

---

## North Coast Regional Water Quality Control Board

March 18, 2016

### California Regional Water Quality Control Board North Coast Region

#### 13267 INVESTIGATIVE ORDER R1-2016-0018

#### DIRECTING CALIFORNIA DEPARTMENT OF TRANSPORTATION DISTRICT 1 TO SUBMIT A TECHNICAL REPORT PERTAINING TO CEMENT GROUT DISCHARGE IN WAUKELL CREEK IN THE NORTH COAST REGION

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

- A. Legal and Regulatory Authority:** This California Water Code (Water Code) section 13267 Investigative Order (Order) conforms to and implements policies and requirements of the *Porter-Cologne Water Quality Control Act* (Division 7, commencing with California Water Code section 13000) including section 13267, and the *Water Quality Control Plan for the North Coast Region* (Basin Plan) adopted by the Regional Water Board including beneficial uses, water quality objectives, and implementation plans. The Regional Water Board has the authority to investigate discharges of waste or suspected discharges of wastes to waters of the United States and waters of the state pursuant to Water Code section 13267. Any discharge of waste to waters of the United States is unlawful unless in compliance with the federal Clean Water Act (33 U.S.C. § 1311 et seq.). Such an unlawful discharge of waste may subject a person to up to \$10,000 a day and \$10 per gallon of discharge not cleaned up over 1,000 gallons pursuant to Water Code section 13385.
- B. Responsible Party and the Project:** The California Department of Transportation, District 1 (Caltrans), began emergency construction on October 20, 2015, to repair a failing State Route 101 (SR 101) culvert on Waukell Creek in Del Norte County at post-mile 2.22 and latitude/longitude 41.4932, -124.0446<sup>1</sup> (Project). The Project involved inserting a 6-foot diameter segmented steel pipe within the existing, deteriorating, 570-

---

<sup>1</sup> WGS84 datum

foot-long by 8.5-foot-diameter culvert. New steel pipe segments were pushed by a hydraulic ram within the existing culvert and welded together in 20-foot lengths. Concrete grout was then pumped into the annular space between the existing and new culverts. Caltrans began pumping grout on November 9, 2015.

Caltrans submitted a Notice of Intent (NOI) to the Regional Water Board on October 2, 2015, for coverage under the State Water Resources Control Board's Clean Water Act section 401 Water Quality Certification of US Army Corps of Engineers, San Francisco District's *Regional General Permit 5 for Repair and Protection Activities in Emergency Situations* (Water Quality Certification).

Waukell Creek is a perennial stream tributary to the Klamath River. The confluence of Waukell Creek and the Klamath River is approximately 13,560 feet downstream of the Project area.

- C. Unauthorized Cement Grout Discharge:** On Friday, November 20, 2015, at approximately 12:50 pm, concrete grout and grout-contact water from the annular space between the old and new culverts discharged through multiple broken welds in the new culvert into Waukell Creek during pumping operations (Incident). Caltrans observed and collected eight dead coastal cutthroat trout and 26 dead Pacific giant salamanders in the Project area approximately 72 hours after the initial discharge.
- D. Site Conditions at Time of Discharge:** According to information provided by Caltrans to the Regional Water Board in a December 22, 2015, Caltrans Incident Report (Incident Report), Waukell Creek was diverted through the work site at the time of the incident via an upstream basin, a pump, conveyance piping passed beneath the highway, and a discharge location downstream of the work area. A sump for a pump had been installed near the culvert inlet. At the culvert outlet, a sediment trap had been excavated to isolate adjacent surface waters. A sump for a pump had been installed immediately downstream from the sediment trap, and had been plumbed to a tank staged in the northbound lanes of SR101.
- E. Technical Report Pursuant to Water Code Section 13267:** This Order requires Caltrans to submit technical reports pursuant to Water Code section 13267. The technical reports are necessary for the Regional Water Board to evaluate the nature, extent, circumstances, and impacts from the discharges and/or threatened discharges from the Project to waters of the state and United States. The technical reports required are needed to provide information to the Regional Water Board regarding (a) discharge of pollutants of concern from Caltrans property, and (b) the threat to public health and the environment posed by the actual and threatened discharge of pollutants of concern. The burden of providing the required reports is significantly outweighed by the need for the reports, the costs, and the benefits to be obtained from the reports.

**F. IT IS HEREBY ORDERED**, pursuant to California Water Code section 13267, that Caltrans shall submit the following technical reports to the Regional Water Board in response to the above findings as follows:

**A. Waukell Creek and Tributary Flow Volume Estimate**

1. Provide the daily estimated flow rate of Waukell Creek at the Hwy 101 culvert for each day between October 1, 2015, and February 9, 2016. Describe the method Caltrans used to develop these estimates; and
2. The right bank tributary to Waukell Creek ("East Fork Waukell Creek") enters Waukell Creek at the downstream extent of the Project area where its flows would comingle with the discharge. Provide the daily estimated flow rate of East Fork Waukell Creek for each day between October 1, 2015, and February 9, 2016. Describe the method Caltrans used to develop these estimates.

