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

STREAMBED ALTERATION AGREEMENT
NOTIFICATION NO. 1600-2017-0156-R1
Unnamed Tributaries to Blue Slide Creek, Tributary to the Mattole River and the Pacific Ocean

Mr. Georgi Stoyanov
Stoyanov Water Diversions and Stream Crossings Project
9 Encroachments

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

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, the Permittee initially notified CDFW on March 23, 2017, 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 accept 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 Blue Slide Creek watershed, approximately 1.1 miles northeast of the town of Ettersburg, County of Humboldt, State of California. The project is located in Section 6, T4S, R2E, Humboldt Base and Meridian; in the Ettersburg U.S. Geological Survey 7.5-minute quadrangle; Assessor's Parcel Number 221-201-07; latitude 40.149 N and longitude 123.989 W at the parcel center.

PROJECT DESCRIPTION

The project is limited to nine encroachments (Table 1). Two encroachments are for water diversion from unnamed tributaries to Blue Slide Creek. One is from an ephemeral stream for domestic use and irrigation. The other is from a spring for domestic use only. Work for these diversions will include use and maintenance of the water diversion infrastructure. The seven other proposed encroachments are to upgrade undersized culverts, conduct maintenance on existing culverts, or for placement of rock armor. Work for these encroachments will include excavation, culvert removal, culvert installation, backfilling and compaction of fill, and/or rock armoring as necessary to minimize erosion.

Table 1. Project encroachments with descriptions.

ID*	Latitude/Longitude	Description
POD 1	40.1482, -123.9870	Water diversion from an ephemeral stream to store for domestic and irrigation.
POD 3	40.1488, -123.9866	Water diversion from a spring to storage for domestic use.
Crossing 1	40.1479, -123.9899	Rock armor outlet of 18" diameter shot-gunned culvert.
Crossing 2	40.1476, -123.9895	Replace undersized 12" diameter culvert with minimum 24" diameter culvert.
Map Point 3	40.1475, -123.9896	Install and rock armor inboard ditch from outlet of Crossing 2 to inlet of Crossing 4.
Crossing 4	40.1473, -123.9895	Replace undersized 12" diameter culvert with minimum 24" diameter culvert.
Crossing 5	40.1474, -123.9893	Clean out inlet of 12" diameter culvert and rock armor and potentially install downspout at outlet.
Crossing 6	40.1469, -123.9885	Clean out inlet of 12" diameter culvert and rock armor the outlet.
Crossing 7	40.1473, -123.9876	Clean out inlet of 12" diameter culvert and rock armor the outlet.

* Names provided are consistent with those provided in the notification.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include: Southern Torrent Salamander (*Rhyacotriton variegatus*), Red-bellied Newt (*Taricha rivularis*), Coastal Tailed Frog (*Ascaphus truei*), Foothill Yellow-legged Frog (*Rana boylii*), Chinook Salmon (*Oncorhynchus tshawytscha*), Coho Salmon (*O. kisutch*), Steelhead Trout (*O. mykiss*), Western Brook Lamprey (*Lampetra richardsoni*), Pacific Lamprey (*Entosphenus tridentata*), Western Pond Turtle (Actinemys marmorata marmorata), as well as, other amphibian, reptiles aquatic invertebrate, mammal, and bird 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 23, 2017, 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 3 gallons per minute (gpm) at any time.

2.3 Bypass Flow. The Permittee shall pass sufficient flow (80%) at all times to keep all aquatic species including fish and other aquatic life in good condition below the point of diversion.

2.4 Seasonal Diversion Minimization. A combined total of no more than 150 gallons per day shall be diverted during the low flow season from May 15 to October 15 of any year. Water shall be diverted only if the Permittee can adhere to conditions 2.2 and 2.3 of this Agreement.

2.5 Measurement of Diverted Flow. The Permittee shall install a device acceptable to CDFW for measuring the quantity of water diverted from each POD. Measurement(s) 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. The report shall be submitted to CDFW in accordance with the reporting measures described below.

2.6 Water Management Plan. The Permittee shall submit a Water Management Plan that describes how forbearance will be achieved under this Agreement. The Water Management Plan shall include details on water storage, water conservation, or other relevant material to maintain irrigation needs in coordination with forbearance and bypass flow requirements. The Water Management Plan shall include a brief narrative describing water use on the property, photographs to support the narrative, and water use calculations to ensure compliance with this Agreement. The report shall be submitted to CDFW in accordance with the reporting measures described below.

2.7 Water Diversion Infrastructure.

2.7.1 Unauthorized materials. No polluting materials (e.g., particle board, plastic sheeting, bentonite) shall be used to construct or screen, or cover the diversion intake structure.

2.7.2 Intake Screening.

2.7.2.1 A water intake screen shall be securely attached (e.g., threaded or clamped) to any intake line and have a minimum wetted area of 0.25 square feet and a minimum open area of 27%.

2.7.2.2 A water intake screen with round openings shall not exceed 3/32-inch diameter; a screen with square openings shall not exceed 3/32-inch measured diagonally; and a screen with slotted openings shall not exceed 0.069 inches in width. Slots must be evenly distributed on the screen area.

2.7.2.3 The water intake screen may be constructed of any rigid material, perforated, woven, or slotted. Stainless steel or other corrosion-resistant material is recommended to reduce clogging due to corrosion.

2.8 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.

2.9 Water Conservation. The Permittee shall make best efforts to minimize water use, and to follow best practices for water conservation and management.

2.10 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.

2.11 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

2.12 Work Period. All work, not including water diversion, shall be confined to the period **June 15 through October 1** of each year and **all projects shall be completed by October 1, 2017**. Work within the active channel of a stream shall be restricted to periods of **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.

2.13 Extension of the Work Period. If weather conditions permit, and the Permittee wishes to extend the work period after October 1, a written request shall be made to CDFW at least 5-working days before the proposed work period variance. Written approval (letter or e-mail) for the proposed time extension must be received from CDFW prior to activities continuing past October 1.

2.14 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.

2.15 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.

2.16 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.

2.17 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.

2.18 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.

2.19 Culvert Installation.

2.19.1 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.

2.19.2 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).

2.19.3 Culvert bed shall be composed of either compacted rock-free soil or crushed 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.

2.19.4 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.

2.19.5 Permanent culverts shall be sized to accommodate the estimated 100-year flood flow [i.e. ≥1.0 times the width of the bankfull channel width or the 100-year flood size, whichever is greater], including debris, culvert embedding, and sediment loads.

2.20 Rock Armor Placement.

2.20.1 No heavy equipment shall enter the wetted stream channel.

2.20.2 No fill material, other than clean rock, shall be placed in the stream channel.

2.20.3 Rock shall be sized to withstand washout from high stream flows, and extend above the ordinary high water level.

2.20.4 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.

2.21 Project Inspection. The Project shall be inspected by Timberland Resource Consultants or a licensed engineer before October 1 during the year when the project was completed to ensure that stream crossing(s) were installed as designed. A copy of the inspection report, including photographs of each site, shall be submitted to CDFW in accordance with the reporting measures described below.

3. Reporting Measures

3.1 Measurement of Diverted Flow. To comply with Condition 2.5, the Permittee shall **submit a copy of the water diversion records, no later than December 31 of each year beginning in 2017**, to CDFW at 619 Second Street, Eureka, CA 95501.

3.2 Water Management Plan. To comply with Condition 2.6, the Permittee shall **submit a Water Management Plan no later than August 1, 2017**, to CDFW at the 619 Second Street, Eureka, CA 95501.

3.3 Project Inspection. To comply with Condition 2.22, the Permittee shall **submit the Project Inspection Report, within 90 days of completion of this project** 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. Georgi Stoyanov
P.O. Box 476
Garberville, California 95542
540-830-1103
Stoyanov742@gmail.com

To CDFW:

Department of Fish and Wildlife
Northern Region
619 Second Street
Eureka, California 95501
Attn: Lake and Streambed Alteration Program
Notification #1600-2017-0156-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. Georgi Stoyanov

G Stoyanov — 09-12-2017

Georgi Stoyanov — Date

FOR DEPARTMENT OF FISH AND WILDLIFE

Scott Bauer — 11/8/17

Scott Bauer — Date
Senior Environmental Scientist Supervisor

Prepared by: Ryan Bourque, Senior Environmental Scientist Specialist, June 16, 2017

Water Management Plan

NOTIFICATION NO. 1600-2017-0156-R1

The Landowner currently has three points of diversions (POD), POD 1, POD 2 and POD 3. POD 1 is a concrete cistern located in an unnamed Class III watercourse tributary to Blue Side Creek. The water is plumbed through a 1-inch poly pipe and fed into storage tanks during the winter months. POD 2 was located in a spring upstream of a Class III watercourse, and use has been discontinued. POD 3 is located in a spring upstream of a Class III watercourse tributary to Blue Slide creek. Water is diverted through ¾ inch poly pipe to numerous storage tanks on the property.

