

Caltrans Fort Ord Storm Water Outfall Repair Highway 1 at Fremont Road, City of Marina, Monterey Co.

Permit/LCP #: Emergency Permit CDP File 3-11-082-G
Hearing Date: none

Analyst: Mike Watson, Central Coast
Hearing Result: none

Applicant/Project Name: Caltrans District 5 Maintenance Division/Fort Ord Storm Water Outfall Repair

Project Location: Highway 1, North of the Fremont Road overcrossing (Mile post MON 81)

Project Status:

Construction Complete? Yes
Recommend Enforcement? No.

Condition Compliance Complete? No.
Recommend Follow up? Yes, low priority.

Project Description:

The project is the repair of a failed culvert outfall. Several sections of the concrete culvert ‘barrels’ comprising the outfall for the storm drain system had separated and storm water had eroded into the coastal dune habitat on the ocean side of Highway 1, triggering a request for an emergency permit. The emergency permit was granted and allowed completion of the minimum work necessary to address the emergency. The outfall was reconstructed with a polyvinyl liner insert and new foundation. Following the emergency work, a regular Coastal Development Permit (CDP) application was required to be submitted to the California Coastal Commission (CCC) for approval. This permit application must analyze alternatives to the proposed project.

The CDP process can allow for the time needed to secure buy-in from multiple interested parties, acquire funding, design the project features and construct the facilities that would implement the optimum project alternative. Because the culvert is located on property that is leased, and the lease expires in 2025, timing the permit milestones to coincide with this date makes good sense.

Staff report

No staff report is required for an Emergency Permit. The Regular (follow-up) Permit will require a staff report.

Contacted local government representative?: Yes, the Caltrans field engineer (Gary Sims) was contacted.

Contacted owner’s representative?: Yes. State Parks is the owner of the property. Environmental Scientist Amy Palkovic is working with Caltrans Environmental Planner (Biologist) Mitch Dallas to coordinate re-establishment of a native plant community in the affected area.

Table 1. Contact Log:

DATE (2012)	PERSON	ROLE	SUBJECT	COMMENTS
12 May	Mike Watson	CCC analyst	Project details	Emergency action required CCC permit
18 May	Dan Carl	CCC Manager	Project details	Discussed options for long term

18,19,20 May	Bridget Hoover, Monterey Bay Marine Sanctuary	MBNMS Director	No jurisdiction above Mean High Tide; interested in project	General interest in optimizing marine water quality
20 May	Dominic Roques, Central Coast Regional Water Quality Control Board		MS4 and CT statewide storm water permit jurisdiction	New small, unconventional MS4s and new Caltrans SW permits are pending adoption
25 May	Gary Sims, Caltrans Design Engineer	Onsite Contract Manager and Construction Engineer	Site inspection	Discussed alternatives to the emergency project.

History of permitting:

The culvert outfall comprises the exit point to a storm drain network that is part of the local Municipal Separate Storm Sewer System (MS4) with three contributing areas. These include a portion of the City of Seaside east of Highway 1, including the Seaside Middle School, the Fremont Blvd./Del Monte Blvd./Monterey Road freeway interchange, and an area of the highway north of the interchange.

The original storm drain for this area was built in 1969, predating the Coastal Act. At that time the Middle School and additional City of Seaside drainage was piped under the highway and the parallel railroad alignment and exited midway to the beach, within the dune field. The interchange drainage was collected separately and piped to an area between the railroad and the highway where run off infiltrated into the dune sand. The highway north of the interchange ran via sheet flow off the highway shoulders.

Coinciding with interchange reconstruction in 1974, these separate drainage areas were combined and the outfall was extended another 600 feet to exit on the upper beach. At that time the dunes were part of the Ford Ord Military Reservation and no CCC permit was issued. A 50-year easement was granted to Caltrans by the Army. This easement will expire in 2025. State Parks took over the easement when the military base closed in 1994.

