Appendix D
Construction Program Site Visit Reports

Site Visit No. 1

Thomes Creek Bridge Project
Site Visit Date: 10/13/2009

Caltrans MS4 (SWRCB Order No. 99-06-DWQ)
Thomes Creek Bridge Project
Caltrans District 2

The EPA Audit Team conducted a site visit at the Thomes Creek Bridge project located approximately 3 miles north of Corning, CA at the Interstate 5 Thomes Creek bridge crossing in Tehama County.

The site visit coincided with a precipitation event on October 13, 2009 which produced heavy rains. Precipitation data obtained from the California Data Exchange Center (CDEC) Corning Airport Station, located approximately 3 miles southeast of the Thomes Creek Bridge project, indicated that rain began falling at approximately 1 a.m. on October 13, 2009 and lasted through 5 p.m., October 13, 2009. The total accumulation during this 16 hour period was 2.21 inches of rainfall. The National Oceanic and Atmospheric Administration (NOAA) Atlas 2, Volume XI isopluvial map indicates that 2.5 inches of rainfall would accumulate during a 2 year, 24-hour precipitation event, which is more than the actual 2.21 inches of rainfall that occurred on October 13, 2009. Based on this data, the storm occurring on October 13, 2009 was less than a 2 year, 24-hour event and is therefore considered a common precipitation event. Site conditions observed on October 13, 2009 are summarized below.

Prohibition A.1 of the Permit states the "discharge of runoff from construction sites containing pollutants which have not been reduced using BAT for toxic pollutants and BCT for conventional pollutants to waters of the United States is prohibited." Adequate BMPs were not implemented for the contractor's staging and material storage areas located up-gradient and adjacent to Thomes Creek. Specifically, adequate BMPs or perimeter controls had not been implemented for the areas of disturbance associated with the contractor staging and material storage areas. For example, a concrete washout was improperly implemented and lined with plastic that had been torn and badly deteriorated (see Photographs 1 and 2), and uncontained concrete waste was observed on the ground surface directly adjacent to the concrete washout (see Photograph 3). Jeff Bline (Caltrans District 2, Resident Engineer), explained that the concrete washout area had been present for a long period of time and was not identified in the project SWPPP. Moreover, a visible discharge of sediment and/or other pollutants was observed leading from the contractor staging and material storage areas to Thomes Creek (see Photographs 4 through 7).

Additionally, adequate BMPs had not been implemented for areas of disturbance located directly adjacent to the flowing Thomes Creek. Although erosion log BMPs had been implemented, the erosion logs were not staked and a discharge of sediment was observed bypassing the BMPs and leading to Thomes Creek (see Photographs 8 and 9).

Provision E.1 of the Permit states "Caltrans shall maintain and implement an effective SWMP." Appendix D of the Caltrans SWMP, Section 4.5.14, Stockpile Management, states "protection of stockpiles is a year-round requirement. All stockpiles shall be located away from concentrated flows of storm water, drainage courses, and inlets." BMPs had not been implemented to prevent the discharge of sediment from unconsolidated soils and soil stockpiles located adjacent to the Thomes Creek bridge and west of Interstate 5 (see Photographs 10 and 11). The EPA Audit

Team observed unconsolidated soils and soil stockpiles located within the reach and bounds of Thomes Creek. As a result, there was a potential for discharge of sediment to Thomes Creek.

Appendix D of the Caltrans SWMP, Section 4.5.10, Waste Management, states "temporary sanitary facilities shall be located away from drainage facilities and watercourses. When subjected to high winds or risk of high winds, as determined by the RE, temporary sanitary facilities shall be secured to prevent overturning." Adequate BMPs for waste storage, spill prevention and containment had not been implemented for a portable toilet located under the Thomes Creek bridge. The portable toilet was not properly secured and had blown over, resulting in visible chemical and sanitary waste staining on the ground surface (see Photographs 12 through 14). As a result, there was a potential for the contribution of pollutants to storm water runoff.

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Thomes Creek Bridge Project Caltrans District 2	Photograph date: 10/13/2009

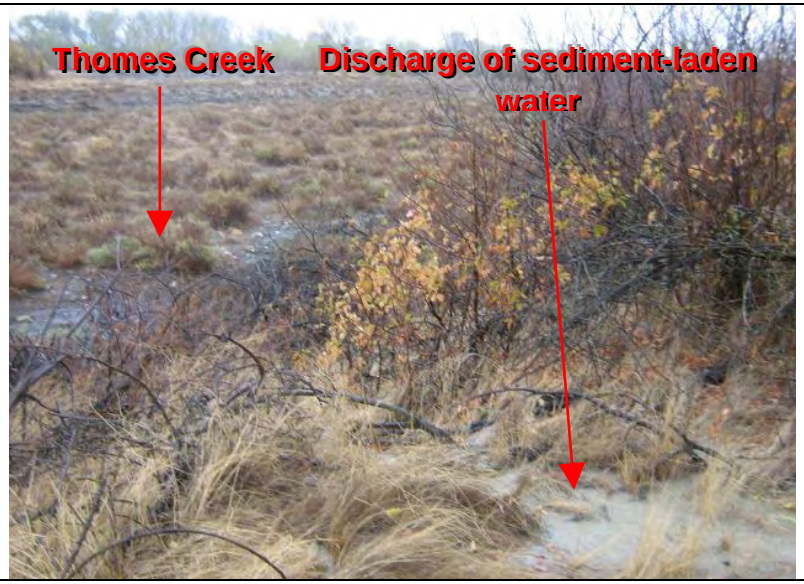
Photograph 1 – Concrete washout unmaintained (e.g., torn and deteriorated plastic liner)

Photograph 2 – Close-up view of unmaintained (e.g., torn and deteriorated) concrete washout plastic liner

Photograph 3 – Concrete waste on the ground surface directly adjacent to the concrete washout

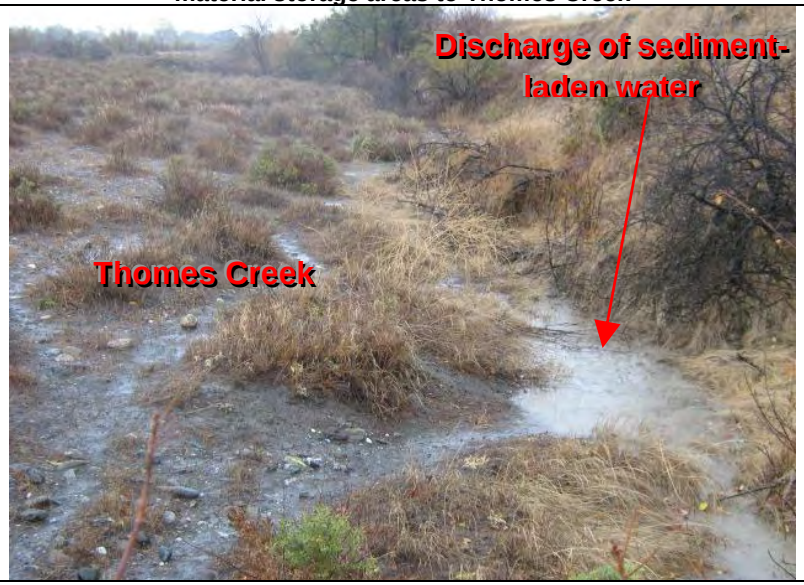
Photograph 4 – Evidence of the discharge of pollutants from the contractor staging and material storage areas

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Thomes Creek Bridge Project Caltrans District 2	Photograph date: 10/13/2009



Photograph 5— Discharge of pollutants from the contractor staging and material storage areas to Thomes Creek