The Landowner has two permitted surface diversions on the property (STREAMBED ALTERATION AGREEMENT NOTIFICATION NO. 1600-2017-0156-R1). The permit allows for a combined total of no more than 150 gallons of water per day at a maximum rate of 3 gallons per minute during the low flow season of May 15 to October 15.

The Landowner currently has 16,000 ft^2 of cannabis cultivation that they hand water at agronomic rates. The estimated water use annually is 210,000 gallons, and the total amount of water storage on the property is 50,000 gallons. The Landowner is currently unable to store enough water to comply with the Agreement and meet the requirements of the forbearance period. However, more storage tanks will be installed this year and the Landowner is planning on having enough storage to meet all requirement of their Agreement.

Addendum 8M – Coordinates (NAD 83 DECIMAL DEGREES)

POD #1: -123.9870362°; 40.14822798°
POD #2: -123.9871150°; 40.14863931° (Non-notification point)
POD #3: -123.9866317°; 40.14877521°
CROSSING 1: -123.9899629°; 40.14799132°
CROSSING 2: -123.9894944°; 40.14765213°
MAP POINT 3: -123.9895631°; 40.14748977°
CROSSING 4: -123.9895494°; 40.14725858°
CROSSING 5: -123.9892564°; 40.14737638°
CROSSING 6: -123.9885097°; 40.14699408°
CROSSING 7: -123.9876380°; 40.14733227°

Addendum 10

This notification consists of two Point of Diversions and seven existing stream crossing upgrades as described below. All notification points were visited and evaluated by CDFW (Scott Bauer and Ryan Bourque) on December 15, 2016. Please note that the property was purchased on January 23, 2017 and the Applicant has not diverted water from any of the PODs to date. Consequently, a Division of Water Rights Initial Statement of Water Diversion and Use per Water Code Sections 5100-5107 has *not* been filed for 2016.

POD #1: This POD is located in an unnamed Class III watercourse tributary to Blue Slide Creek. The diversion structure consists of a 12-inch diameter by 1-foot deep cylindrical concrete cistern placed directly in the stream channel. The cistern is presently plumbed with 1-inch ploy pipe feeding two 5,000, 2,500, 1,550, and 500 gallon water tanks. Because this stream dries up in late spring, the diversion has been historically used for diversion to storage in the winter months. This notification proposes diversion to storage for domestic and agricultural use October 16 through May 14 with a forbearance period of May 15-October 15 beginning in 2017. If the Applicant diverts and stores surface water from this POD per the conditions of an approved 1600 Agreement from CDFW, then he will pursue an appropriative water right in the form of a Small Irrigation Use Registration (once available). Per the CDFW pre-consultation, the Applicant shall remove all tanks, diversion infrastructure, and any other stored material located directly adjacent to the stream channel, and relocate outside of the SMA, or as far away from the stream channel as possible.

POD #2: This POD is located in spring located upslope of a Class III watercourse tributary to Blue Slide Creek. The diversion structure consists of a 1-inch PVC pipe with screened inlet. During the CDFW consultation, the Applicant agreed to discontinue the use of this diversion and remove all associated infrastructure, particularly the two downstream water tanks that are located approximately 100 feet south in a swale feature, which is tributary to the Class III watercourse.

POD #3: This POD is located in spring located upslope of a Class III watercourse tributary to Blue Slide Creek. The diversion structure consists of a 3/4-inch poly pipe with screened inlet. Water is diverted down to the numerous tanks mapped and pictured. This notification proposes direct diversion for domestic use at no more than 200 gallons of water per day.

Addendum 10 (Cont.)

Water Storage and Use: The Applicant is applying for a cultivation permit from Humboldt County for approximately 16,000 ft^2 based upon historic cultivation square footage. Depending upon the cultivation method, the Applicant will likely need between 240,000-430,000 gallons of water storage. The Applicant is presently exploring options for storage and will provide CDFW a Water Management Plan no later than May 15, 2017, that describes how forbearance will be achieved under the Agreement. The Water Management Plan shall include details on water storage, water conservation, or other relevant material to maintain irrigation needs in coordination with forbearance and bypass flow requirements. The Water Management Plan shall include a brief narrative describing water use on the property, photographs to support the narrative, and water use calculations to ensure compliance with the subsequent Agreement.

Crossing #1: 18-inch diameter metal culvert on a Class III watercourse. A small pond, approximately 15-feet in diameter by 2-3 feet deep is located at the inlet. The culvert is adequately sized but shot-gunned. The applicant shall rock armor the outlet with approximately 2 $yards^3$ of rip-rap. Overall disturbance is 35 ft^2 (7-feet length and 5 feet width).

Crossing #2: 12-inch diameter metal culvert shall be upgraded to a minimum 24-inch diameter culvert installed per the attached specifications. The replacement of this culvert shall require the excavation and temporary displacement of approximately 30 cubic yards of fill and 165 ft^2 of overall disturbance (33-feet length and 5 feet width). This crossing requires the loss of one tanoak seedling less than 1-inch diameter and native forbes and grasses.

Map Point #3: In consultation with CDFW, it was agreed that the least impactive practice for draining the Class III watercourse across the access road below Crossing #2 is to install a rock lined ditch from Crossing #2's outlet down to Crossing #4's inlet. The 125-foot long ditch shall be rock-lined with small rip-rap boulders (approximately 50-100 pounds in size). The capacity of the ditch following rocking shall be at least two feet deep by three feet wide. The installation of this ditch shall require the excavation and displacement of approximately 115 cubic yards of fill, and 500 ft^2 of overall disturbance (125-feet length and 4 feet width). This crossing requires the loss of four Coast live oak seedlings less than 1-inch diameter, one madrone seedling 2-inches diameter, and native forbes and grasses.

Crossing #4: Undersized and shot-gunned 12-inch diameter metal culvert shall be upgraded to a minimum 24-inch diameter culvert installed per the attached specifications. The replacement of this culvert shall require the excavation and temporary displacement of approximately 20 cubic yards of fill and 100 ft^2 of overall disturbance (20-feet length and 5 feet width). This crossing requires the loss of one Douglas-fir sapling 10-inches diameter, Coast live oak seedlings, and native forbes and grasses.

Crossing #5: 12-inch diameter metal culvert primarily draining the inside ditch that extends up to Crossing #6's inlet. This culvert is adequately sized but requires the inlet to be cleaned out, and the placement of 2-3 $yards^3$ of rip-rap at the outlet. If infeasible to adequately place the rock from the road, the culvert may be down-spouted past the base of the fillslope, but rock armoring at the outlet is still required for energy dissipation to minimize erosion of the stream channel. Overall disturbance is 35 ft^2 (7-feet length and 5 feet width).

Addendum 10 (Cont.)

Crossing #6: 12-inch diameter metal culvert draining the inside ditch that extends up to Crossing #7's inlet. This culvert is adequately sized but requires the inlet to be cleaned out, and the placement of 2-3 yards^3 of rip-rap at the outlet. If infeasible to adequately place the rock from the road, the culvert may be down-spouted past the base of the fillslope, but rock armoring at the outlet is still required for energy dissipation to minimize erosion of the stream channel. Overall disturbance is 35 ft^2 (7-feet length and 5 feet width).

Crossing #7: 12-inch diameter metal culvert draining the inside ditch that extends up to Applicant's house and developed area. This culvert is adequately sized but requires the inlet to be cleaned out, and the placement of 2-3 yards^3 of rip-rap at the outlet. If infeasible to adequately place the rock from the road, the culvert may be down-spouted past the base of the fillslope, but rock armoring at the outlet is still required for energy dissipation to minimize erosion of the stream channel. Overall disturbance is 35 ft^2 (7-feet length and 5 feet width).

