



# California Regional Water Quality Control Board

## San Diego Region



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**TO: JOHN ROBERTUS, EXECUTIVE OFFICER**

**FROM: BEN NEILL, WATER RESOURCE CONTROL ENGINEER  
SOUTHERN WATERSHED PROTECTION UNIT**

**DATE: MAY 28, 2003**

**SUBJECT: TECHNICAL ANALYSIS FOR CLEANUP AND ABATEMENT ORDER  
NO. R9-2003-0230**

### I. INTRODUCTION

This technical analysis provides a summary of factual evidence supporting the issuance of a Cleanup and Abatement Order (CAO) against the State of California, Department of Transportation (Caltrans) for violations of State Water Resources Control Board Order No. 99-08-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated With Construction Activity (General Permit) as alleged in CAO NO. R9-2003-0230.

State Water Resources Control Board (SWRCB) Order No. 99-06-DWQ, National Pollutant Discharge Elimination System (NPDES) Permit No. CAS000003, National Pollutant Discharge Elimination System Permit, Statewide Storm Water Permit, and Waste Discharge Requirements (WDRs) for State of California, Department of Transportation (Caltrans) requires Caltrans to comply with the General Construction Permit, Order No. 99-08-DWQ.

The Caltrans construction site at Interstates 5 and 805 (5/805 Widening Project) has discharged sediment, sediment-laden water, mud, and gravel to waters of the State. Sediment discharges, including mud and gravel, have exceeded water quality standards and have adversely impacted the designated beneficial uses of the four waterbodies within the project area.

### II. SITE DESCRIPTION

On March 1, 2002, Caltrans began construction on the 5/805 Widening Project between La Jolla Village Drive and Via De La Valle within the City of San Diego (see enclosed site map). The \$182 million project is to construct additional lanes of traffic on the two interstates. By adding additional lanes, the project requires the construction of several bridges with pillars in waters of the State.

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The project crosses Soledad Canyon Creek, Los Penasquitos Creek, and Carmel Valley Creek. All three of these creeks discharge into the Los Penasquitos Lagoon, which is listed on the Clean Water Act Section 303(d) list of Impaired Waters for sedimentation/siltation. Los Penasquitos Lagoon Foundation has been approved for State funds under Proposition 13 to control sediment impacts into the lagoon.

### **III. COMPLIANCE SUMMARY**

- A. To date, the site has been inspected 11 times by Regional Board inspectors since construction started on March 1, 2002.
- B. The Regional Board has received numerous public complaints about the site.
- C. The Regional Board issued three NOV's for multiple discharges and violations of the General Construction Permit.
- D. Caltrans has reported twelve incidents of non-compliance at the site.

### **IV. COMPLIANCE HISTORY**

A. On May 1, 2002, Kristin Schwall, Water Resource Control Engineer of the Regional Board, inspected the site due to reports of non-compliance. The inspection report notes several violations including:

- 1. The Storm Water Pollution Prevention Plan (SWPPP) did not include a written plan to address intermediate stages of construction.
- 2. The SWPPP did not identify or address concentrated flows.
- 3. Site had inadequate erosion and sediment controls.

Ms. Schwall verbally notified Caltrans representatives of these violations during the inspection. She also sent them a copy of the Facility Inspection Report as a Staff Enforcement Letter.

B. On May 3, 2002, the Regional Board received two Notices of Non-Compliance (NONC) from Caltrans describing discharges on April 24 and 26, 2002.

- 1. On April 24, 2002, sediment and sediment-laden water discharged into a storm drain along Sorrento Valley Road due to inadequate erosion and sediment controls. The storm drain discharges into Soledad Canyon Creek.
- 2. On April 26, 2002, concentrated flows from overside drains caused a discharge of sediment directly into Los Penasquitos Creek.

C. On May 6, 2002, the Regional Board received four more NONC faxed from Caltrans due to an April 26, 2002 storm.



1. A discharge of 0.5 cubic yard of sediment to a storm drain on the shoulder of I-805 due to an exposed slope. The storm drain discharges to Los Penasquitos Creek.
2. Concentrated flow caused a sediment discharge to enter a concrete channel west of I-5 southbound. This channel discharges to Los Penasquitos Creek.
3. Sediment discharged to a storm drain on Sorrento Valley Road due to exposed slopes adjacent to Integrated Microwave. The storm drain discharges to Los Penasquitos Creek.
4. A sediment discharge occurred near "Public Storage" and reached a storm drain inlet on Sorrento Valley Rd. The storm drain discharges to Soledad Canyon Creek.