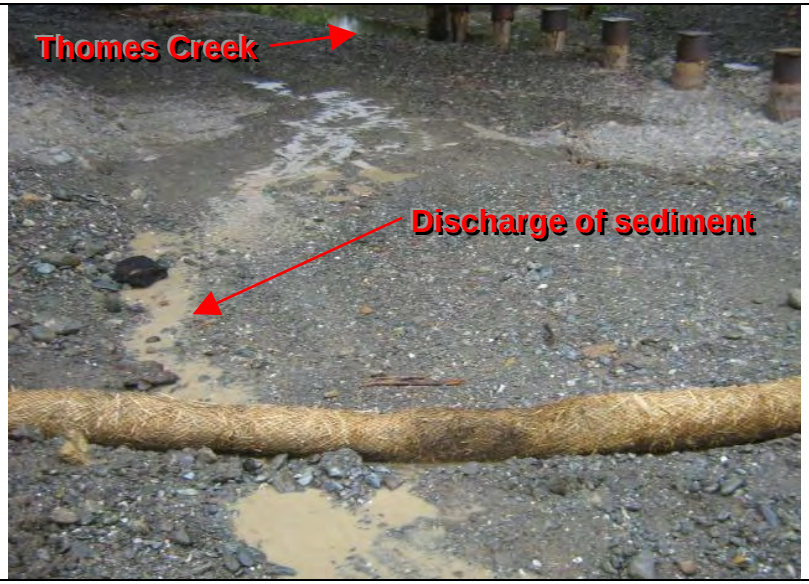
Photograph 6 – Close-up of Photograph 5 depicting the discharge of pollutants flowing to Thomes Creek



Photograph 7—Discharge of pollutants entering the receiving water, Thomes Creek

Photograph 8 – Erosion log BMPs were not adequately installed (e.g., not properly staked) adjacent to the flowing Thomes Creek

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Thomes Creek Bridge Project Caltrans District 2	Photograph date: 10/13/2009



Photograph 9—Adequate BMPs were not implemented to prevent the discharge of sediment to Thomes Creek

Photograph 10 – Unconsolidated soils without BMPs

Photograph 11— Soil stockpile without BMPs

Photograph 12 – View of portable toilet blown over under Thomes Creek bridge

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Thomes Creek Bridge Project Caltrans District 2	Photograph date: 10/13/2009

Photograph 13—View inside of overturned portable toilet with visible chemical and sanitary waste present

Photograph 14 – Visible chemical and sanitary waste staining on the ground surface

Site Visit No. 2

South Avenue On-Ramp Project
Site Visit Date: 10/13/2009

Caltrans MS4 (SWRCB Order No. 99-06-DWQ)
South Avenue On-Ramp Project
Caltrans District 2

The EPA Audit Team conducted a site visit at the South Avenue On-Ramp project located approximately 3 miles south of Corning, CA at the South Avenue and Interstate 5 interchange in Tehama County.

The site visit coincided with a precipitation event on October 13, 2009 which produced heavy rains. Precipitation data obtained from the California Data Exchange Center (CDEC) Corning Airport Station, located approximately 3 miles northeast of the South Avenue On-Ramp project, indicated that rain began falling at approximately 1 a.m. on October 13, 2009 and lasted through 5 p.m., October 13, 2009. The total accumulation during this 16 hour period was 2.21 inches of rainfall. The National Oceanic and Atmospheric Administration (NOAA) Atlas 2, Volume XI isopluvial map indicates that 2.5 inches of rainfall would accumulate during a 2 year, 24-hour precipitation event, which is more than the actual 2.21 inches of rainfall that occurred on October 13, 2009. Based on this data, the storm occurring on October 13, 2009 was less than a 2 year, 24-hour event and is therefore considered a common precipitation event. Site conditions observed on October 13, 2009 are summarized below.

Prohibition A.1 of the Permit states the "discharge of runoff from construction sites containing pollutants which have not been reduced using BAT for toxic pollutants and BCT for conventional pollutants to waters of the United States is prohibited." Adequate BMPs were not implemented for the disturbed embankment slope areas associated with three interconnected sediment basins, which ultimately drain offsite via a culvert pipe inlet and drainage pipe leading to Birch Creek. Specifically, adequate structural and non-structural BMPs had not been implemented for the sediment basin embankment slopes (see Photograph 1), and evidence of erosion (e.g., rill and gulley formations) were observed (see Photographs 2 through 6). As a result, there was a discharge of sediment from the interconnected sediment basins, the associated unstabilized embankment slopes, and the disturbed contributing areas of the site to the discharge point, a culvert inlet and drainage pipe leading to Birch Creek (see Photographs 4 and 5).

Adequate structural and non-structural BMPs also had not been implemented for material storage. Specifically, full containers of pipe joint compound were observed adjacent to the standing water in the eastern sediment basin (see Photographs 7 and 8). As a result, there was a potential for the contribution of pollutants to storm water runoff.

Additionally, inappropriate and inadequate BMPs had been implemented for the interconnected sediment basin discharge point, a culvert pipe inlet and drainage pipe leading to Birch Creek. Specifically, a silt fence BMP had been implemented in an area of concentrated flow at the culvert inlet, and had therefore collapsed (see Photographs 9 through 11). As a result, there was a discharge of sediment from the unstabilized up-gradient areas (e.g., sediment basins and disturbed slope areas) to the culvert pipe inlet and discharge pipe which ultimately flows to Birch Creek (see Photographs 12 through 14).

Provision G.5 of the Permit states "Caltrans shall have an inspection program to insure actions are implemented and facilities are constructed, operated, and maintained in accordance with this NPDES Permit and the SWMP." Provision H.1.of the Permit requires that the SWMP include

"site inspections and enforcement." In an oversight inspection conducted on October 6, 2009, the Caltrans Construction Storm Water Coordinator's inspector indicated that the SWPPP for the South Avenue On-Ramp project was reflective of current site conditions (see Appendix C, Exhibits 4 and 5). The EPA Audit team conducted a brief review of the SWPPP document and site map on October 13, 2009 and noted that the BMPs indicated on the SWPPP site map did not reflect current site conditions. Specifically, the site map indicated that the disturbed slope areas were to have soil binder BMPs and fiber roll BMPs implemented (see Photograph 16); however, these were not observed onsite. In addition, the discharge point, a culvert pipe inlet (see Photograph 9) which drains offsite to Birch Creek, was not indicated on the SWPPP site map (see Photograph 15). Furthermore, as provided by Jim Rodgers (Caltrans Resident Engineer for the South Ave On-Ramp project), the silt fence BMP at the culvert pipe inlet had been approved by Mr. Rodgers; however, there were no SWPPP amendments and the culvert inlet itself was not shown on the SWPPP site map (see Photographs 15 and 16).