All roads and developed sites were assessed for compliance with CDFW, which includes jurisdictional 1600 sites and potential California Fish and Game Code Section 5650 violations. The Applicant will be enrolling into *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.* Following enrollment, TRC will be conducting a thorough field assessment to evaluate compliance with the Standard Conditions per Provision I.B of Order No. R1-2015-0023. Based upon my initial evaluation conducted in association with this notification, the assessment conducted for the preparation of the water resource protection plan is not expected to include any sites that are jurisdictional to CDFW per the California Fish and Game Code 1600 that should otherwise be included in this notification.

Remediation Plan

As described above, there are six watercourse crossings and a rocked lined ditch that are remediation. The combined disturbance to remediate these sites is 905 ft^2. Per Item II of Attachment E, the Applicant is in the process of preparing an application to be submitted to Humboldt County for Commercial Cultivation, Processing, Manufacturing and Distribution of Cannabis for medical use. Green Road Consulting is handling the Applicant's county permit, and TRC is preparing CDFW 1600 permit and Water Quality Waste Discharge permit. As of the date of submission of this notification, the Applicant has not enrolled in *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*

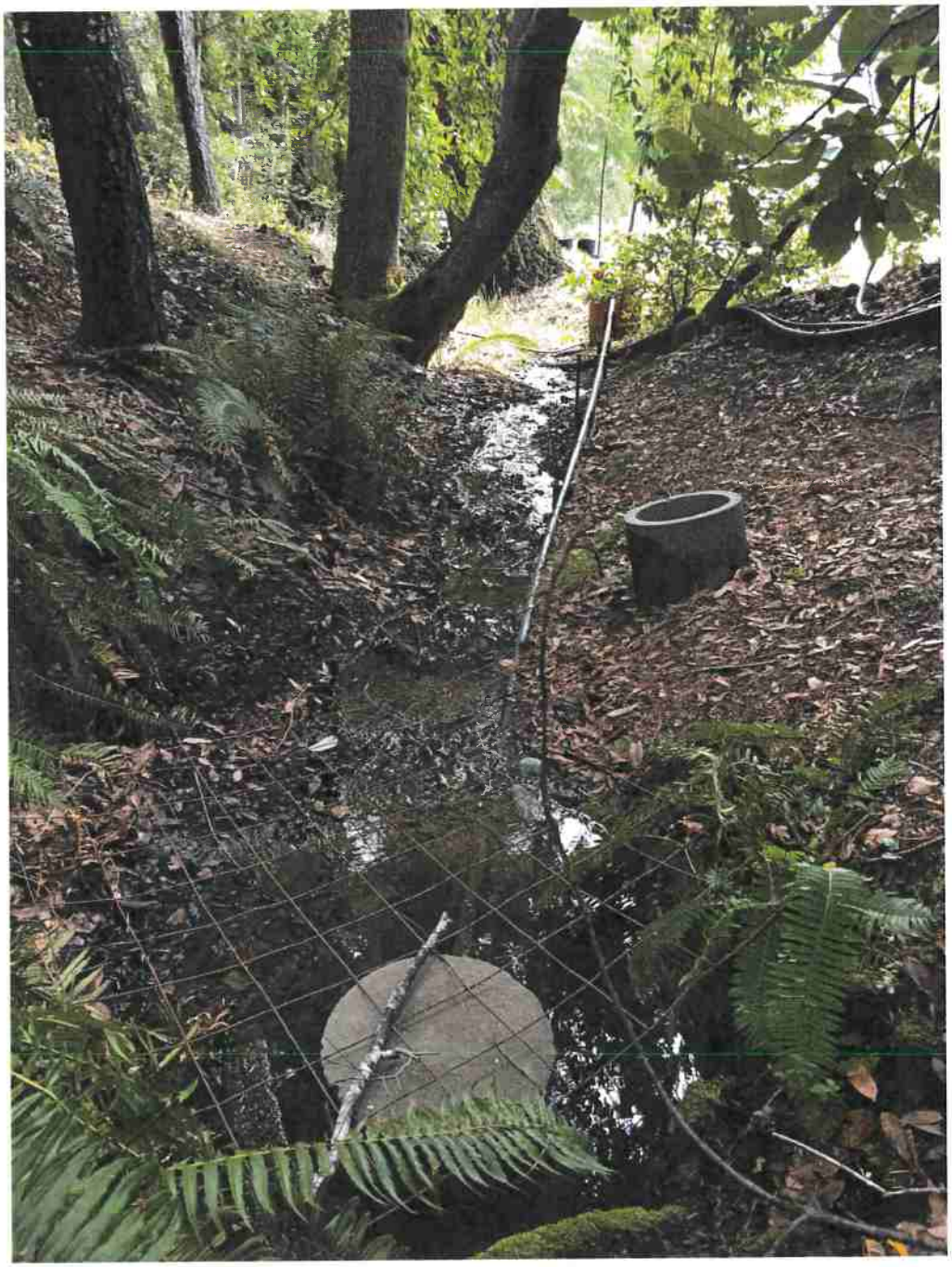
Addendum 10 – Pictures

Picture 1: POD #1. Photo date 12-2-2016.

Addendum 10 – Pictures

Picture 2: POD #1 looking upstream. Photo date 12-2-2016.

Addendum 10 – Pictures (Cont.)



Picture 3: POD #1 looking downstream. Photo date 12-2-2016.

