for human waste disposal requirements and/or the OWTS Policy.

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.

Use lined bins or dumpsters to reduce leaking of liquid waste.

Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.

Consider using refuse containers that are bear-proof and/or secure from wildlife.

J. Cleanup, Restoration, and Mitigation

Use soil bioengineering techniques when possible for restoration, such as Brush layering and brush matting.

Use native vegetation whenever possible for restoration projects.

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

150422_AppendixB_BMP