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) South Avenue On-Ramp Project Caltrans District 2	Photograph date: 10/13/2009

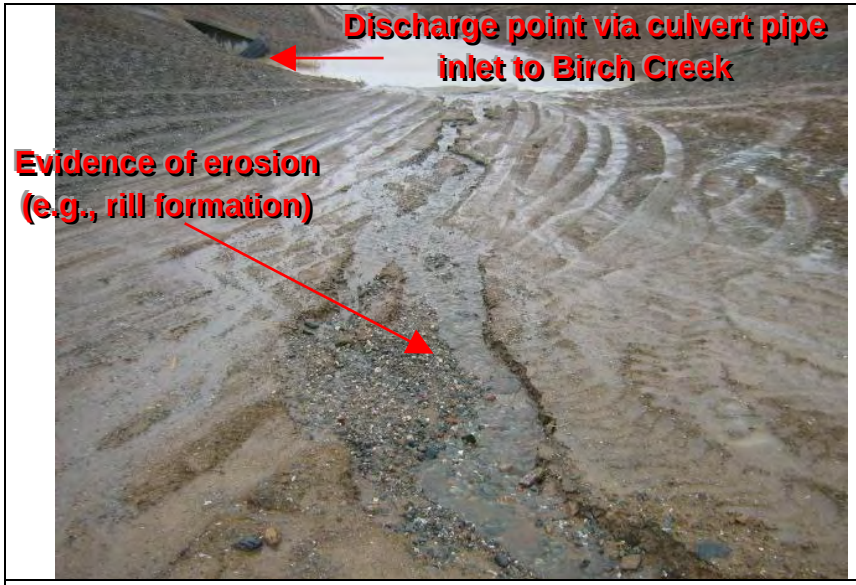
Photograph 1 – View of unstabilized sediment basin and embankment slopes

Photograph 2 – Erosion of unstabilized sediment basin and associated embankment slopes

Photograph 3 – Sediment basin embankment slope erosion (e.g., gulley formation) and failure

Photograph 4 – Adequate BMPs had not been implemented to prevent the discharge of sediment to the culvert inlet/drainage pipe leading to Birch Cr.

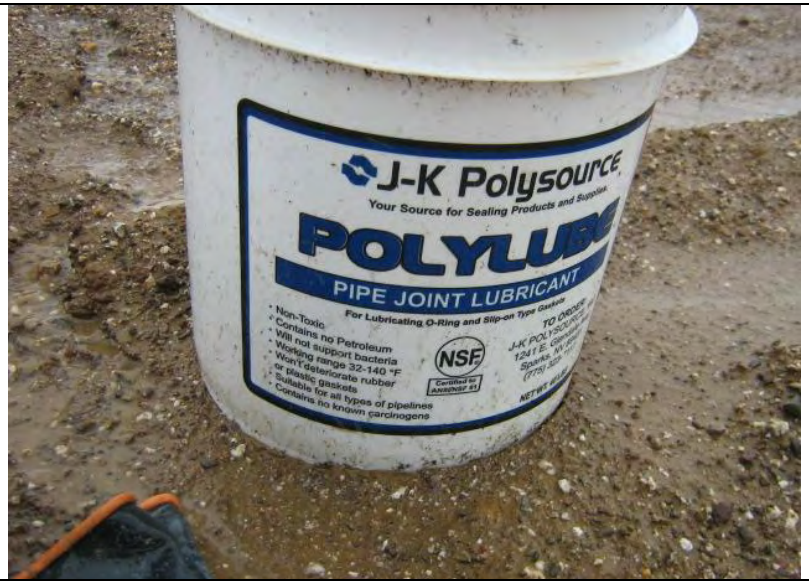
Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) South Avenue On-Ramp Project Caltrans District 2	Photograph date: 10/13/2009



Photograph 5— Close-up of area in Photograph 4 depicting erosion (e.g., rill formation) and inadequate BMPs located adjacent to discharge point

Photograph 6 – Embankment slope erosion (e.g., rill formation)

Photograph 7—Pipe joint compound located in the eastern sediment basin

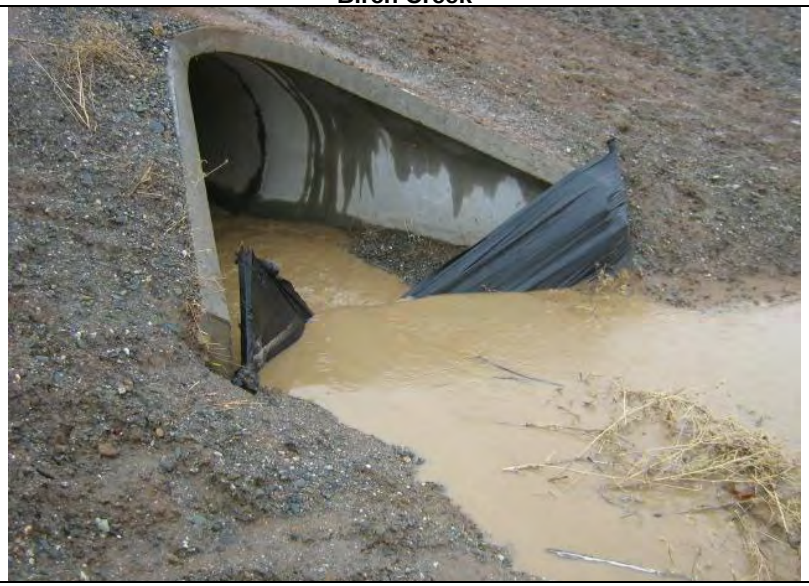


Photograph 8 – Close-up view of the full container of pipe joint compound in the eastern sediment basin

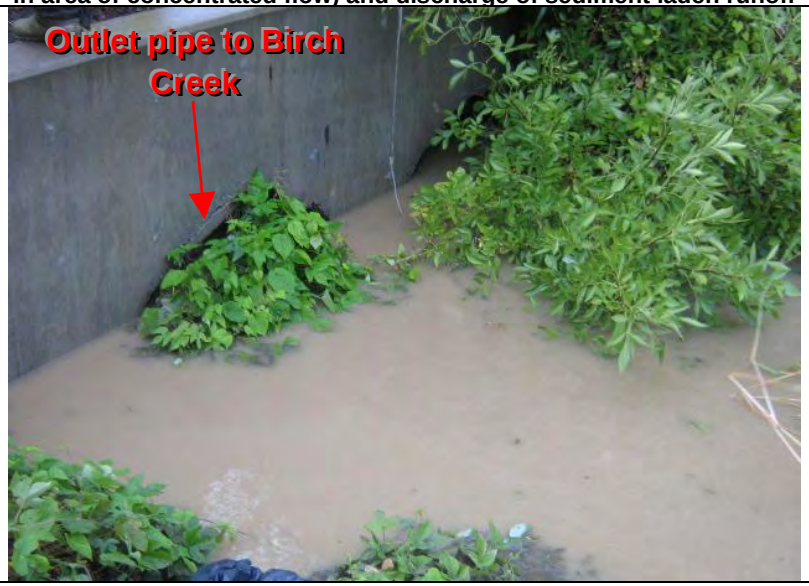
Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) South Avenue On-Ramp Project Caltrans District 2	Photograph date: 10/13/2009

Photograph 9—Discharge point, culvert inlet and drainage pipe leading to Birch Creek

Photograph 10 – Inappropriate BMP selection (e.g., silt fence implemented in area of concentrated flow) and discharge of sediment laden runoff