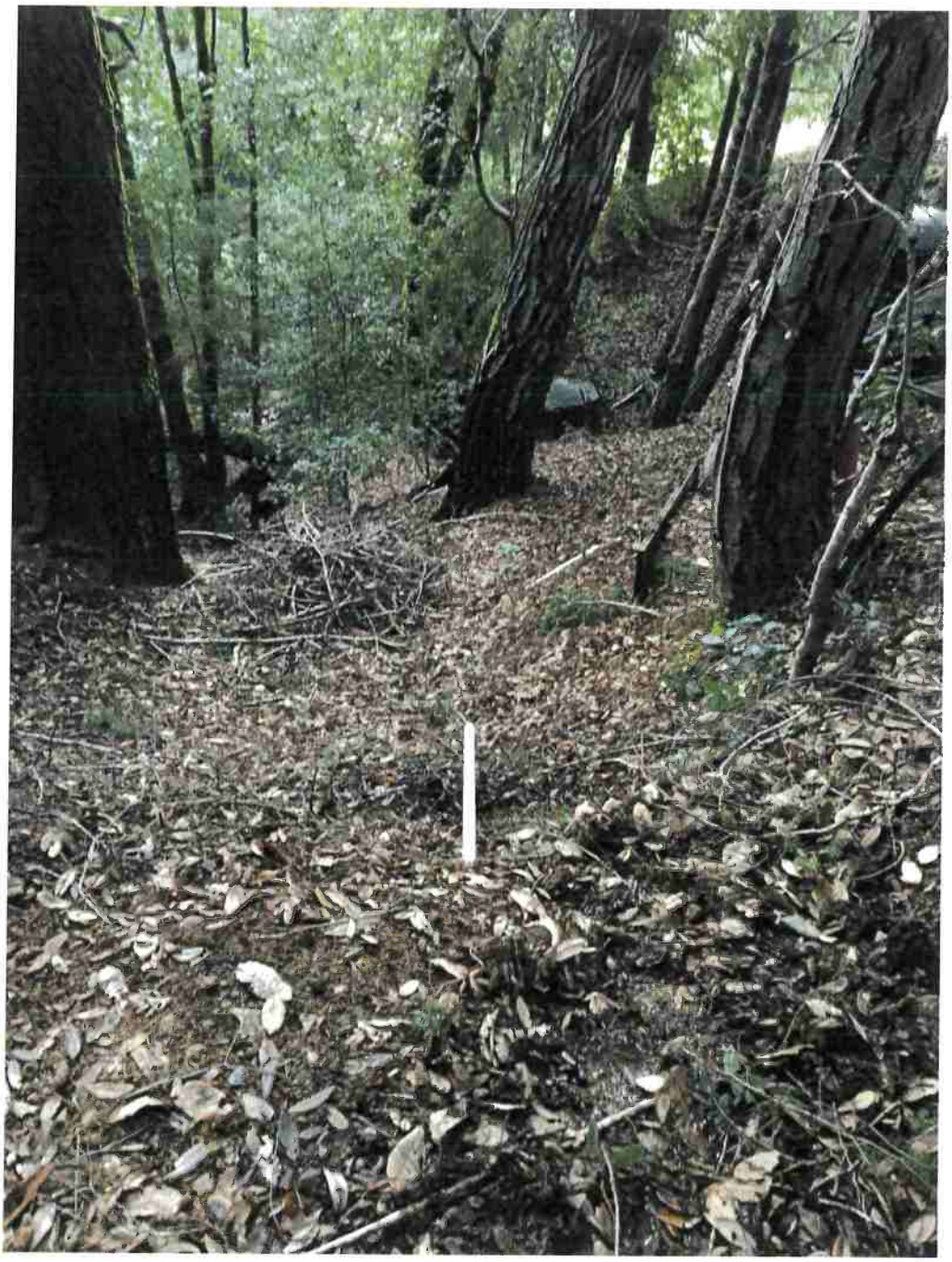
Addendum 10 – Pictures

Picture 4: POD #2. During the CDFW consultation, the Applicant agreed to discontinue the use of this diversion and remove all associated infrastructure. Photo date 12-2-2016.

Addendum 10 – Pictures

Picture 5: POD #2 looking upstream. Photo date 12-2-2016.

Addendum 10 – Pictures



Picture 6: POD #2 looking downstream. Photo date 12-2-2016.

Addendum 10 – Pictures

Picture 7: POD #3. Photo date 12-2-2016.

Addendum 10 – Pictures

Picture 8: POD #3 looking upstream. Photo date 12-2-2016.

Addendum 10 – Pictures (Cont.)

Picture 9: POD #3 looking downstream. The Class III watercourse begins approximately 100 feet downslope in the grass. Photo date 12-2-2016.

Addendum 10 – Pictures (Cont.)

Picture 10: Inlet of Crossing #1. The small pond is in the foreground. Photo date 12-2-2016.

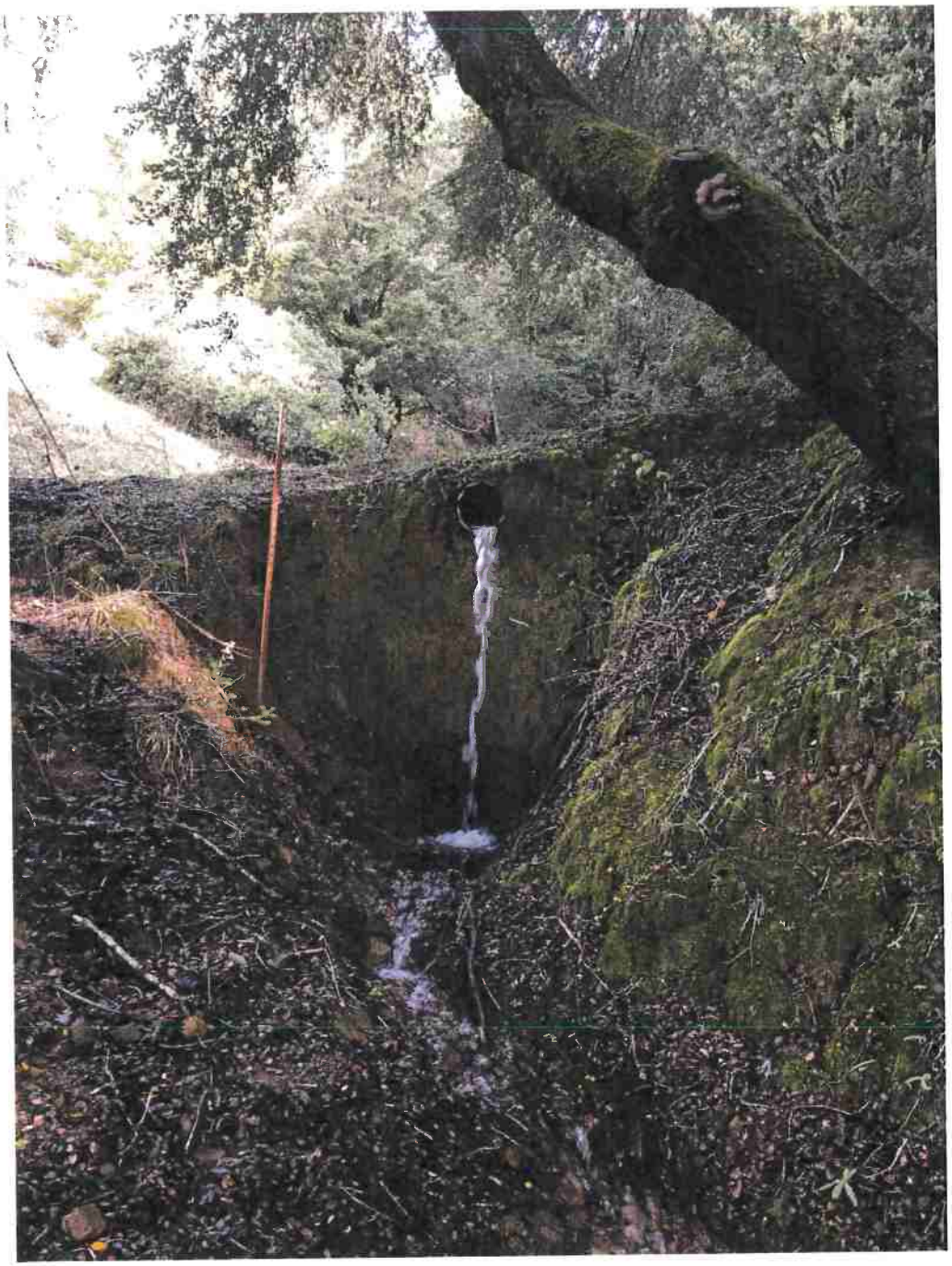
Addendum 10 – Pictures (Cont.)

Picture 11: Outlet of Crossing #1. The Applicant shall rock armor the outlet from the small Douglas-fir tree down to the inside ditch. Photo date 12-2-2016.

Addendum 10 – Pictures (Cont.)

Picture 12: Inlet of Crossing #2. Photo date 12-2-2016.

Addendum 10 – Pictures (Cont.)



Picture 13: Outlet of Crossing #2. Photo date 12-2-2016.

Addendum 10 – Pictures (Cont.)

Picture 14: Map Point #3. Picture taken from outlet of Crossing #2 looking southerly to the inlet of Crossing #4. The rock-lined ditch shall be constructed east (photo left) of the access road shown above. Photo date 12-2-2016.