Caltrans responded by installing additional fiber rolls, straw bales, gravel bags, temporary construction entrances, hydraulic matrices, fiber mats, linear sediment barriers and a temporary desilting basin. They swept the sediment up from Sorrento Valley Road and proposed regular maintenance for the BMPs. Caltrans also emailed before and after pictures of the site showing BMPs in place.

D. On August 19, 2002, Kristin Schwall inspected the site and again cited several violations including:

1. Construction vehicles were leaking.
2. A bucket of oil was stored without secondary containment.
3. Vehicle maintenance and repair was done without any BMPs.
4. Disinfectant was leaking from a portable toilet.

Ms. Schwall verbally notified Caltrans representatives of these violations during the inspection. She also sent them a copy of the Facility Inspection Report as a Staff Enforcement Letter. Caltrans did not respond.

E. On November 7, 2002, Ben Neill, Water Resource Control Engineer of the Regional Board, inspected the site and noted several violations including:

1. BMP maintenance was needed on storm drain inlets.
2. Soil stockpile had no sediment control or stabilization.
3. Slopes were without erosion or sediment controls.
4. Dust controls were needed at the rock crusher activity in the batch plant.

Mr. Neill verbally notified Caltrans representatives of these violations during the inspection. He also sent them a copy of the Facility Inspection Report as a Staff Enforcement Letter. Caltrans did not respond.

F. On December 4, 2002, Kristin Schwall inspected the site while accompanying Jeremy Johnstone of the USEPA. The inspection report noted several violations including:

1. Slopes and stockpiles, including areas cited during the November 7 inspection, had no erosion controls and inadequate sediment controls.



2. Drilling spoils were stored directly adjacent to Los Penasquitos Creek without any BMPs.
3. Grease from a storage tank was dripping outside of the containment.
4. Plug was missing from secondary containment of diesel fuel.
5. A small desilting basin on the south side of Los Penasquitos Creek beneath southbound I-805 had an 8-inch pipe for dewatering. This pipe did not allow sufficient time for settling of particles.
6. A small desilting basin on the south side of Los Penasquitos Creek beneath southbound I-5 was undersized.
7. The site had large areas using plastic sheeting as long-term erosion control. Plastic sheeting is appropriate for small areas and temporary use.

Due to the findings of the inspection on December 4, 2002, Notice of Violation (NOV) No. R9-2002-417 was issued with a 13267 letter Request for a Technical Report (RTR) on December 20, 2002. The RTR asked for a SWPPP status section, a site status section, and a hydrologic study section.

On December 6, 2002, Caltrans emailed photos of corrections to the violations. On January 31, 2003, Caltrans submitted the RTR explaining corrections to the violations noted in NOV No. R9-2002-417. Regional Board staff reviewed the RTR and found no deficiencies in the report.

G. On December 20, 2002, Phil Hammer, Environmental Scientist, and Mike Porter, Engineering Geologist, inspected the site and documented the following violations:

1. Slopes had no erosion controls. Fiber rolls used for sediment control were inadequate because the fiber rolls were broken and run over.
2. Muddy water was running off the site into the storm drains along Roselle Street.
3. Plastic sheeting used for erosion control was inadequate and not maintained. The plastic sheeting was the same area cited in the December 4, 2002 inspection.

On December 20, 2002, Kristin Schwall inspected the site and noted the following violations:

1. Erosion rilling was visible on slopes.
2. Storm drains had no inlet protections along Sorrento Valley Road. Gravel bags were stacked atop the storm drain.
3. Slope along Roselle Street did not have erosion controls.
4. Mud 2 to 3 inches deep was discharged to the street gutter along Roselle Street. The storm drains on Roselle Street discharge to Soledad Canyon Creek.

On December 24, 2002, Ben Neill inspected the site and noted several violations including:

1. Significant sediment discharged to the gutter along the south side of Roselle Street.
2. Storm drain inlets were without any protection.
3. Fiber rolls were ineffective because they were driven over and torn up.



4. Silt fence was failing in places and needed maintenance.
5. Large slopes lacked erosion control. Plastic sheeting had failed and was not maintained.
6. Sediment basin on the south bank of Los Penasquitos Creek did not have an adequately designed principal outlet to filter sediment during dewatering.
7. A large mud discharge was below the sediment basin.

Due to the findings of the inspections on December 20 and 24, 2002, Notice of Violation (NOV) No. R9-2003-0030 was issued with a 13267 letter Request for a Technical Report (RTR) on January 10, 2003. The RTR asked for a immediate actions section, a site status section, a pollutant monitoring program section and a hydrologic study section.