Photograph 11— Collapsed silt fence BMP and discharge of sediment laden runoff

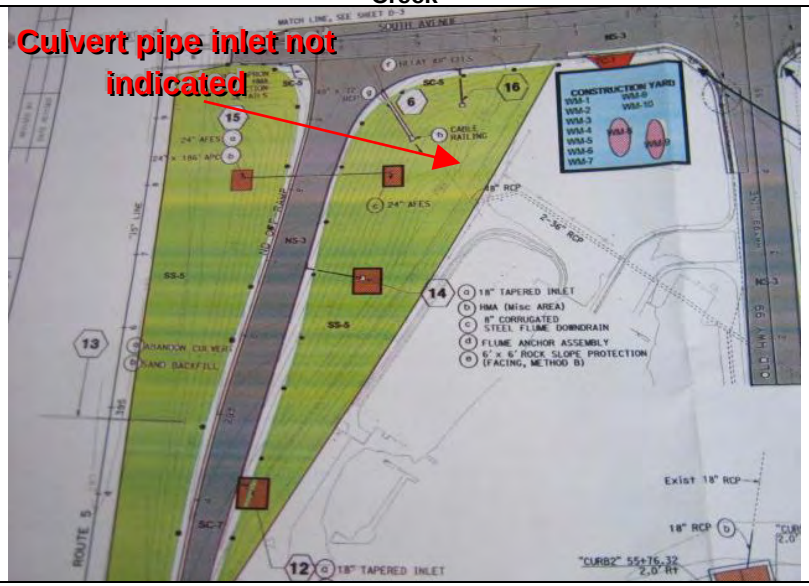


Photograph 12 – View of outlet pipe from Photograph 11 leading to Birch Creek

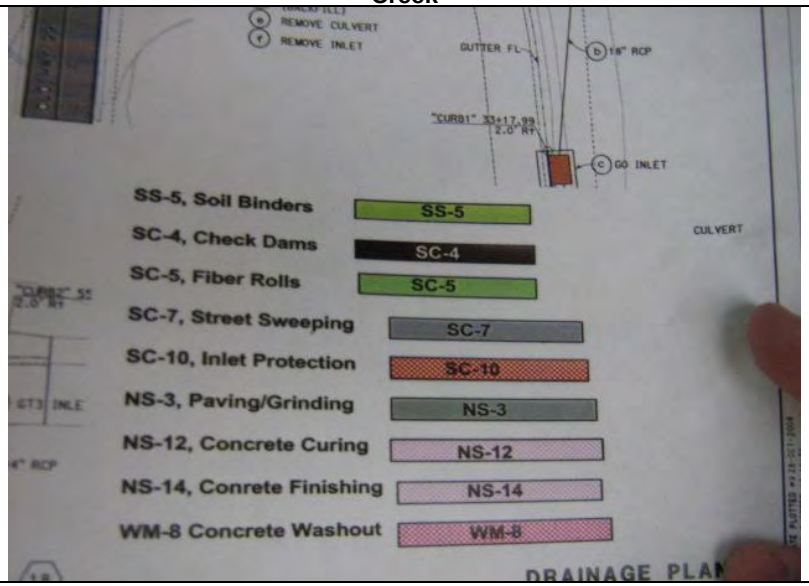
Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) South Avenue On-Ramp Project Caltrans District 2	Photograph date: 10/13/2009

Photograph 13—Evidence of the discharge of sediment leading to Birch Creek

Photograph 14 – Evidence of the discharge of sediment leading to Birch Creek



Photograph 15—Photograph of SWPPP site map



Photograph 16 – SWPPP site map legend indicated soil binder BMPs and fiber roll BMPs by color.

Site Visit No. 3

Fountain Curve Rehabilitation Project
Site Visit Date: 10/14/2009

Caltrans MS4 (SWRCB Order No. 99-06-DWQ)
Fountain Curve Project
EA No. 020E8914

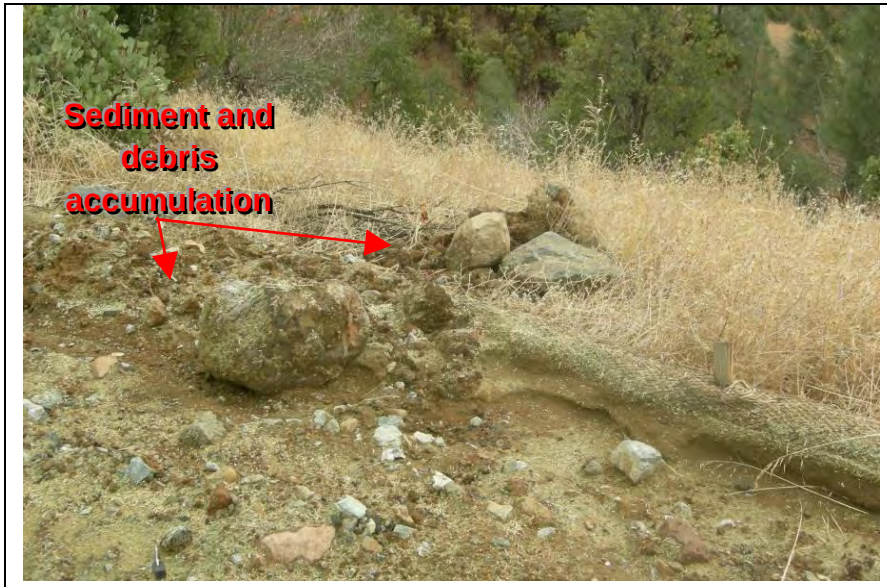
The EPA Audit Team conducted a site visit at the Fountain Curve Project located along Highway 299 West of Buzzard Roost Road near Round Mountain. Provision H.1.b of the Permit requires Caltrans to implement a program to control all construction in the rights-of way and states that "program must include requirements of structural and nonstructural BMPs." Appendix D of the SWMP contains the "Statewide Storm Water Quality Practice Guidelines" which provide a description of each approved BMP for statewide application. Adequate BMPs were not implemented for unstabilized areas associated with the construction of a sound wall, roadway rehabilitation and highway planting.

Specifically, BMPs were not adequately implemented and maintained along the perimeter of the disturbed area associated with the former construction site staging area. The Audit Team observed a visible flow path and erosion causing sediment and debris accumulation to surpass the straw wattles utilized along the southern perimeter of the former staging area (see Photograph 1). Erosion had caused the discharge of sediment and debris from several portions of the roadway drainage area adjacent to the sound wall into a storm drain inlet located along the west side of the highway shoulder (see Photographs 2, 3, and 4).

In addition, BMPs were not adequately implemented on the disturbed slope along the south side of the sound wall to prevent sediment discharge (see Photographs 5 and 6). Furthermore, sediment accumulation was observed along the flow path of a rock lined drainage swale leading to a down-gradient drainage pipe (see Photographs 7 and 8). The straw wattles utilized at the down-gradient drainage pipe inlet were not adequately maintained.

This project was deemed complete by the Caltrans Resident Engineer and Construction Engineer on September 12, 2009, and control of the project had been transferred to Caltrans Maintenance.

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Fountain Curve Project EA No. 020E8914	Photograph date: 10/14/2009



Photograph 1 – Perimeter control failure at the former staging area

Photograph 2 – Run-off causing erosion along the highway shoulder

Photograph 3 – Sediment and debris from Photograph 2

Photograph 4 – Storm drain located on the west side of Highway 299

Site Visit Date: 10/14/2009

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Fountain Curve Project EA No. 020E8914	Photograph date: 10/14/2009

Photograph 5 – Lack of adequate BMPs to prevent discharge of sediment to the roadway

Photograph 6 – Sediment discharge along the highway from Photograph 5

Photograph 7 – Sediment accumulation at down-gradient drainage pipe inlet

Photograph 8 – Inadequate straw wattle BMP maintenance at drainage pipe inlet

Site Visit No. 4

Salyer Roadway Realignment Construction Project
Site Visit Date: 10/22/2009

Caltrans MS4 (SWRCB Order No. 99-06-DWQ)
Salyer Roadway Construction Project
Caltrans District 2