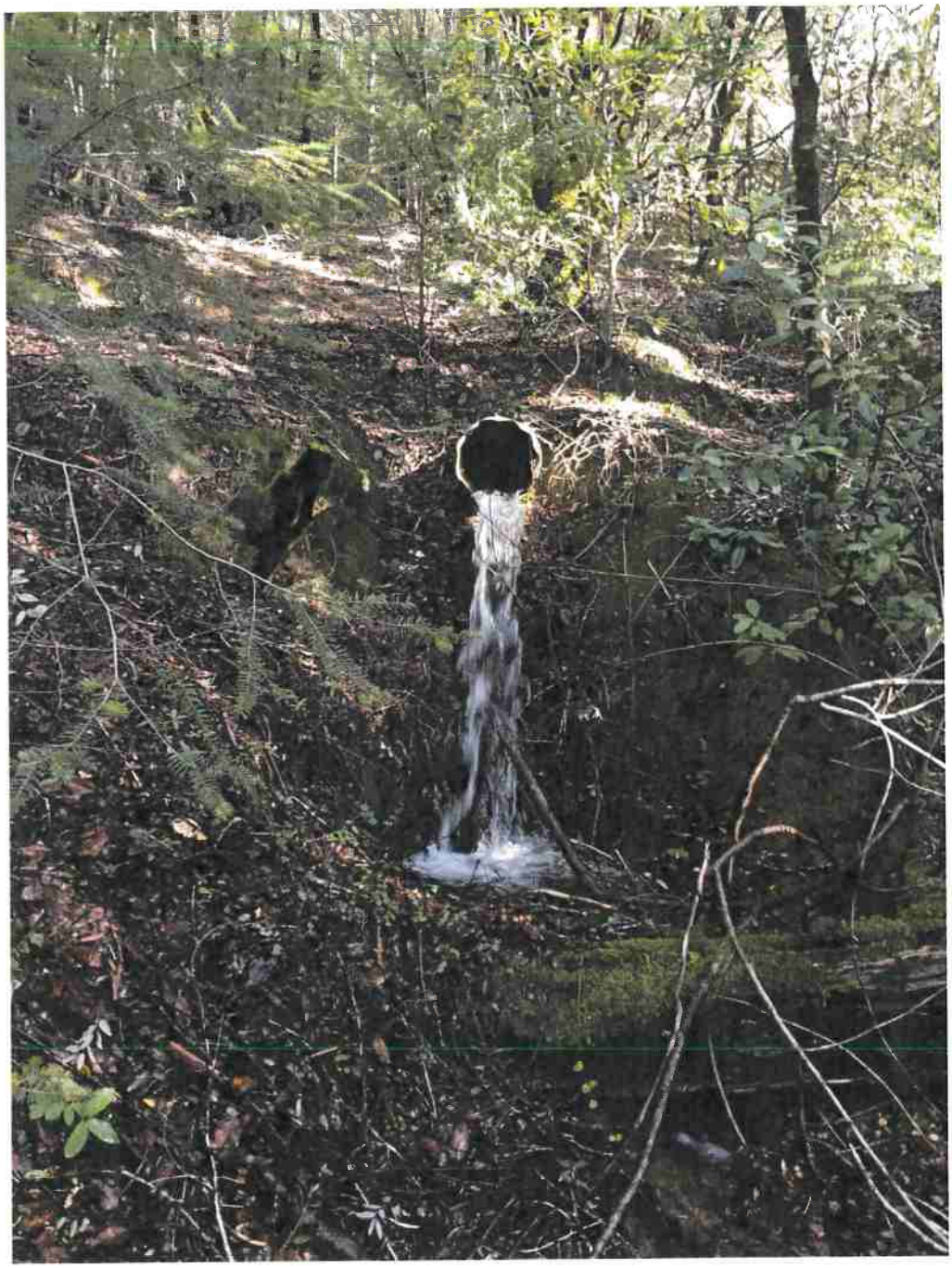
Addendum 10 – Pictures (Cont.)

Picture 15: Crossing #4 with the shot-gunned culvert outlet in upper left corner. The erosion is primarily from the Class III watercourse located below Crossing #2, which is diverting onto the access road and discharging across the fill. Photo date 12-2-2016.

Addendum 10 – Pictures (Cont.)

Picture 16: Crossing #4 inlet. The inlet of the 12-inch diameter metal culvert is partially buried and in nearly indiscernible in the lower left hand corner of photo. Photo date 12-16-2016.

Addendum 10 – Pictures (Cont.)



Picture 17: Crossing #5 outlet. Photo date 12-16-2016.

Addendum 10 – Pictures (Cont.)

Picture 18: Crossing #5 inlet, which is nearly plugged with organic debris. Photo date 12-16-2016.

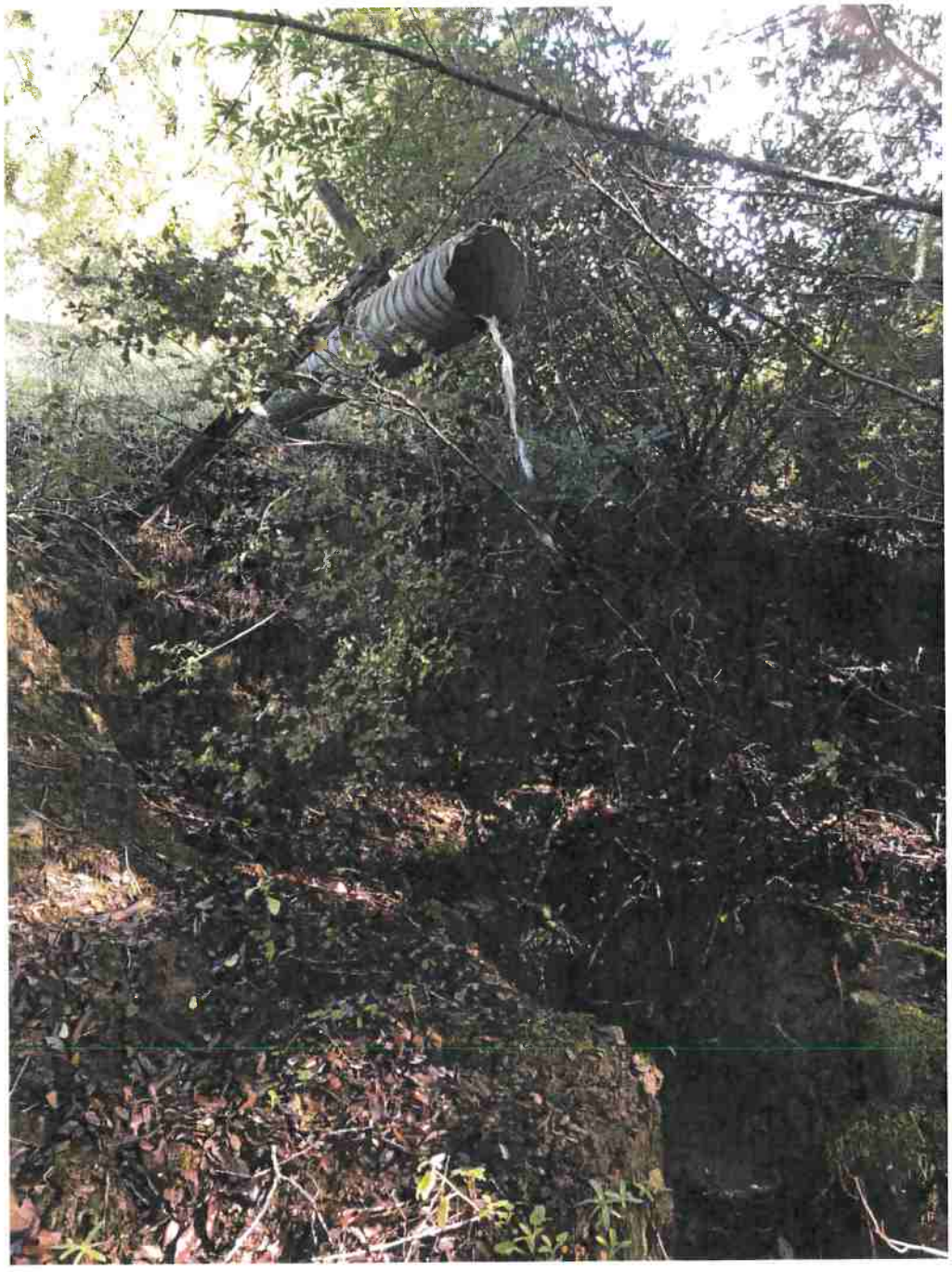
Addendum 10 – Pictures

Picture 19: Crossing #6 outlet. Photo date 12-16-2016.

Addendum 10 – Pictures

Picture 20: Inlet of Crossing #6. Photo date 8-31-2016.

Addendum 10 – Pictures



Picture 21: Crossing #7 outlet. Photo date 12-16-2016.

Addendum 10 – Pictures

Picture 21: Inlet of Crossing #7. Photo date 8-31-2016.