The need for repair of the culvert outfall was brought to the attention of Caltrans by State Parks in 2011. State Parks was concerned about the progressive loss of ESHA due to the failure; including habitat for Smith's blue butterfly and Monterey spine flower. This project was issued an Emergency Coastal Development Permit CDP 3-11-082-G (Fort Ord Dunes State Park Culvert Repair) on December 16, 2011. The Emergency Permit includes a project description and conditions of approval. One of the conditions is to require that the applicant submit a regular CDP with an alternatives analysis upon completion of the temporary work.

The deadline for submittal of the application for the regular CDP was extended to March 2, 2012 and a preliminary alternative analysis was submitted by Caltrans. It describes a variety of storm water disposal alternatives; none of which would require the reconstructed outfall. Additional information detail these alternatives was requested. The additional information must be submitted by September 30, 2012.

Applicable Water Quality Policies:

Highway construction projects which disturb one acre or more are regulated under a statewide NPDES1 General Permit which became effective on July 1, 2010 and will expire on September 2, 2014. The General

¹ National Pollutant Discharge Elimination System

Permit requires Caltrans to file Notices of Intent (NOIs), Storm Water Pollution Prevention Plans (SWPPPs), annual reports, Notices of Termination (NOTs), and numeric action level (NAL) exceedance reports. The NPDES permit was not applicable to the emergency construction project because it was less than 1 acre.

New State Water Board draft regulations, in the form of an NPDES permit, for both small municipal MS4s and Caltrans will include provisions that trigger the evaluation of this storm water collection system, including the outfall that was repaired under the emergency permit.

- Highway runoff from Caltrans' facilities (post construction) is regulated by the State Water Resources Control Board under a NPDES state wide storm water discharge permit issued in 1999. An updated draft permit is dated September, 2011 and has not yet been finalized. A Storm Water Management Plan (SWMP) is required under the permit from each Caltrans District on an annual basis. It is anticipated that Caltrans will include a Municipal Coordination Plan in the SWMP in accordance with the draft regulations. The plan would describe the specific steps that the Caltrans will take in establishing communication, coordination, cooperation, and collaboration with other MS4 storm water management agencies and their programs including establishing agreements with municipalities, flood control departments, or districts as necessary or appropriate.
- Regulation of storm water runoff from municipalities by the State Water Resources Control Board was divided into Phase I and Phase II efforts. Phase I was applied to most municipalities with a population of 100,000 or more. Seaside (population 33,025) is covered under Phase II of the program and has a storm water program (<http://www.ci.seaside.ca.us/index.aspx?page=216>), but will be subject to an updated Phase II permit in the near future. Specifically, in the updated permit, runoff from Seaside Middle School to the Caltrans' storm drain network is anticipated to be identified as a 'non-traditional' MS4 category having somewhat more relaxed standards than a traditional MS4. Incorporating emerging technologies, especially those that are increasingly utilized by municipalities, is anticipated to be a specific goal of the new permit requirements. One such emerging technology is the move from traditional MS4 systems that collect runoff into a centralized system to Low Impact Development, where runoff is infiltrated or otherwise dispersed, close to the source. Splitting and separate handling of the run off from the Middle School and the highway interchange would be a step in this direction.

Water quality issues at the site

- Construction BMPs
- Polluted highway runoff
- Beach outfall
- Infiltration
- Multiple jurisdictions contributing to a merged MS4

Water quality permit conditions

The following Conditions relative to protection of water quality were included in the Emergency Permit:

Implementation of Best Management Practices during Construction: The permit holder was required to identify the type and location of the measures that were to be implemented during construction to avoid disruption of adjacent sensitive habitat areas, prevent erosion sedimentation and the discharge of pollutants during construction. These measures were selected and designed in accordance with the California Storm Water Best Management Practices Handbook and the Programmatic Biological Opinion for Highway 1 Management Activities.

Water quality reports

Drainage Profile Plansheet D-1 and Site Plan: Caltrans November 9, 2011

Natural Environmental Study, EA 1A9500, Caltrans December 2011

Drainage Discharge Alternatives Memo, Caltrans February 22, 2012

Site Visit: Staff: Mike Sandecki

Date: January 18, 2012

Observations:

All construction BMPs were in-place and functioning effectively.