**B. Discharge Volume Estimate**

1. Provide the volume of grout: 1) pumped between November 9, 2015, and November 19, 2015; 2) pumped on November 20, 2015; 3) discharged to Waukell Creek over what length and width; and 3) recovered from Waukell Creek and from inside the culvert. For the length of the culvert, disclose the dimensions and estimated volume of the annular area, the amount of grout pumped into the annular space prior to the Incident, and the amount of grout pumped into the annular space after the welds were repaired and grout pumping resumed. Provide the methods used to arrive at each of these estimates.
2. Provide the volume of cement-contact water that was initially discharged during the Incident when the sediment basin was overtopped. Provide the volume of grout-contact water that continued to be discharged from the spill site and sediment basin until the site was finally contained and isolated. Volume estimates must consider sub-surface and hyporheic flows surfacing in, around, and immediately downstream of culvert.
3. Provide the volume of downstream pH-affected water that resulted from the grout and grout-contact water discharge. Volume estimates must consider the diverted stream flow rate, the volume of water discharged from the sediment trap and sump pump basin, the volume of water discharged from the downstream tributaries, and the amount of time that grout remained in the channel and/or affected surface waters.

### **C. Discharge Incident and Spill Response Information**

1. Chronologically, provide all available details of the Incident and response actions not already contained in the December 22, 2015 Incident Report, including the exact reason(s) for the pipe seam failures, people present onsite at the time of the incident, the location and roles of those present onsite at the time of the Incident, and the responses by individuals within the first 24 hours of the Incident. Provide pre-Project photos representative of the pre-Project site conditions and all available photos taken after the Incident and within the first 48 hours.
2. Explain why the Office of Emergency Services was not contacted for a hazardous materials spill into a waterbody.
3. Report the date and time Caltrans realized that the discharge had resulted in a kill of aquatic organisms (e.g., Pacific giant salamanders, coastal cutthroat trout).
4. Report the date and time that Caltrans biologists and environmental or biological monitors first arrived at the Project site in response to the grout discharge. Describe in detail the level of survey efforts employed by Caltrans biologists and environmental or biological monitors to determine the extent of downstream impacts; also, provide observations, notes, and photos and as much biological impact review and analysis detail as possible.
5. For each report identified and provided pursuant to section C4 of this order, please identify the biologist and/or environmental or biological monitor, their title, and contact information.
6. For each report identified and provided pursuant to section C4 of this order, please identify the name of the custodian of records and any and all manual and/or policy and/or procedure related to management and storage of those reports produced in response to section C4.
7. Report the amount of polluted water pumped up via tanks to the large tank on road from the spill site. Describe how much water over what time period, including pumping rates and total volume of polluted water, was hauled off-site. Explain how Caltrans calculated these volumes.
8. Describe in detail the grout cleanup efforts, including timing of cleanup efforts by individuals and various equipment used, removal of polluted materials offsite, any problems related to operation of pumps and tanks, and how polluted equipment was cleaned after use. Provide all available photos with time, date and description of the cleanup efforts.

9. Increased pH is the primary water quality impact caused by the discharge of uncured concrete and concrete washout wastewater to waters. Caltrans has reported that its staff and representatives took no pH measurements in Waukell Creek until three days after the spill and discharge. Explain why pH monitoring was not performed sooner.

#### **D. Discharge Effect Information**

1. Provide a report of the extent and breadth of impacts and long-term adverse effects to Waukell Creek as a result of the grout discharge.

#### **E. District 1 Spill Response Procedures**

1. Describe the emergency spill response plan that was in place at the time of the Incident, if any. Describe Caltrans's contractor requirements for reporting hazardous materials spills.
2. Provide a copy of the spill response and incident reporting procedures for District 1 construction staff. Explain whether and how these procedures were followed in response to the grout discharge. If District 1 does not have official procedures for either spill response or incident reporting, then note that.
3. According to the Incident Report, a sediment trap and sump pump were installed downstream of the work area as a contingency measure to capture potential Project spills. Describe standard secondary containment systems or measures Caltrans uses on its construction projects and whether they were available to Project staff. If they were not available to Project staff, explain why they were not.

#### **F. Additional Project and Incident Information**

1. A September 23, 2015, e-mail from Caltrans staff cites a September 16, 2015, Caltrans Supplemental Director's Order for the Project that was not included with the NOI submittal to the Regional Water Board. Provide a copy of the Project 2015 Supplemental Director's Order that was completed September 16, 2015.
2. Describe the groundwater dewatering and stream diversion management strategies employed to keep water out of the work area. Describe the strategies employed to control groundwater and subsurface streamflow at both the upstream and downstream ends of the work area.

