

California Regional Water Quality Control Board
San Francisco Bay Region

RESPONSE TO COMMENTS

On the Issuance of Waste Discharge Requirements
for the California Department of Transportation Devil's Slide Tunnel Project

A tentative order to reissue the NPDES permit for the California Department of Transportation (Caltrans) Devil's Slide Tunnel Project in San Mateo County was available for public comment from July 2 to August 1, 2011. Caltrans submitted comments and recommendations, duplicated essentially verbatim in the following table. Our responses to each comment and recommendation follow in the right-hand column. We also incorporated some editorial suggestions Caltrans provided in a hand-marked version of the tentative order.

In addition, staff revised the tentative order to contain the same version of Attachment G as was in the previous permit, as amended by Order No. R2-2010-0054. The tentative order had contained an outdated version of Attachment G.

Comments and Responses

No.	Comment	Recommendation	Response
General Comments			
1	The current permit R2-2006-0049 expires on September 30, 2011. The tentative permit order will become effective in November 1, 2011. Will the Project continue under the current R2-2006-049 and R2-2010-0054 permits during the non-covered duration of October 1-31, 2011?	The California Department of Transportation (Caltrans) will continue to operate the temporary non-storm water treatment system (TNSWTS) under the current permits (R2-2006-049 and R2-2010-0054) during the period of October 1 through October 31, 2011, unless the California Regional Water Quality Control Board (Water Board) indicates otherwise.	The previous permit (Order No. R2-2006-0049) will be administratively extended to cover discharges until a new permit becomes affective.
2	The tentative permit has added Chromium (VI) and ammonia to the effluent monitoring and reporting.	The discharge monitoring report (DMR) form as required by the State Water Resources Control Board (SWRCB) should be updated to include Chromium (VI) and ammonia.	The DMR form will be updated.
3	All abbreviations and acronyms should be defined upon first usage.	Example: Ocean Plan is referenced on page 4 of the tentative permit and defined later on page 6. The Ocean Plan referenced on page 4 should be preceded by "Water Quality Control Plan for Ocean Waters of California."	We revised the tentative order where this issue was pointed out to us.
4	When referencing regulations such as California Water Code (CWC) chapter 5.5, division 7 (commencing with section 13370), a consistent format should be used.	<ul style="list-style-type: none"> • The referenced regulations will be capitalized as follows: California Water Code (CWC) Chapter 5.5, Division 7 (commencing with Section 13370). • When the text refers a section number of a regulation, the word "Section" or section symbol (§) should proceed the section number. • The referenced regulation at the end of a sentence should be changed from, for example, "Bypass" means the intentional division of waste streams from any portion of a treatment facility. (40 Code of Federal Regulations [CFR] 122.41(M)(1)(i).) to ...treatment facility (40 CFR 122.41(M)(i)). 	We retained the existing format, which is consistent throughout the document, except we revised Attachment D consistent with the third bullet point.

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Specific Comments			
1	Section II.B.1, second paragraph, page 3. Correct spelling in third sentence	“Though” should be changed to “through.”	We revised the tentative order.
2	Section IV. Table E-3, page E-4. A 24-hour composite (C-24) is shown for Chromium (VI) under Sample Type. The holding time for Chromium (VI) is 24 hours, and the holding time would elapse before transporting to the laboratory.	The Sample Type should be changed from C-24 to Grab for Chromium (VI) in Tables E-3 and E-4. In addition, a note should be added to C-24 in Tables E-3 and E-4, such as C-24 ^[6] and the following note added: “[6] If the facility discharge is intermittent, a grab sample should be collected during normal work hours and midway through the discharge period.”	We revised the tentative order.
3	Section VI.C.2.b.iii, page 13. Typographical error.	The period at the end of the sentence should be changed to a semicolon.	We revised the tentative order.
4	Section VI.C.3.a, page 13. Typographical error.	E-002 should be changed to EFF-002.	We revised the tentative order.
5	Section VII, first paragraph, last sentence, page 13. This sentence is incorrect (see Ocean Plan Section III.C.8.a.)	The referenced sentence should be changed as follows: “Discharger shall be deemed out of compliance with effluent limitations if the concentration of a pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level.”	We revised the tentative order.
6	Attachment A – Definition, third paragraph, second sentence, page A-6. Typographical error.	“No.s” should be changed to “Nos.”	We revised the tentative order.
7	Attachment C – Flow Schematic. The system flow chart diagram is not legible.	Replace Attachment C – Flow Schematic in the draft tentative order with Attachment C – Flow Schematic included as an attachment to these comments (construction schedule required these updates).	We revised the tentative order.
8	Attachment E, table of contents, Section II, page E-3. Typographical error.	“LocationS” should be changed to “Locations.”	We revised the tentative order.