Table 2: Observations

BMP #	Project Feature	Observations*	Grade/ Follow Up**
1	Limiting the extent of land disturbance to the minimum amount necessary to construct the project	Work area and access trail was fenced with netted-orange exclusion fencing	A
2	Area designated for the staging of construction equipment and materials	Staging area was fenced with netted-orange exclusion fencing	A
3	Temporary construction (exclusionary) fencing was installed to protect sensitive resources	Orange exclusion fencing used throughout site.	A
4	Silt fences, temporary detention basins, and/or other controls were used to intercept, filter, and remove sediments contained in the runoff from construction staging and storage/stockpile areas	Plastic sheeting used to contain spilled grout.	B
5	Construction housekeeping measures were required, including the use of dry cleanup measures whenever possible; collecting and filtering cleanup water when dry cleanup methods are not feasible; cleaning and refueling construction equipment at designated off site maintenance areas; and the immediate clean-up of any leaks or spills	Contractor had educational training on spill prevention procedures and other non-structural BMP practices	B
<p>*Observations include Plan Review information for inaccessible areas of the project.</p> <p>**Grades in relation to CCC and RWQCB requirements: A - Clearly Exceeds Reqts.; B- Clearly Meets Reqts.; C - Appears to Meet Reqts. (Need Info); D - Does Not Appear to Meet Reqts. (Need Info); F - Clearly Does Not Meet Reqts. (Consider Enforcement)</p> <p>Follow up examples: None required; Date by which follow up is recommended; Enforcement recommended; Other</p>			

Discussion/Conclusions

In support of selecting a preferred alternative, the following observations were made:

- The buffer between the repaired outfall and the sea is expected to incrementally be lessened due to sea level rise. The time expected to decommission the outfall is reasonable in light of the relatively slow rate of seal level rise.

- Sandy soil can effectively filter pollutants given sufficient distance and travel time. The anticipated Regular Permit would condition a project that would greatly increase the distance and travel time that would remove pollutants and would more effectively protect coastal water quality and the waters of Monterey Bay.
- Similar beach culvert outfalls have been reconstructed to infiltrate storm water at inland locations in similar physiographic settings in the area. For example, a beach outfall north of the former site of Stilwell Hall in Marina now discharges to a percolation basin near Beach Range Road near the water treatment facility. This site handles storm water from a section of highway that has been widened to 3 lanes in each direction. The capacity of the dune sand to percolate storm water has proven to be a reliable method to deal with storm water in this setting. Maintenance requirements for the percolation basin will be investigated during the consideration of the project alternatives.

The following features could be constructed to completely eliminate the culvert outfall:

- Run-on from the Middle School and Seaside community to the highway storm drain system could be diverted to the existing storm basin(s) on the east side of Highway 1. This will require that the berm between the culvert inlet and the existing storm water basin(s) will be breached and lined to prevent erosion. Incentive for planning this change could be provided by the planning required by the pending Phase II MS4 permits for the high school campus and the community and roundtable participation required by the anticipated updated Caltrans statewide storm water permit.
- The runoff from the intersection and overpass could be routed to an open swale/basin or subsurface drainage gallery located between the highway and the rail alignment.
- Runoff from the highway north of the interchange could be infiltrated adjacent to the roadway.
- The outfall on the seaward side of the railroad could be decommissioned and removed.

Follow-up Visit recommended?: Yes. A follow up visit is recommended after implementation of the follow up regular CDP.

Site Visit Photos:



Photo 1.
View of culvert outfall construction site from highway.



Photo 2.
Sleeve construction; note spill protection for grout operation. Grout was used to fill the void between the original culvert barrels and the smaller-diameter sleeve.



Photo 3.
Access trail exclusionary fence through the dune-ESHA



Photo 4.
Potential long term infiltration site for highway runoff located between the highway and the rail road alignment.