3. Describe all groundwater dewatering management and stream diversion challenges encountered during the Project, including any and all modifications made to the original groundwater dewatering and stream diversion management strategies.
4. Provide a complete site diagram of the work site at the time of the Incident that includes staging locations adjacent to the creek, all equipment and where it was located, sumps, pumps, tanks, all piping including inlets and outlets, sediment basins, fish exclusion fences, adjacent tributaries, access routes, culverts, overflow pipes, etc. Include a scale or distances and measurements, and a north arrow. Provide a series of photographs that depict the site diagram.
5. Provide a description of set-up of all pumps and storage tank configurations used onsite prior to, during, and after the spill; also provide the tank volumes and pump types and ratings, and amount of use on this Project.
6. Provide the construction details, as-built dimensions, and volumetric capacity of the downstream sediment trap and sump pump basin. Indicate whether the sediment trap was ever dry during operations. Indicate whether there were on-going issues involving pumping water from the trap and describe these issue(s), if any, and reasons.
7. Detail the daily and hourly volume of groundwater pumped from the downstream sump pump prior to, during, and after the Incident; note whether the downstream sediment trap was overwhelmed by groundwater at any time prior to the Incident.
8. Provide the date and time that grout stopped discharging from the broken pipe welds. Describe in detail how all grout was removed from the pipe.
9. Provide the date and time that water began to overwhelm the downstream sediment trap and sump pump basin and started flowing downstream. Provide the date and time that water stopped discharging from the downstream sediment trap and sump pump basin. Explain how Caltrans arrived at these dates and times.
10. Provide the date and time that the Waukell Creek stream diversion was removed and flow returned through the repaired culvert.
11. Explain why Caltrans failed to provide a revised notification to the California Department of Fish and Wildlife (CDFW), pursuant to Fish and Game Code section 1610, when emergency work associated with the Project extended

beyond the initial proposed work window of September 30, 2015 through October 30, 2015.

12. The Incident Report Form attached to the Incident Report noted that the Incident end time was 11/21/2015 at 11:30 a.m. Please describe how Caltrans concluded that the Incident ended at this date and time, and how this relates to or fits with cleanup efforts.
13. Explain the contractual obligation that the Project contractor had to address and report discharges to state waters. Explain whether Caltrans has found that the contractor's response was in compliance with the contract documents, and Caltrans policies and procedures.

The above reports and documentation, items A.-F., shall be submitted no later than April 29, 2016.

#### **G. Provisions**

1. **Use of Registered Professionals:** Caltrans shall provide documentation that its technical report was prepared under the direction of appropriately qualified professionals. In preparing the technical report required by this Order, any engineering or geologic evaluations and judgments must be performed by or under the direction of registered professionals pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. A statement of qualifications and registration numbers of the responsible lead professional shall be included in the report submitted by the Discharger. The lead professional shall sign and affix his or her registration stamp to the report.
2. **Qualified Professionals:** The Discharger's reliance on qualified professionals promotes proper planning, implementation, and long-term cost-effectiveness of investigation, and cleanup and abatement activities. Professionals, including but not limited to environmental and biological monitors, shall be qualified, licensed where applicable, and competent and proficient in the fields pertinent to the required activities.
3. **Signatory Requirements:** The technical report shall be signed and certified by either a principal executive officer, ranking elected official, or the person with overall responsibility for environmental matters for the Caltrans District. Additional reports submitted in support of the technical report must be signed by the principal author.

4. **Certification Statement:** Any report submitted in response to this Order shall include the following perjury statement:

*"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

5. **Report Submittal:** The technical report shall be submitted electronically to:

Ms. Shin-Roei Lee, Assistant Executive Officer  
North Coast Regional Water Quality Control Board  
[NorthCoast@waterboards.ca.gov](mailto:NorthCoast@waterboards.ca.gov)

If the report cannot be sent by email, it shall be submitted electronically on a compact disc/DVD to the following address:

Ms. Shin-Roei Lee  
North Coast Regional Water Quality Control Board  
5550 Skylane Blvd., Suite A  
Santa Rosa, CA 95403

## H. Notifications

1. **Enforcement Discretion:** The Regional Water Board and the State Water Board reserve their rights to take any enforcement action authorized by law for violations of the terms and conditions of this Order. Furthermore, compliance with this Order is wholly distinct from any possible enforcement that may follow from the discharges themselves, pursuant to violations of the California Water Code or other orders issued by the Regional Water Board or State Water Board.
2. **Enforcement Notification:** Pursuant to California Water Code section 13268, failure to submit the required technical reports as required by Water Code section 13267(b), or falsifying any information provided therein, may result in the imposition of administrative civil liability up to \$1,000 per violation per day. Any actual unauthorized discharge to waters of the United States may subject the Discharger to up to \$10,000 for each day of discharge, and \$10 for each gallon over 1,000 gallons not cleaned up pursuant to Water

Code section 13385. The Regional Water Board reserves its rights to take any further enforcement action authorized by law.

3. **Cost Recovery:** Pursuant to Water Code section 13304, and consistent with other statutory and regulatory requirements, including but not limited to, Water Code section 13365, the Regional Water Board and/or State Water Board may seek reimbursement for all reasonable costs actually incurred to investigate illegal discharges of wastes and to oversee cleanup of such wastes, abatement of the effects thereof, or other necessary enforcement actions.
4. **California Environmental Quality Act Compliance:** The issuance of this Order is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Title 14 of the California Code of Regulations, section 15306. The submission of technical information does not constitute a project with environmental impacts.
5. **Appeal Notification:** Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: [http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request.

It is hereby ordered.

---

Matthias St. John  
Executive Officer

March 18, 2016