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9	Attachment E, Table E-3, Legend to Table E-3, page E-4. Revise table notes.	<ul style="list-style-type: none"> • “MG = million gallons” should be deleted because it is not used in the table • The notation “lbsday” should be changed to “lbs/day” • “Cont. = Continuous” should be added under Sample Type 	We revised the tentative order.
10	Attachment E, Table E-4, Legend to Table E-4, page E-5. Revise table notes.	The notes should be revised as summarized above in Specific Comment 9.	We revised the tentative order.
11	<p>Attachment E, Section V.C., page E-7.</p> <p>The opening paragraph states the following: “If toxicity monitoring shows a violation of the chronic toxicity effluent limitation established by this Order, the Discharger shall conduct a toxicity reduction evaluation (TRE), and shall take all reasonable steps to reduce toxicity once the source of toxicity is identified. The Discharger shall initiate a TRE in accordance with the following.</p> <p>a. The Discharger shall prepare a generic TRE work plan within 90 days of the effective date of this Order to be ready to respond to toxicity events. The Discharge shall review and update the work plan as necessary to remain current and applicable to the discharger and discharge facility.</p> <p>b. Within 30 days of exceeding the effluent limitation....”</p>	<p>Item a. indicates that, regardless of a violation, the Discharger must prepare a generic TRE work plan within 90 days of the effective date of this order to be ready to respond to toxicity events.</p> <p>Item a. should be deleted from Attachment E, Section V.C., as currently written because a TRE is only required if a violation occurs, based on the opening paragraph.</p>	We retained the language as originally written. This requirement is retained from the existing permit. The opening paragraph requires that a TRE be conducted in the event of a chronic toxicity effluent limitation violation. The generic TRE work plan that sub-paragraph a. requires is intended to facilitate the TRE process if a TRE should ever be necessary. Sub-paragraph a. does not require that an actual TRE be conducted.
12	<p>Attachment E, Section V.C.d., page E-8.</p> <p>Tiers 2 and 5 appear to be redundant as presented below:</p> <p>“(2) Tier 2 consists of evaluation of optimization of the treatment process, including operation practices and in-plant process chemicals.”</p> <p>“(5) Tier 5 consists of evaluation of option for modification of in-plant treatment processes.”</p>	Additional text should be added for clarification or Tier 2 should be deleted.	We revised the tentative order for clarity. Tier 2 requires evaluation of the current treatment process, while Tier 5 requires evaluation of options to modify the existing treatment process. We changed the Tier 2 language as follows: “Tier 2 consists of evaluation of optimization of the <u>current</u> treatment process, including operation practices and in-plant process chemicals.”

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13	<p>Attachment E, Section VII.B.2.a., page E-9. Quarterly self monitoring reports (SMR) under Order No. R2-2006-0049 were due 90 days after the end of each calendar quarter (see Attachment E, Table 6 of Order R2-2006-0049), and the draft new permit indicates that quarterly SMRs are due 30 days after the end of each calendar quarter.</p>	<p>Attachment E, Section VII.B.2.a. should be changed as follows: “a. Quarterly SMRs – Quarterly SMRs are due 90 days after the end of each calendar quarter, covering that calendar quarter. The quarterly SMR shall contain the applicable items described in Sections V.B and V.C of both Attachments D and G of this order.”</p> <p>The rationale for the proposed 90 days is based on the following timeline:</p> <ul style="list-style-type: none"> • Four weeks for laboratory analysis and reporting • Two weeks for data verification, validation, and reconciliation • Three weeks for preparation of the internal SMR • Three weeks for review of the internal SMR by Caltrans, revisions to the internal SMR by the contractor, and issuance of the SMR by Caltrans. 	<p>We revised the due date to 60 days from the end of each calendar quarter to provide Caltrans with additional time for report compilation. The 90-day timeline Caltrans proposes appears excessive. The standard quarterly SMR due date for all other NPDES permit holders in our region is 30 days after the end of each calendar quarter.</p>
14	<p>Attachment E, Section VII., Table E-6, page E-10. The monitoring period for quarterly sampling has changed from the monitoring period under Order R2-2006-0049. The monitoring period specified in the tentative order is as follows:</p> <p>November 1 through January 31 February 1 through April 30 May 1 through July 31 August 1 through October 31</p>	<p>Caltrans prefers the monitoring period for quarterly sampling under the Order R2-2006-0049 which is based on a calendar year. The monitoring period for quarterly sampling in Table E-6 should be changed back to the monitoring period under Order R2-2006-0049 as follows:</p> <p>January 1 through March 30 April 1 through June 30 July 1 through September 30 October 1 through December 31</p>	<p>We revised the tentative order. If the Water Board adopts an order in September, operations conducted between October 1 and October 31, 2011, would be subject to the previous permit, whereas operations conducted between November 1 and December 31, 2011, would be subject to the newly adopted order. The Self-Monitoring Report for the October 1 – December 31 monitoring period should provide monitoring information specific to each order.</p>
15	<p>Attachment E, Section VII.B.4, page E-11. This section describes reporting level (RL), minimum level (ML) and method detection limit (MDL).</p>	<p>The title of this section should be changed from “ML and MDL Reporting” to “RL, ML, and MDL Reporting.”</p>	<p>We revised the tentative order.</p>