On January 10, 2003, the Regional Board received 4 NONC from Caltrans.

1. On December 16, 2002, gravel bags and a silt fence failed at an outlet to a drainage system and sediment was discharged to Los Penasquitos Creek.
2. On December 16, 2002, sheet flow over an existing grade was not contained and caused silt to enter the drainage system and discharge into Soledad Canyon Creek.
3. On December 20, 2002, I-805 flooded due to a backup in the temporary storm water conveyance pipes.
4. On December 20, 2002, concentrated runoff flows from I-5 overwhelmed BMPs and eroded the slope south of Roselle Street, causing a discharge of sediment to the storm drain and Soledad Canyon Creek.

Caltrans corrected these incidents of no-compliance with additional BMPs and temporary drainage diversions. Caltrans submitted the RTR on February 11, 2003. Regional Board staff reviewed the report and found it sufficient.

H. On February 11, 2003, Ben Neill inspected the site and found the following violations:

1. Silt fence was failing along Roselle Street on-ramp.
2. Significant erosion on slopes along Roselle Street from concentrated flows and lack of erosion controls.
3. Stockpiles were without BMPs.

On February 13, 2003, Kristin Schwall inspected the site and found the following violations:

1. Concentrated flows eroded slopes above Roselle Street.
2. Silt fence failing above Roselle Street.
3. Deteriorated fiber rolls were ineffective.
4. Slopes along the I-5 northbound offramp to Roselle Street had no erosion controls.
5. Storm water conveyance had accumulated sediment.
6. Several discharges of sediment were in a small canyon adjacent to the northbound I-5 off ramp to Roselle Street.
7. An impromptu detention basin flooded an area containing a portable toilet.



Due to the findings of the inspections on February 11 and 13, 2002, Notice of Violation (NOV) No. R9-2003-0093 was issued with a 13267 letter Request for a Technical Report (RTR) on March 3, 2003. The RTR asked for an immediate action section, a site status section, and an environmental damage assessment.

On March 27, 2003, the Regional Board received two NONC from Caltrans. On February 11 and 12, 2003, concentrated runoff from the freeways caused a discharge south of Roselle Street and west of I-5. Caltrans stopped all work on the project on February 14, 2003 due to stormwater violations. Caltrans also retained payment of 25 percent of the February work estimate from the contractor. The contractor, Yeager, changed project managers and formed a SWPPP labor team to address stormwater compliance at the site. Caltrans submitted the RTR on April 4, 2003. Regional Board staff reviewed the report and found no deficiencies in it.

I. On March 6, 2003, Ben Neill inspected the site and found the following violations:

1. Some sediment tracking on adjacent streets.
2. Concrete washout was overflowing and poorly maintained.
3. Sediment controls missing at construction area atop Roselle Street and adjacent to I-5 northbound.
4. Area between the freeways and adjacent to Los Penasquitos Creek had a large amount of disturbed soil without erosion controls in place.
5. A low flow crossing west of I-5 had disturbed soils that would be transported during a rain event.

Mr. Neill verbally notified Caltrans representatives of these violations during the inspection. He also sent them a copy of the Facility Inspection Report as a Staff Enforcement Letter. Caltrans did not respond.

J. On April 21, 2003, Ben Neill inspected the site. The inspection report notes several violations including:

1. Site had inadequate exit BMPs to reduce sediment tracking at every construction exit. Significant sediment was accumulated on the streets and sidewalks.
2. Fiber rolls were routinely run over rendering them ineffective.
3. Sediment and erosion controls adjacent to Los Penasquitos Creek were inadequate. Mud had discharge from the site to the rocky banks of the creek. Exposed soils were below the installed silt fence. Gravel from the construction site had washed down Penasquitos Creek.
4. Storage area east of I-5 had inadequate sediment controls and soil stabilization.
5. West of I-5 a large slope had plastic sheeting for erosion control. The plastic was in shreds and useless as erosion control.
6. The large slope west of I-5 had many erosion rills from freeway runoff.



Mr. Neill verbally notified Caltrans representatives of these violations during the inspection. He also sent them a copy of the Facility Inspection Report as a Staff Enforcement Letter. Caltrans did not respond.

K. On May 6, 2003, Ben Neill and John Robertus inspected the site. No significant violations were observed.

## **V. IMPACTS TO WATER QUALITY AND BENEFICIAL USES**

The subject site crosses and discharges into three creeks: Soledad Canyon Creek, Los Penasquitos Creek, and Carmel Valley Creek. These creeks are within the Penasquitos Hydrologic Unit (906.00) and the Miramar Reservoir Hydrologic Area (906.10) as described in the Water Quality Control Plan for the San Diego Basin (Basin Plan). The creeks drain into Los Penasquitos Lagoon.