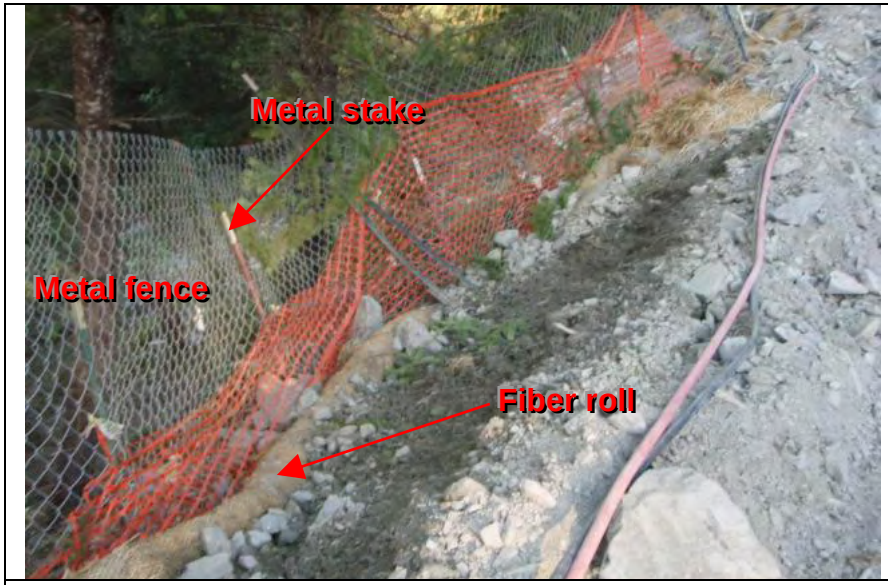
The EPA Audit Team conducted a site visit to the Salyer Roadway Construction Project located at post mile 2.2–2.5 on Highway 299 in Trinity County, CA. The project was located along steep slopes about 500 feet to the southeast of the Trinity River which is a 303d listed water body for sedimentation.

Provision H.1.b of the Permit requires Caltrans to implement a program to control all construction in the rights-of way and states that "program must include requirements of structural and nonstructural BMPs. Appendix D of the SWMP contains the "Statewide Storm Water Quality Practice Guidelines" which provide a description of each approved BMP for statewide application. Adequate BMPs were not implemented for several disturbed areas associated with the construction project or for managing the disposal of construction materials at the construction site.

Reinforced straw wattle BMPs consisting of metal fencing, metal stakes, and fiber rolls had been installed on the steep slopes down-gradient of the disturbed areas associated with the construction of a retaining wall (see Photographs 1 and 2). The fiber rolls, however, were not properly staked or entrenched into the ground or adequately maintained to prevent the discharge of sediment (see Photographs 3, 4 and 5). Furthermore, the metal fencing adjacent to the fiber rolls had collapsed in several areas and it appeared that sediment and rock debris had been discharged beyond the extent of the perimeter control BMPs (see Photograph 6). In an area toward the eastern end of the project, straw wattle BMPs had been visibly undercut and evidence of erosion was observed beyond the perimeter control BMPs (see Photographs 7 and 8). As a result, there was a potential for the discharge of sediment off-site to the west and subsequently to the Trinity River.

Adequate BMPs were not implemented at the construction site for good housekeeping to properly manage the disposal of concrete waste. Specifically, concrete waste was observed on the ground surface near the edge of a steep slope toward the western end of the project (see Photograph 9) and adjacent to what appeared to be a dedicated concrete waste container in the staging area near the eastern end of the project (see Photographs 10 and 11). In addition, a material stockpile was observed in the staging area that did not have BMPs for coverage or containment (see Photograph 12). Furthermore, the straw wattle BMPs implemented in the staging area were not staked or entrenched into the ground to retain pollutants and prevent failure (see Photographs 10, 11 and 12). The Resident Engineer explained that he had approved the use of straw wattle BMPs at the site that were not staked or entrenched into the ground; however, the SWPPP had not yet been amended to include this alternative installation method for straw wattle BMPs.

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Salyer Roadway Construction Project Caltrans District 2	Photograph date: 10/22/2009



Photograph 1 – Example of reinforced straw wattle BMP

Photograph 2 – Example of straw wattle BMP implemented down-gradient of disturbance and retaining wall construction

Photograph 3 – Example of fiber roll not entrenched or staked into the ground

Photograph 4 – Close-up view of fiber roll not entrenched or staked into the ground

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Salyer Roadway Construction Project Caltrans District 2	Photograph date: 10/22/2009

Photograph 5— Example of sediment and debris accumulation against straw wattle BMP

Photograph 6 – Example of collapsed section of metal fence

Photograph 7— Undercut section of straw wattle BMP and evidence of erosion

Photograph 8 – Closer view of straw wattle and erosion pictured in Photograph 7

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Salyer Roadway Construction Project Caltrans District 2	Photograph date: 10/22/2009

Photograph 9— Concrete waste on ground surface adjacent to steep slope

Photograph 10— Concrete waste and container in staging area (Note: Straw wattle BMP not staked or entrenched into ground)

Photograph 11— Concrete waste near concrete waste container in staging area (Note: Straw wattle BMP not staked or entrenched into ground)

Photograph 12— Stockpile in staging area without BMPs for containment or coverage

Site Visit No. 5

Nicolaus Bypass Project
Site Visit Date: 10/7/2009

Caltrans MS4 (SWRCB Order No. 99-06-DWQ)
Nicolaus Bypass Project
Caltrans District 3

The EPA Audit Team conducted a site visit at the Nicolaus Bypass project located on Highway 70 from the intersection with Feather River Boulevard to approximately Rio Osa Road in Yuba and Sutter Counties, CA. The project consisted of a roadway construction including new bridges, overpasses, and associated roadway drainage swales and medians.

Provision H.1.b of the Permit requires Caltrans to implement a program to control all construction in the rights-of way and states that "program must include requirements of structural and nonstructural BMPs." Appendix D of the SWMP contains the "Statewide Storm Water Quality Practice Guidelines" which provide a description of each approved BMP for statewide application. Adequate BMPs were not implemented for vehicle tracking control at the construction site entrances and contractor parking area off Feather River Boulevard. Although gravel had been placed at the construction site entrances, the gravel was too small to be effective, sediment was visible in the rock pad, and the rock had become sparse and compacted in areas (see Photographs 10, 11, and 16). In addition, no vehicle tracking controls had been implemented for the area of disturbance associated with the contractor parking area (see Photographs 12 and 13). As a result, there was sediment transported to Feather River Boulevard (see Photographs 10 through 16).

Adequate BMPs were not implemented to prevent the discharge of sediment from disturbed slope areas adjacent to Yankee Slough waterway. Specifically, BMPs had not been implemented for disturbed slope areas adjacent to Yankee Slough (see Photographs 19 and 20), and silt fence BMPs implemented at the toe of the disturbed slope adjacent to Yankee Slough had collapsed and were no longer effective at preventing the discharge of sediment to Yankee Slough (see Photographs 21 through 24). As a result, there was a potential for the discharge of sediment from the disturbed slope areas adjacent to Yankee Slough waterway.

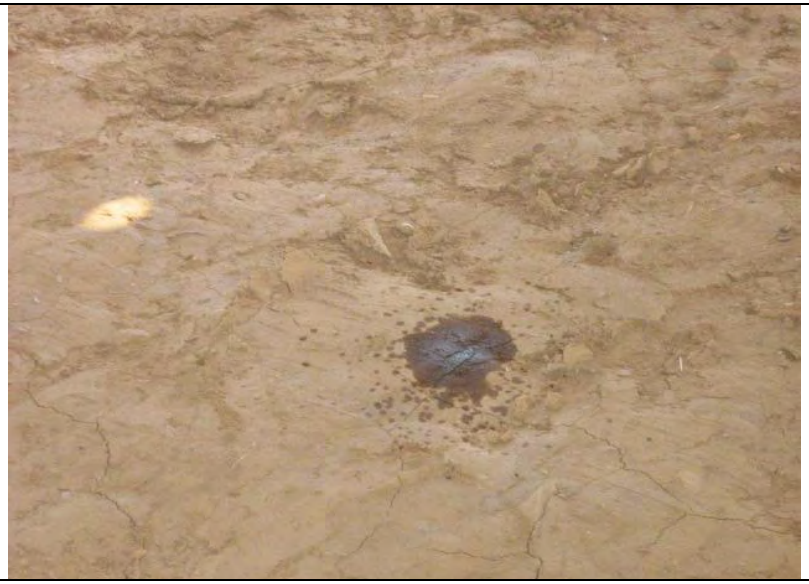
Note: Additional site conditions and inadequate structural and non-structural controls are shown in the attached site photographs log.