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16	Attachment F, Section II.D.3, last sentence, page F-6. Some human health parameters, such as metals, were detected; therefore, this sentence should be revised.	The last sentence should be changed from “No human health parameters were detected.” to “No human health parameters were detected at concentrations exceeding Table B water quality objectives for the protection of human health.”	We revised the tentative order.
17	Attachment F, Table F-7, page F-13. This table is missing a legend.	The following legend should be added to Table F-7: <u>Legend to Table F-7:</u> µg/L = Microgram per liter	We revised the tentative order.
18	Attachment F, Table F-8, page F-14. This table is missing a legend.	The following legend should be added to Table F-8: <u>Legend to Table F-8:</u> ND = Not Detected RPA = Reasonable Potential Analysis WQO = Water Quality Objective µg/L = Microgram per liter In addition, the header for “Max Effluent Conc. (µg/L) ¹ ” shows a note (1) that needs to be added or the note should be deleted.	We revised the tentative order.
19	Attachment F, Section IV.D.4, page F-15. The equation for calculating effluent limits and examples of effluent limit calculations for ammonia and chromium (VI) are provided in the section. Because the calculation for dioxin-toxic equivalency (TEQ) is different from other chemicals [$C_e = \sum(C_x \times TEF_x \times BEF_x)$] per Order No. R2-2010-0054, the method of calculating effluent limit for dioxin-TEQ should be added to this section.	The equation for calculating dioxin-TEQ should be added to Section IV.D.4.	We did not revise the tentative order because it does not include dioxin and furan effluent limitations. Section IV.D.4 shows only the calculations used to derive effluent limitations.

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20	<p>Attachment F, Section IV.D.4, page F-15.</p> <p>The equation for calculating mass-based effluent limitations is provided; however, the method for calculating the six month median in lbs/day when the test results are not detected (ND) is not provided.</p> <p>Ocean Plan Section III.C.4.k., page 15, states the following: “The six-month median limit on daily mass emission shall be determined using six-month median effluent concentration as C_e (the effluent concentration limit, $\mu\text{g/L}$) and the observed flow rate Q in million gallons per day. The daily maximum effluent concentration limit as C_e and the observed flow rate Q in million gallons per day.”</p> <p>Ocean Plan Section III.C.8.c., page 17, states the following: “The concentration of the pollutant in the effluent may be estimated from the result of a single sample analysis or by a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses when all sample results are quantifiable (i.e. greater than or equal to the reported Minimum Level). When one or more sample results are reported as ND or DNQ, the central tendency concentration of the pollutant shall be the median (middle) value of the multiple samples. If, in an even number of samples, one or both of the middle values is ND or DNQ, the median will be the lower of the two middle values.”</p>	<p>A note should be added to the equation for calculating mass-based effluent limitations that explains how to calculate the six-month median when test results are ND. Neither the draft permit nor the Ocean Plan addresses this issue. The note could be as follows: “Individual pollutants will be considered to have a concentration of zero if the constituent is reported as ND or DNQ. If both lbs/day and mg/L will be reported, the DMR should be updated to include these.</p>	<p>We did not revise the tentative order because this section shows how we calculate effluent limits, not how Caltrans should calculate and report results. Attachment G Section V.C.1.c.2 describes how to handle ND and DNQ results.</p>
21	<p>Attachment F, Table F-9, page F-15. This table is missing a legend.</p>	<p>The following legend should be added to Table F-9:</p> <p><u>Legend to Table F-9:</u></p> <p>$\mu\text{g/L}$ = Microgram per liter</p>	<p>We revised the tentative order.</p>