The portion of Soledad Canyon Creek within the Caltrans construction site is channelized and concrete lined for a brief stretch, starting near the intersection of Roselle and Tansy Streets and ending near the intersection of Roselle and Dunhill Streets. The creek's watershed is entirely within the City of San Diego's jurisdiction and drains portions of Sorrento Mesa, Scripps Ranch, Miramar, and Mira Mesa neighborhoods. The Basin Plan establishes the following beneficial uses for this creek: Agricultural Supply (AGR), Industrial Supply (IND), Potential Contact Water Recreation (REC1), Non-Contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), and Wildlife Habitat (WILD).

Los Penasquitos Creek intersects Soledad Canyon Creek after running through the construction project and before emptying into the lagoon. Los Penasquitos Creek drains the City of San Diego and Poway's jurisdictions. Upstream areas include the Los Penasquitos Canyon Preserve and the Lopez Canyon Open Space. The creek's watershed drains the neighborhoods of Mira Mesa, Rancho Penasquitos, Sabre Springs, and the City of Poway. The Basin Plan establishes the following beneficial uses for this creek: AGR, IND, REC1, REC2, WARM, COLD, and WILD.

Carmel Valley Creek empties directly into the lagoon and is on the northern end of the construction project. The creek's watershed is within the City of San Diego and drains the neighborhoods of Sorrento Hills, Carmel Valley, Rancho Penasquitos and areas currently under development. The Basin Plan establishes the following beneficial uses for this creek: AGR, IND, REC1, REC2, WARM, COLD, and WILD.

All three of these creeks discharge into Los Penasquitos Lagoon. The lagoon is listed on the Clean Water Act Section 303(d) list of Impaired Waters for sedimentation/siltation. The Los Penasquitos Lagoon Foundation has been approved for State funds under Proposition 13 to control sediment discharges into the lagoon. The Basin Plan lists the following beneficial uses for the lagoon: REC1, REC2, Preservation of Biological Habitat of Special Significance (BIOL),



Estuarine Habitat (EST), WILD, Rare, Threatened, or Endangered Species (RARE), Marine Habitat (MAR), Migration of Aquatic Organisms (MIGR), and Shellfish Harvesting (SHELL).

As detailed above, the Caltrans construction site has discharged sediment, sediment-laden water, mud, and gravel to waters of the State. Sediment discharges, including mud and gravel, have exceeded water quality standards and have adversely impacted the designated beneficial uses of the four waterbodies within the project area. Sediment decreases a waterways flood control capacity, endangering neighboring businesses and residents, and can clog industrial intake structures and agricultural irrigation pumps, decreasing their efficiency.

Sediment also increases the water's turbidity and total suspended solids, which adversely impacts the following beneficial uses: REC1, REC2, BIOL, EST, WARM, COLD, WILD, RARE, MAR, MIGR, and SHELL.

The Basin Plan states for Sediment:

“Suspended sediment in surface waters can cause harm to aquatic organisms by abrasion of surface membranes, interference with respiration, and sensory perception in aquatic fauna. Suspended sediment can reduce photosynthesis in and survival of aquatic flora by limiting the transmittance of light.”

The Basin Plan states for Suspended and Settleable Solids:

“Suspended and settleable solids are deleterious to benthic organisms and may cause the formation of anaerobic conditions. They can clog fish gills and interfere with respiration in aquatic fauna. They also screen out light, hindering photosynthesis and normal aquatic plant growth and development.”

Turbidity makes water aesthetically unpleasing for Contact and Non-Contact Water Recreation. The Basin Plan states for Turbidity:

“The turbidity of water is attributable to suspended and colloidal matter, the effect of which is to disturb clearness and diminish the penetration of light ... by interfering with the penetration of light. Turbidity can adversely affect photosynthesis which aquatic organisms depend upon for survival. High concentrations of particulate matter that produce turbidity can be directly lethal to aquatic life.”

Sediment also carries secondary pollutants such as bacteria, inorganic and organic chemicals, oil and grease, pesticides and toxic pollutants.

## VI. CONCLUSION



The discharges from the Caltrans construction site have negatively impacted water quality and beneficial uses. This long-term construction project is not anticipated to be complete until August 1, 2006. Caltrans needs to implement and maintain adequate BMPs to prevent any other discharges from occurring. Continued violations of the General Permit and lack of BMPs threaten to cause compounded adverse impacts to water quality.