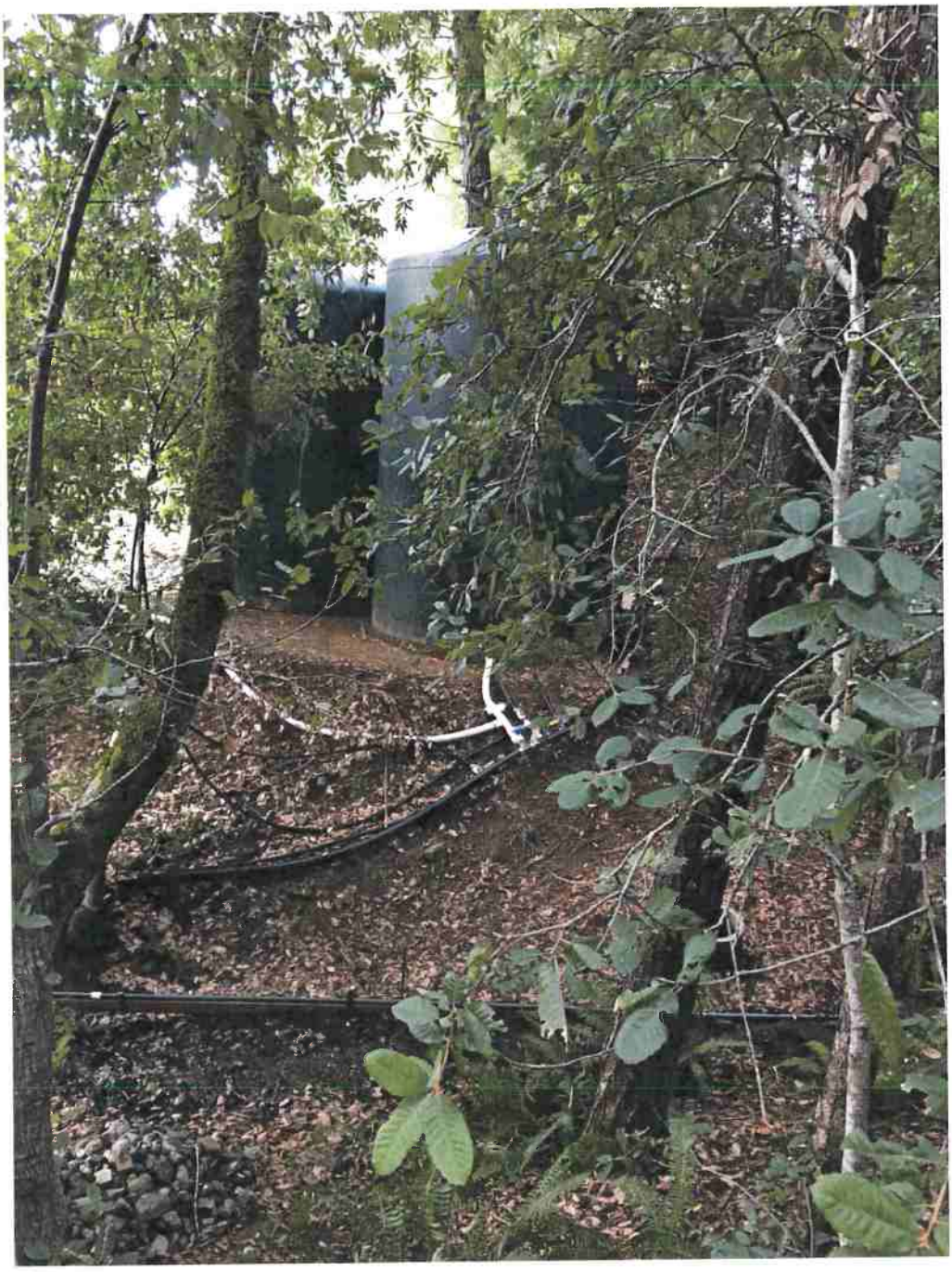
Addendum 10 – Pictures

Picture 22: Three five thousand gallon tanks located 150 feet east-northeast from residence. Photo date 12-2-2016.

Addendum 10 – Pictures

Picture 23: 2,500, 1,550, and 500 gallon water tanks clustered near the Class III stream channel. CDFW recommends that the Applicant shall remove all tanks, diversion infrastructure, and any other stored material located directly adjacent to the stream channel, and relocate outside of the SMA, or as far away from the stream channel as possible. Photo date 12-2-2016.

Addendum 10 – Pictures



Picture 24: Two 5,000 gallon water tanks located on the western bank of the Class III stream channel directly below POD #1. Photo date 12-2-2016.

Addendum 10 – Pictures

Picture 25: 5,000 and 1,350 gallon water tanks located approximately 100 feet south of POD #2. During the CDFW consultation, the Applicant agreed to discontinue the use of POD #2 and remove all associated infrastructure, particularly these two water tanks that are located in a swale feature, which is tributary to the Class III watercourse. Photo date 12-2-2016.

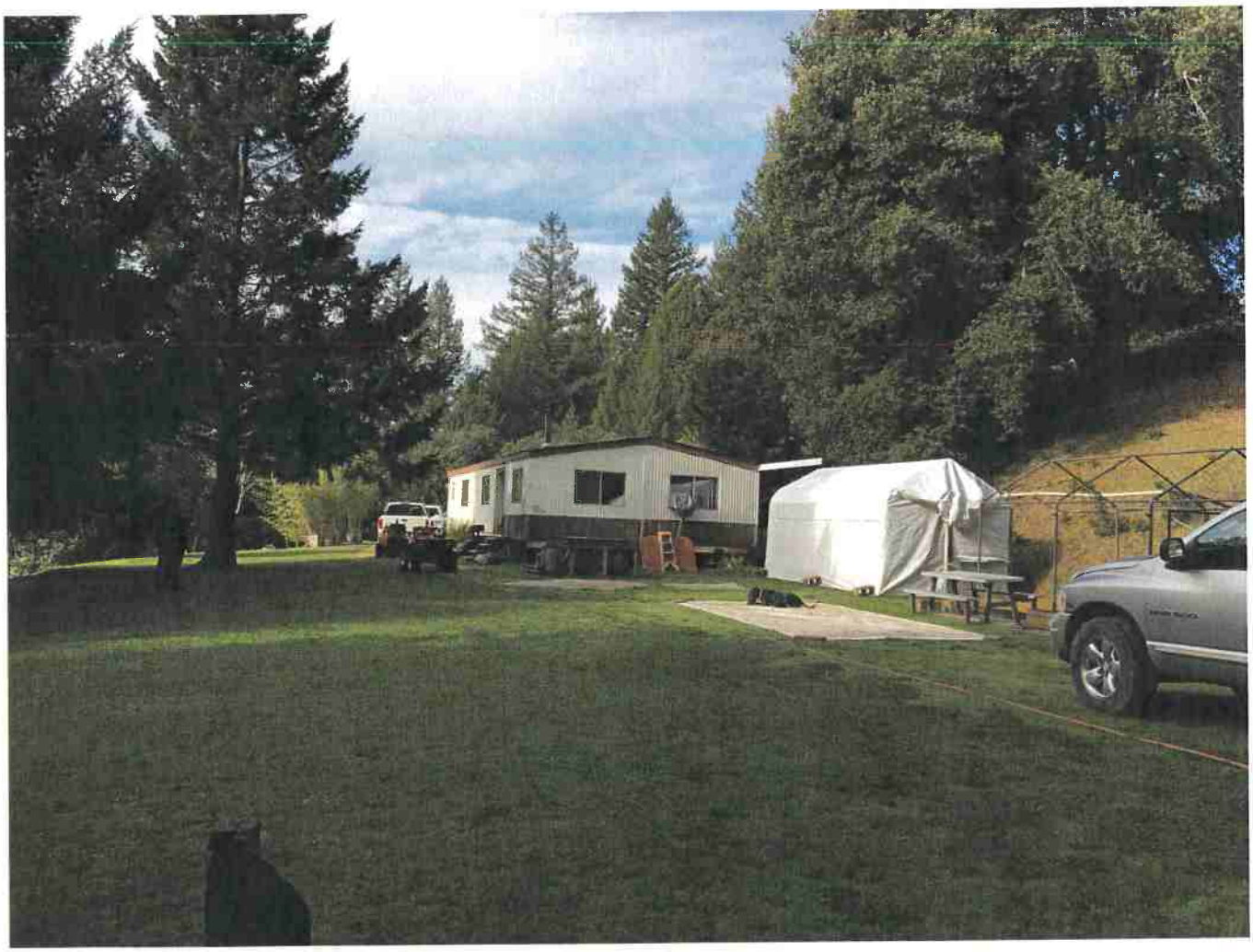
Addendum 10 – Pictures

Picture 26: Upper or northern cultivation site. Photo date 12-2-2016.

Addendum 10 – Pictures

Picture 27: Lower or southern cultivation site. Photo date 12-2-2016.

Addendum 10 – Pictures



Picture 28: Residence. Photo date 12-2-2016.