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Nicolaus Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 1 – Erosion control blanket not properly installed (e.g., improper overlap – not shingled downgradient) adj. to Bear River at top.

Photograph 2 – Close-up of Photograph 1 looking down-gradient.

Photograph 3 – Equipment with petroleum product leaking onto ground surface (see Photograph 4 for close-up view).



Photograph 4 – Close-up view of petroleum product on ground surface

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Nicolaus Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 5 – Soil stockpile with no perimeter controls or temporary stabilization located just upgradient of Bear River crossing.

Photograph 6 – Drainage outlet below unstabilized embankment slope adjacent to the highway.

Photograph 7 – Drainage outlet at base of unstabilized slope shown in Photograph 6.

Photograph 8 – Uncontrolled/uncontained concrete waste

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Nicolaus Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 9 – Uncontrolled/uncontained concrete waste

Photograph 10 – Tracking control BMPs not adequately maintained (e.g., sediment in rock pad and rock sparse in areas)

Photograph 11 – Tracking control BMPs not adequately maintained (e.g., sediment in rock pad and rock sparse in areas)

Photograph 12 – Tracking control BMPs not implemented for disturbed area of contractor parking. Observed sediment transport to roadway

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Nicolaus Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 13 – Sediment transport from areas of disturbance onto Feather River Boulevard, a public roadway.

Photograph 14 – Sediment transport from areas of disturbance onto Feather River Boulevard, a public roadway.

Photograph 15 – Sediment transport from areas of disturbance onto Feather River Boulevard, a public roadway.

Photographs 16 – Adequate inlet protection and vehicle tracking control BMPs had not been implemented adj. to entrance off Feather River Blvd.

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Nicolaus Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 17 – Close-up of Photograph 16. Adequate inlet protection had not been implemented.

Photograph 18 – Inadequate materials handling and storage

Photograph 19 – Unstabilized slope area adjacent to Yankee Slough

Photograph 20 – Differing vantage point for Photograph 19

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Nicolaus Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 21 – Silt Fence BMP not properly maintained (e.g., collapsed) adjacent to Yankee Slough. Note area of disturbance up-gradient.

Photograph 22 – Close-up view of Photograph 21.

Photograph 23 – Silt Fence collapsed in areas and not properly maintained. Note large unstabilized slope area upgradient.

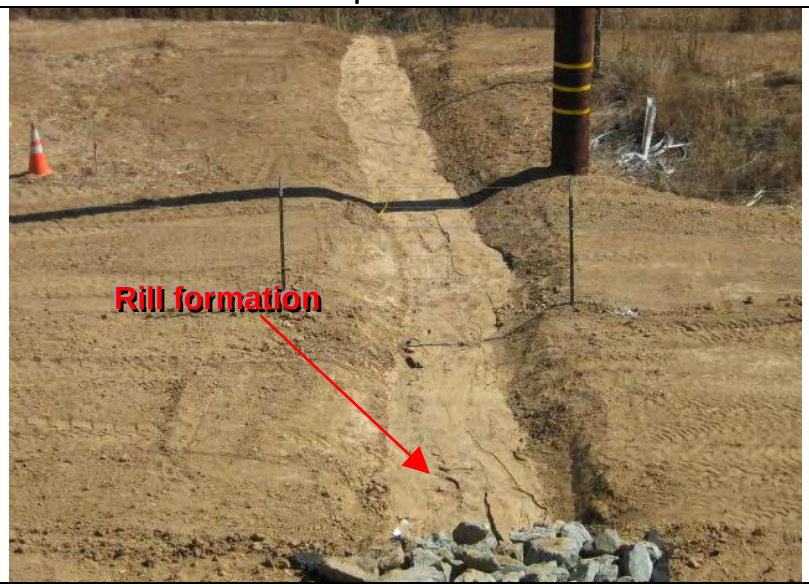
Photograph 24 – Silt Fence not properly entrenched to retain sediment adjacent to Yankee Slough waterway

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Nicolaus Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 25 – SF not adequately implemented for all land disturbing activities to prevent the discharge of sediment to Yankee Slough

Photograph 26 – Large expanse of disturbed slope area with only rock and no perimeter BMPs.

Photograph 27 – Slope drainage channel which drains to irrigation channel



Photograph 28 –Previous erosion and sediment accumulation draining to irrigation channel. Flow dissipators do not extend entire length.

Site Visit No. 6

Lincoln Bypass Project
Site Visit Date: 10/7/2009

Caltrans MS4 (SWRCB Order No. 99-06-DWQ)
Lincoln Bypass Project
Caltrans District 3

The EPA Audit Team conducted a site visit at the Lincoln Bypass project located west of the intersection of Twelve Bridges Drive and SR-65 north to Nicolaus Road in Placer County, CA. The project consisted of linear roadway construction including new bridges, overpasses, and associated roadway drainage swales and medians.

Provision H.1.b of the Permit requires Caltrans to implement a program to control all construction in the rights-of way and states that "program must include requirements of structural and nonstructural BMPs." Appendix D of the SWMP contains the "Statewide Storm Water Quality Practice Guidelines" which provide a description of each approved BMP for statewide application. BMPs were not adequately selected, installed or maintained to prevent the discharge of sediment to the South Ingram Slough waterway. Unconsolidated material was observed being placed between the toe of the slope and the silt fence/straw bale BMPs used as perimeter control along the waterway (see Photographs 3 and 4). Moreover, no BMPs were implemented to control concentrated flow off of the plastic erosion control application and across the unconsolidated material at the toe of the slope (see Photographs 3 and 4). As a result, there was a potential for BMP failure and the discharge of sediment from up-gradient areas of disturbance to the South Ingram Slough waterway.

Adequate structural and non-structural BMPs were not implemented in the drainage swale conveyance channels located up-gradient of South Ingram Slough (see Photograph 8) and Auburn Ravine (see Photograph 17). BMPs had not been implemented to prevent erosion from run-on to the swale slopes, and concentrated flow along the bottom of the swale. As a result, there was a potential for erosion and subsequent discharge from these drainage swale conveyance channels to South Ingram Slough and Auburn Ravine, respectively.

In addition, BMPs were not implemented to prevent the discharge of sediment from a soil stockpile located near the bridge crossing over North Ingram Slough (see Photograph 9). BMPs were not implemented to control water run-on to the stockpile slope, or to control water run-off from the stockpile, and no perimeter BMPs were implemented (see Photograph 9). As a result, there was a potential for the discharge of sediment to North Ingram Slough.

Furthermore, BMPs were not adequately installed and maintained to prevent the discharge of sediment to Auburn Ravine. Specifically, silt fence BMPs implemented below up-gradient areas of disturbance and adjacent to Auburn Ravine were installed backwards (e.g., fabric on down-gradient side of stakes) (see Photograph 10), were not properly entrenched to retain sediment (see attached Photograph 11), and had not been properly maintained (e.g., collapsed in areas, soil placement over ½ the effective height) (see Photographs 11 through 15). As a result, there was a potential for the discharge of sediment from up-gradient areas of disturbance to Auburn Ravine.