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22	Attachment F, Table F-10, page F-15. This table is missing a legend.	The following legend should be added to Table F-10: <u>Legend to Table F-10:</u> lbs/day = Pounds per day mg/L = Milligrams per liter µg/L = Microgram per liter	We revised the tentative order.
23	Attachment F, Section VI.B., first sentence, page F-17. The opening sentence states: “In general, effluent monitoring requirements for discharge from Discharge Point 001 and 002 are retained from the previous Order, with the following exceptions.” The previous order (see Attachment F, Section VI.B, page F-13) states: “Effluent monitoring requirement at monitoring point have been established to determine compliance with effluent limitation as a final step within the treatment system. Because there will not be receiving water monitoring, the Discharger will not be given dilution credit. Effluent limits must be met at the effluent monitoring locations prior to discharge.”	The draft new order allows for a dilution credit; therefore, Attachment F, Section VI.B. should be revised as follows: “Effluent monitoring requirements at monitoring points have been established to determine compliance with effluent limitations as a final step within the treatment system. Effluent limits must be met at the effluent monitoring locations prior to discharge. Effluent monitoring exemptions for discharges from Discharge Point 001 and 002 are as follows: <ul style="list-style-type: none"> • The MRP now contains routine monitoring... • Monitoring for acute toxicity... • Because radioactivity is not anticipated....” 	We retained the existing language, which is essentially retained from the previous permit. Although the previous permit did not specify a dilution credit, it did allow the Executive Officer to specify a dilution credit if supported by an adequate dilution study, which was in fact what happened. The differences between the previous permit and the tentative order are summarized correctly in Fact Sheet Section VI.B.

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24	<p>Attachment G, Section III.3.a.1, page G-10.</p> <p>The timing of sample collection states:</p> <p>(1) "The Discharger shall collect samples of influent on varying days selected at random and shall not include any plant recirculation or other sidestream waste, unless otherwise stipulated by the MRP.</p> <p>(2) The Discharger shall collect samples of effluent on days coincident with influent samples unless otherwise stipulated by the MRP or the Executive Officer."</p> <p>Under the current Order (R2-2006-0049), influent and effluent monitoring is being performed within the first week of each month for monthly sampling, and within the first couple of days of each week for weekly sampling. The day on which the samples are collected is selected at random.</p>	<p>Based on the consistency of the influent flows, with short-duration batch discharges (1 to 2 hours per batch) and low flow rates combined with requirements to meet monthly averages, Caltrans recommends Water Board approval for sampling influent and effluent protocols under the current Order (R2-2006-0049).</p> <p>These sampling protocols allow the use of analytical test results to either adjust the treatment system as necessary, or perform additional analytical testing to verify that monthly averages are being achieved.</p>	<p>We did not revise the tentative order. To meet the monitoring requirements of the tentative order, Caltrans would like to take "random" samples within the first week of the month for constituents with monthly limits, or in the first couple days of the week for constituents with weekly limits. This would give them time to adjust their treatment processes and take additional samples if initial monitoring results produce exceedingly high values.</p> <p>However, Caltrans is incorrect in stating that the previous permit includes sampling protocols that differ from those in the revised tentative order. Both the previous permit (as amended) and the revised tentative order include the same Attachment G influent and effluent monitoring requirements. These requirements call for truly random samples, not samples routinely collected during the beginning of a week or month. As long as Caltrans collects random samples, it may also collect additional samples at the beginning of sampling periods if it finds such sampling useful. It may use such sampling to adjust its treatment system or decide whether to perform additional analytical testing.</p>

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25	<p>Attachment G, Table A, page G-19. The sum of the dioxin congener toxic equivalency factors (TEF) are to be used to calculate dioxin-TEQ; however, Order No. R2-2010-0054 indicates that the dioxin-TEQ calculation should also include bioaccumulation equivalency factors (BEFs). Order No. R2-2010-0054 indicates that a panel of experts assembled by the San Francisco Estuary Institute convened in February 2008 to review information regarding San Francisco Bay dioxins and furans. The panel’s recommendations included the following:</p> <ul style="list-style-type: none"> • Apply both TEF and BEFs to dioxin and furan concentrations when calculating dioxin-TEQ • Do not use dioxin and furan congener concentrations reported below minimum levels (ML) when computing dioxin-TEQ 	<p>Pages F-2 through F-5 of Order No. R2-2010-0054 should be referenced in the new permit, and tables and corresponding text on pages A-6 and G-19 should be updated to include BEFs for individual dioxin and furan congeners.</p> <p>In addition, the TCDD Equivalents table on page A-6 does not match the TCDD Equivalents table on page G-19. The table on page A-6 should be updated to match the table on page G-19.</p>	<p>We revised the tentative order, Attachment E, Section VII.A, to explicitly supersede the dioxin-TEQ reporting requirements in Attachment G. Attachment G defines dioxin-TEQ in terms of bioaccumulation equivalency factors (BEFs), and the Ocean Plan expressly does not define “TCDD equivalents” in such terms. The new provision is as follows:</p> <p>“The Discharger shall report for each dioxin and furan congener the analytical result of effluent monitoring, including the quantifiable limit (reporting level), the method detection limit, and the measured concentration. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents as defined in Definitions (Attachment A), the Discharger shall set congener concentrations below minimum levels (ML) to zero.”</p> <p>We also added a sentence to Attachment A, noting that Attachment A supersedes the dioxin TEQ definition in Attachment G.</p>