Addendum 11F – Hydrologic Study

The permanent culvert upgrade has been sized for 100-year flood flow utilizing methods recommended in "*Designing Watercourse Crossings for Passage of 100-year Flood Flows, Wood, and Sediment*". 2004 Peter Cafferata, Thomas Spittler, Michael Wopat, Greg Bundros, and Sam Flanagan. This report recommends that the rational method be limited to watersheds less than 100 acres. The 100-year Return-Period precipitation data is from: http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=ca

	$T_c = 60((11.9 \times L^3)/H)^{0.385}$				$Q_{100} = CIA$			
No.	Crossing	Channel length (to top of basin) (mi) L	Elevation difference (ft) H	Concentration time (min) Tc	Runoff coefficient C	100-year Return-Period Precipitation (in/hr) I*	Area (acres) A	100-yr flood flow (cfs) Q100
0	*1*				0.4	3.8	1	*1.5*
0	*2*				0.4	3.8	3	*4.6*
0								*0.0*
0	*4*				0.4	3.8	6	*9.1*
0	*5*				0.4	3.8	2	*3.0*
0	*6*				0.4	3.8	1	*1.5*
0	*7*				0.4	3.8	1	*1.5*

HW/D	CU18	CU24	CU30	CU36	CU42	CU48	CU54	CU60	CU72	CU84	CU96
1.0	5.6	11.6	20	32	47	66	89	115	180	265	375

The recommended minimum culvert size proposed in this notification are based on the premise that the culvert should pass a design flow without allowing the inlet to become submerged. Therefore, the proposed culvert size specified in this 1600 Notification is based upon a headwall height to diameter ratio of 1.

Addendum 12A – Erosion Control Measures

1. Timing for soil stabilization measures within the 100 feet of a watercourse or lake: For areas disturbed from May 1 through October 15, treatment shall be completed prior to the start of any rain that causes overland flow across or along the disturbed surface. For areas disturbed from October 16 through April 30, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days, whichever is earlier.

2. Within 100 feet of a watercourse or lake, the traveled surface of logging roads shall be treated to prevent waterborne transport of sediment and concentration of runoff that results from operations. Treatment may consist of, but not limited to, rocking, outsloping, rolling dips, cross drains, waterbars, slope stabilization measures, or other practices appropriate to site-specific conditions.

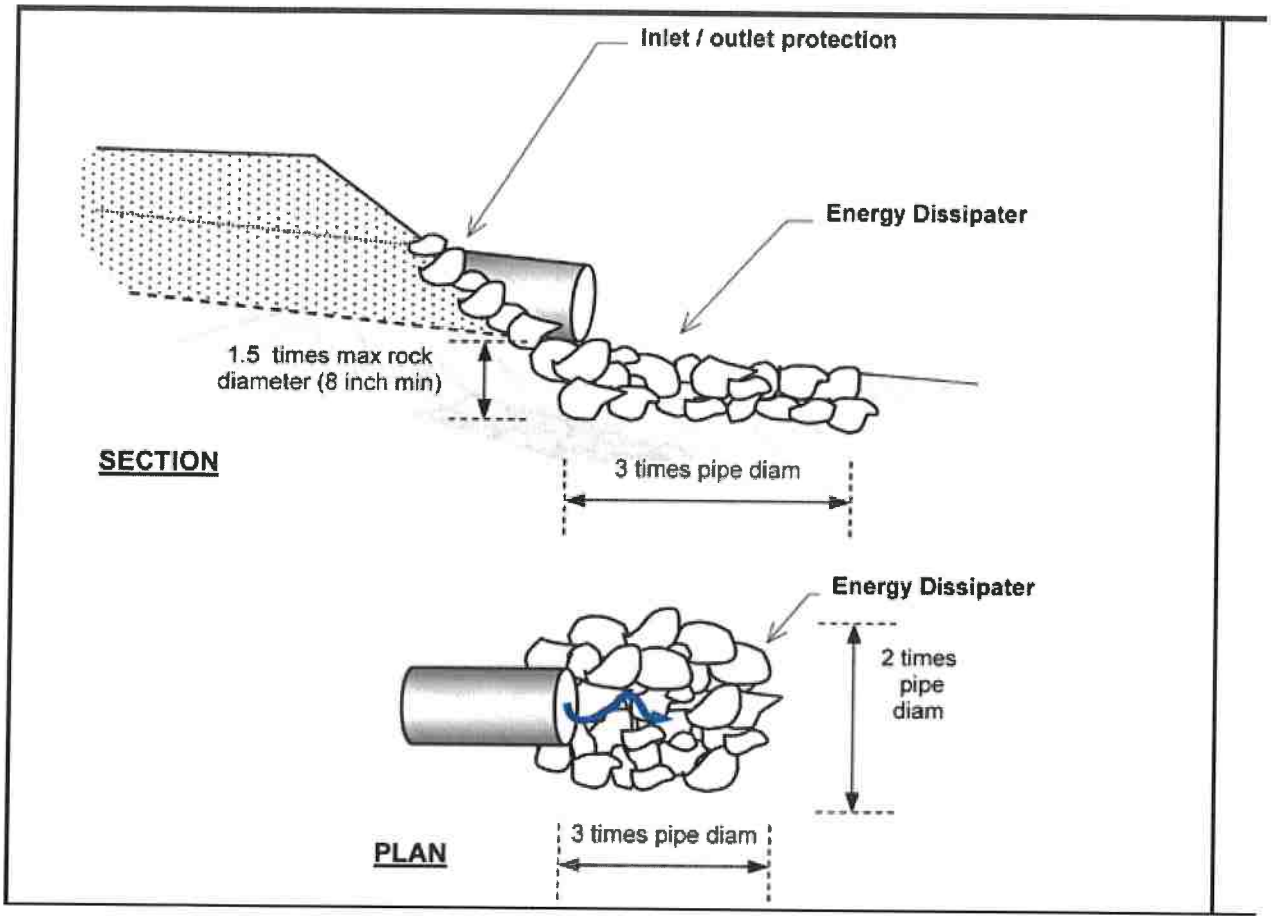
3. The treatment for other disturbed areas within 100 feet of a watercourse or lake, including: (A) areas exceeding 100 contiguous square feet where operations have exposed bare soil, (B) road cut banks and fills, and (C) any other area of disturbed soil that threatens to discharge sediment into waters in amounts deleterious to the quality and beneficial uses of water, shall be grass seeded and mulched with straw. Grass seed shall be applied at a rate exceeding 100 pounds per acre. Straw mulch shall be applied in amounts sufficient to provide at least 2- 4-inch depth of straw with minimum 90% coverage. Slash may be substituted for straw mulch provided the depth, texture, and ground contact are equivalent to at least 2 – 4 inches of straw mulch. Any treated area that has been subject to reuse or has less than 90% surface cover shall be treated again prior to the end of operations.

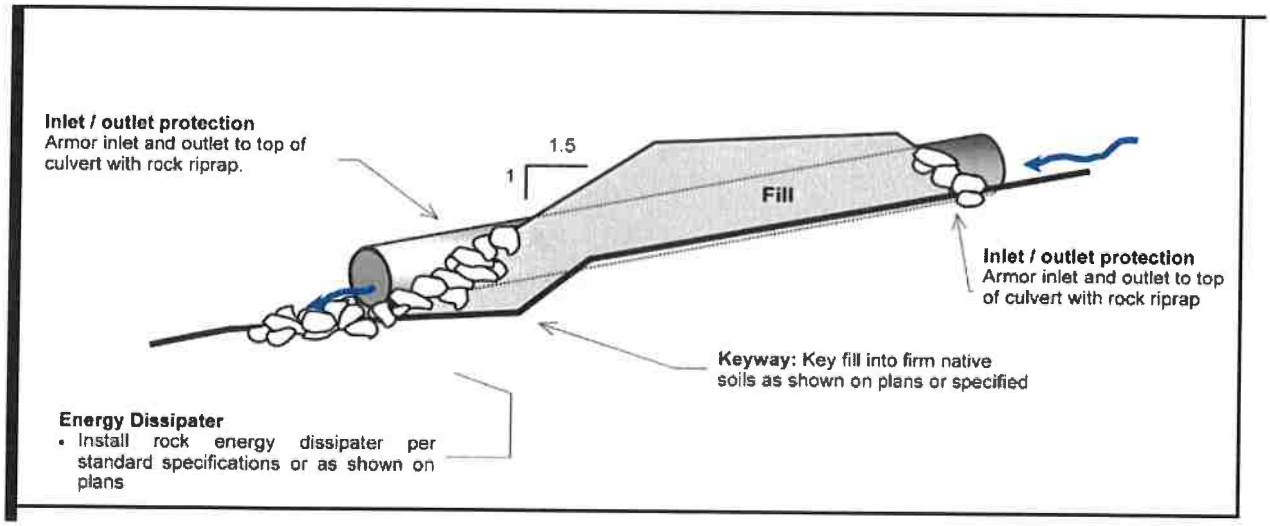
4. Within 100 feet of a watercourse or lake, where the undisturbed natural ground cover cannot effectively protect beneficial uses of water from sediment introduction, the ground shall be treated with slope stabilization measures described in #3 above per timing described in #1 above.