Note: Additional site conditions and inadequate structural and non-structural controls are shown in the attached site photographs log.

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Lincoln Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 1 – Improper concrete waste disposal practices

Photograph 2 – Close-up of Photograph 1

Photograph 3 – Unconsolidated soil placed between the toe of the slope and the perimeter control BMPs along the waterway

Photograph 4 – No BMPs to control concentrated flow off of the plastic and across the unconsolidated material at the toe of the slope

Site Visit Date: 10/7/2009

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Lincoln Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 5 – Vehicle tracking pad BMP not adequately maintained (e.g., sediment in pad, and rock thin and sparse in areas)

Photograph 6 – Close-up of Photograph 5 depicting sediment in VTC pad, and rock which was thin, sparse and compacted in areas

Photograph 7 – Badly deteriorated silt fence BMP located in/adjacent to North Ingram Slough

Photograph 8 – Disturbed conveyance channel with no slope run-on BMPs or erosion and sediment control BMPs near the S. Ingram Slough.

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Lincoln Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 9 – No BMPs implemented for stockpile management near the North Ingram Slough bridge crossing

Photograph 10 – Silt fence BMPs installed backwards (e.g., stakes on the upgradient side of the fabric)

Photograph 11 – Silt Fence BMPs not properly installed (e.g., not entrenched) or maintained (e.g., collapsed) adjacent to Auburn Ravine

Photograph 12 – Silt Fence BMP not adequately maintained (e.g., down in areas; deteriorated) adjacent to Auburn Ravine

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Lincoln Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 13 – Differing vantage point from Photograph 12 depicting unmaintained Silt Fence BMP adjacent to Auburn Ravine

Photograph 14 – Silt Fence BMP not adequately maintained (e.g., down in areas) adjacent to Auburn Ravine

Photograph 15 – SF BMP not adequately maintained (e.g., sediment placement over ½ the effective height) adjacent to Auburn Ravine

Photographs 16 – Straw wattle BMP not properly installed (e.g., not entrenched) up-gradient of Auburn Ravine

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Lincoln Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 17 – Upgradient areas of disturbance associated with pollution prevention BMP unstabilized. Drains to Auburn Ravine.

Photograph 18 – Disturbed slope area adjacent to pollution prevention BMP outlet pipes adjacent to Auburn Ravine.

Site Visit No. 7

Top of Buckhorn Project
Site Visit Date: 10/14/2009

Caltrans MS4 (SWRCB Order No. 99-06-DWQ)
Top of Buckhorn Project
Caltrans District 2

The EPA Audit Team conducted a site visit at the Top of Buckhorn project located approximately 25 miles west of Redding, CA on State Highway 299 near the intersection of Hoadley Peaks roadway in Shasta County. The project consisted of a roadway realignment of State Highway 299. No construction equipment or materials were observed, and it appeared that construction had been completed.

The site visit conducted on October 14, 2009 coincided with a precipitation event on October 13 and 14, 2009 which produced heavy rains. Precipitation data obtained from the California Data Exchange Center (CDEC) Grass Valley Creek Station, located approximately 2 miles southwest of the Top of Buckhorn project, indicated that rain began falling at approximately 8 p.m. on October 12, 2009 and lasted through 3 p.m., October 14, 2009. The total accumulation during the 24 hour period from 8 PM on October 12, 2009 through 8 PM on October 13, 2009 was 5.47 inches of rainfall, and the accumulation during the 19 hour period from 8 PM on October 13, 2009 through 3 PM on October 14, 2009 was 0.43 inches of rainfall. Site conditions observed on October 14, 2009 are summarized below.

Prohibition A.1 of the Permit states the "discharge of runoff from construction sites containing pollutants which have not been reduced using BAT for toxic pollutants and BCT for conventional pollutants to waters of the United States is prohibited." Adequate BMPs were not implemented to prevent the discharge of sediment from up-gradient areas of disturbance to an unnamed tributary of Crystal Creek.

Specifically, adequate BMPs were not implemented to prevent the discharge of sediment from the field constructed sediment basins (see Photograph 9) and from disturbed slope areas adjacent to State Highway 299 (see Photographs 1 and 2). Visible evidence of a runoff event discharging sediment to the field constructed sediment basin No. 2 (see Photographs 2 and 3) and beyond the basin to the unnamed tributary of Crystal Creek (see Photographs 4 through 8) was observed. Visible evidence of a runoff event discharging sediment to the two field constructed sediment basins and sediment accumulation in the basins was observed during the inspection (see Photographs 9 through 12); and within the outlet conveyance channel (see Photographs 4 and 7) which subsequently drains to the unnamed tributary to Crystal Creek (see Photographs 5, 6 and 8).

In addition to the up-gradient disturbed areas contributing sediment to and beyond the field constructed basins No. 1 and No. 2, adequate BMPs were not implemented below the basin No. 2 rip-rap outlet conveyance channel (see Photograph 6), at the base of the field constructed sediment basin No. 2 outer embankment slope (see Photographs 13 through 15), below field constructed sediment basin No. 1 culvert outlet pipe (see Photograph 16), and on disturbed slope areas adjacent to the rip-rap outlet conveyance channel. It should be noted that the sediment basins were field constructed, as provided by Caltrans District No. 2 representatives, and it was not known whether the basins were designed and constructed according to the Caltrans Pollution Prevention Design Guide (PPDG).

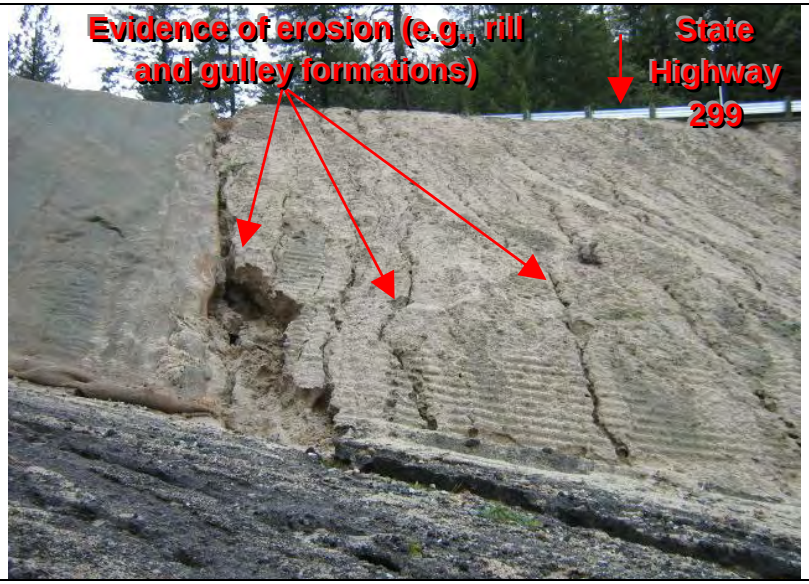
BMPs were not adequately selected, installed or maintained to prevent the discharge of sediment to the unnamed tributary to Crystal Creek. Specifically, the straw wattle BMPs were an

improper BMPs selection for an area of concentrated flow from the field constructed sediment basin No. 2 outlet conveyance channel (see Photographs 6 and 8). The silt fence BMPs implemented below the field constructed sediment basin No. 2 embankment slope were placed under a culvert pipe, had collapsed in areas, and evidence of sediment transport beyond the silt fence BMP to the unnamed tributary was observed (see Photographs 13 through 15). Adequate BMPs had not been implemented for flow dissipation below the field constructed sediment basin No. 1 culvert outlet pipe. Evidence of erosion (e.g., gulley formation) and embankment undercutting was observed (see Photograph 16). Furthermore, BMPs were not implemented for disturbed slope areas adjacent to the rip-rap outlet conveyance channel which drains to the unnamed tributary to Crystal Creek (see Photograph 17). As a result, there was a discharge of sediment to the unnamed tributary which subsequently drains to Crystal Creek. Prohibition A.1 of the Permit states the "discharge of runoff from construction sites containing pollutants which have not been reduced using BAT for toxic pollutants and BCT for conventional pollutants to waters of the United States is prohibited."