5. Sidecast or fill material extending more than 20 feet in slope distance from the outside edge of a roadbed, which has access to a watercourse or lake, shall be treated with slope stabilization measures described in #3 above. Timing shall occur per #1 above unless outside 100 feet of a watercourse or lake, in which completion date is October 15.

6. All roads shall have drainage and/or drainage collection and storage facilities installed as soon as practical following operations and prior to either (1) the start of any rain which causes overland flow across or along the disturbed surface within 100 feet of a watercourse or lake protection, or (2) any day with a National Weather Service forecast of a chance of rain of 30 percent or more, a flash flood warning, or a flash flood watch.

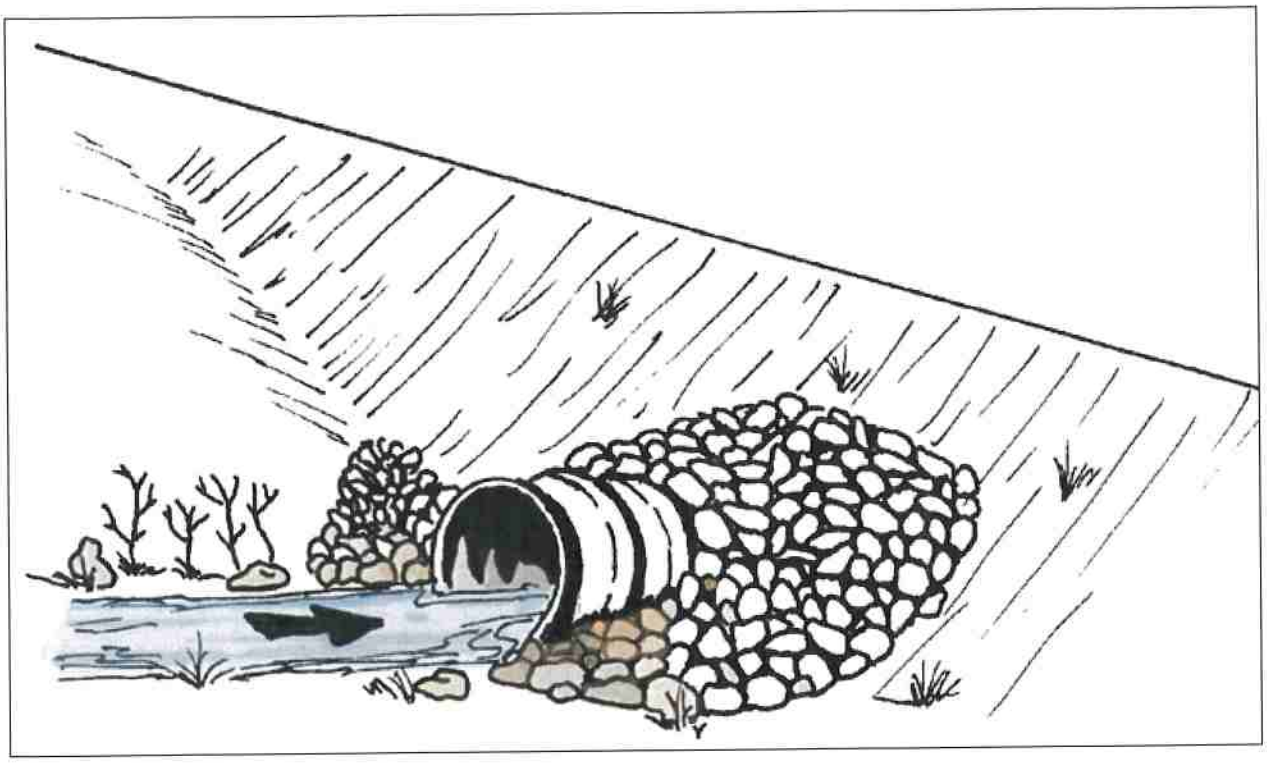
Culvert Installation Specifications





Riprap installed to protect the inlet and outlet of a stream crossing culvert from erosion or for energy dissipation should be keyed into the natural channel bed and banks to an approximate depth of about 1.5x the maximum rock thickness. Riprap should be placed at least up to the top of the culvert at both the inlet and outlet to protect them from splash erosion and to trap any sediment eroded from the newly constructed fill slope above.

Culvert Installation Specifications



Rock armor used for inlet and outlet protection (i.e., not as energy dissipation) does not have to be sized to protect against high velocity scour. If the culvert is properly sized and its length is adequate, it should be able to transmit flood flows without scouring the inlet or eroding the outlet around the culvert. Armor shown here is designed to protect the culvert outlet and basal fill from splash erosion and from occasional submergence and currents within standing water (at the inlet) when the culvert plugs. Importantly, inlet and outlet armor also serves to trap sediment that has been eroded or slides down the new constructed fill face in its first several years, until the slope becomes well vegetated.

Culvert Installation Specifications

- New culvert installations shall be sized to accommodate a 100-year storm.
- New culverts shall be placed at stream gradient, or have downspouts, or have energy dissipaters at outfall.
  - Align culverts with the natural stream channel orientation to ensure proper function, prevent bank erosion and minimize debris plugging.
  - Place culverts at the base of the fill and at the grade of the original streambed or install a downspout past the base of the fill. Downspouts should only be installed if there are no other options.
  - Culverts should be set slightly below the original stream grade so that the water drops several inches as it enters the pipe.
  - Culvert beds should be composed of rock-free soil or gravel, evenly distributed under the length of the pipe.
  - Compact the base and sidewall material before placing the pipe in its bed.
  - Lay the pipe on a well-compacted base. Poor basal compaction will cause settling or deflection in the pipe and can result in separation at a coupling or rupture in the pipe wall.
  - Backfill material should be free of rocks, limbs or other debris that could dent or puncture the pipe or allow water to seep around the pipe.
  - Cover one end of the culvert pipe, then the other end. Once the ends are secure, cover the center.
  - Tamp and compact backfill material throughout the entire process, using water as necessary for compaction.
  - Backfill compacting will be done in 0.5 – 1.0 foot lifts until 1/3 of the diameter of the culvert has been covered.
  - Push layers of fill over the crossing to achieve the final design road grade, at a minimum of one-third to one-half the culvert diameter.
- Critical dips shall be installed on culvert crossings to eliminate diversion potential.
- Road approaches to crossings shall be treated out to the first drainage structure (i.e. waterbar) or hydrologic divide to prevent transport of sediment.
- Road surfaces and ditches shall be disconnected from streams and stream crossings to the greatest extent feasible. Ditches and road surfaces that cannot be feasible disconnected from streams or stream crossings shall be treated to reduce sediment transport to streams.
- If downspouts are used they shall be secured to the culvert outlet and shall be secure on fill slopes.
- Culverts shall be long enough so that road fill does not extend or slough past the culvert ends.
- Inlet of culverts and associate fill shall be protected with appropriate measures that extend at least as high as the top of the culvert.
- Outlet of culverts shall be armored with rock if road fill sloughing into channel can occur.
- Armor inlets and outlets with rock, or mulch and seed with grass as needed (not all stream crossings need to be armored).
- Where debris loads could endanger the crossing a debris catchment structure shall be constructed upstream of the culvert inlet.
- Bank and channel armoring may occur when appropriate to provide channel and bank stabilization.
- Stabilize the site pursuant to Addendum 12A.

Attachments