Adequate BMPs were not implemented for disturbed cut slope areas located adjacent to State Highway 299, which ultimately drain offsite via a culvert pipe inlet and drainage pipe leading to unnamed tributary to Crystal Creek. Specifically, adequate structural and non-structural BMPs had not been implemented for the disturbed cut slope areas (see Photograph 18), and evidence of erosion, cut slope failure and sediment transport were observed (see Photographs 18 through 20). As a result, there was evidence of sediment transport from the disturbed cut slope area to the adjacent State Highway 299 drainage swale which drains to the culvert pipe inlet area (see Photograph 20).

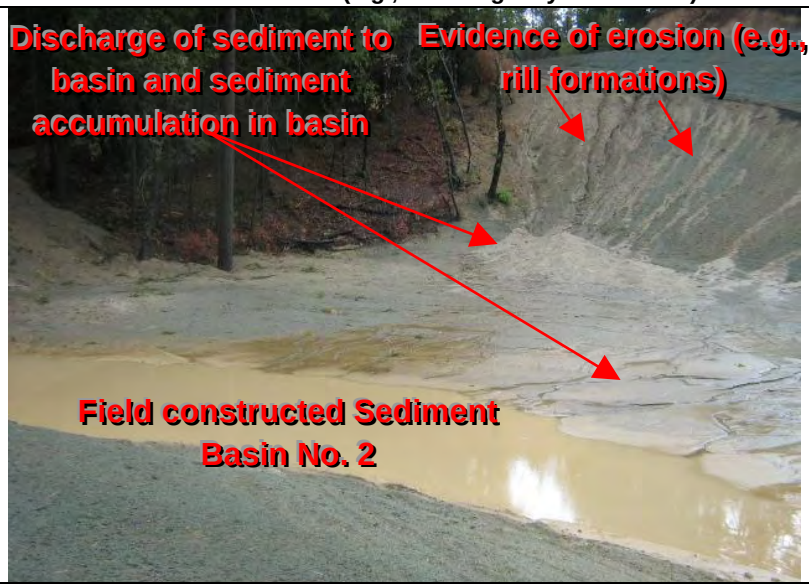
BMPs had not been implemented for catch basin inlets located in the flowline of the drainage swale associated with State Highway 299 roadway. Specifically, BMPs were not implemented to prevent the discharge of sediment to the catch basin inlets from up-gradient disturbed cut slope areas (see Photographs 21 and 22). As a result, there was a potential for the discharge of sediment to the catch basin inlet and associated culvert drainage pipe which subsequently drains to the unnamed tributary to Crystal Creek.

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Top of Buckhorn Project Caltrans District 2	Photograph date: 10/14/2009



Photograph 1 – Disturbed slope areas adjacent to State Highway 299 with evidence of erosion (e.g., rill and gulley formations)

Photograph 2 – Discharge of sediment from disturbed slope area to field constructed sediment basin and sediment accumulation in the basin



Photograph 3 – Sediment basin embankment slope erosion (e.g., rill and gulley formation) and sediment accumulation in the basin

Photograph 4 – Vantage point of the outlet conveyance channel for the field constructed sediment basin No. 2

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Top of Buckhorn Project Caltrans District 2	Photograph date: 10/14/2009

Photograph 5— View of sediment basin No. 2 outlet conveyance channel and confluence with the unnamed tributary to Crystal Creek

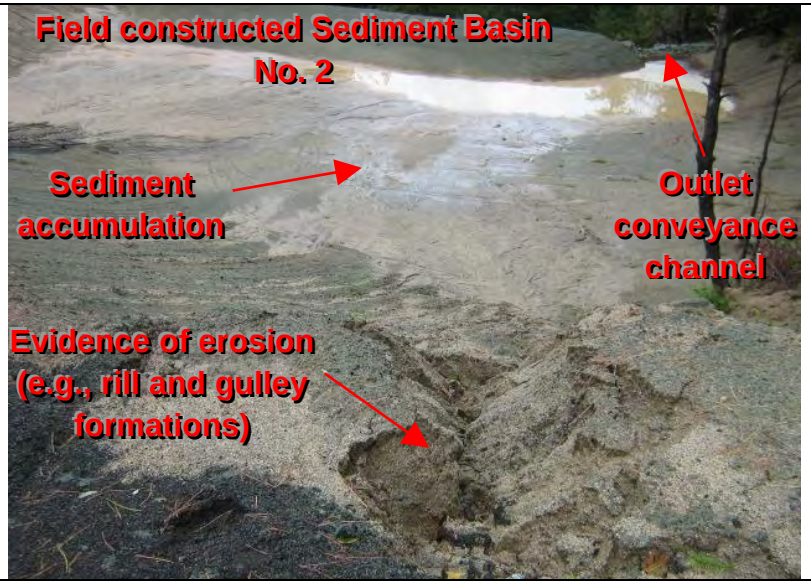
Photograph 6 – Close-up view of sediment basin No. 2 rip-rap outlet conveyance channel to unnamed tributary to Crystal Creek

Photograph 7—Visible evidence of sediment accumulation in the rip-rap outlet conveyance channel which drains to the unnamed tributary

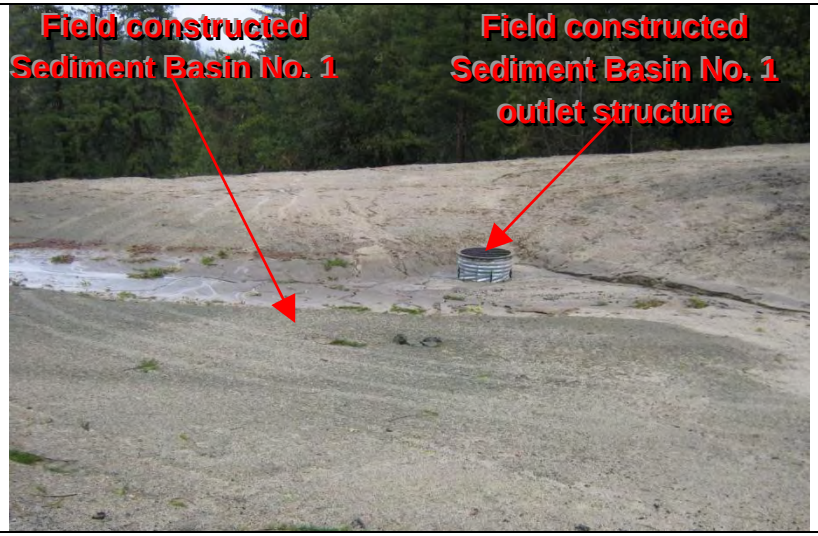
Photograph 8 – Visible evidence of the discharge of sediment to the unnamed tributary to Crystal Creek, and failed straw wattle BMPs observed

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Top of Buckhorn Project Caltrans District 2	Photograph date: 10/14/2009

Photograph 9—Vantage point photograph depicting location of field constructed sediment basins No. 1 and No. 2 and their outlet.



Photograph 10 – Evidence of the discharge of sediment to the basin and sediment accumulation in the basin which drains to unnamed tributary



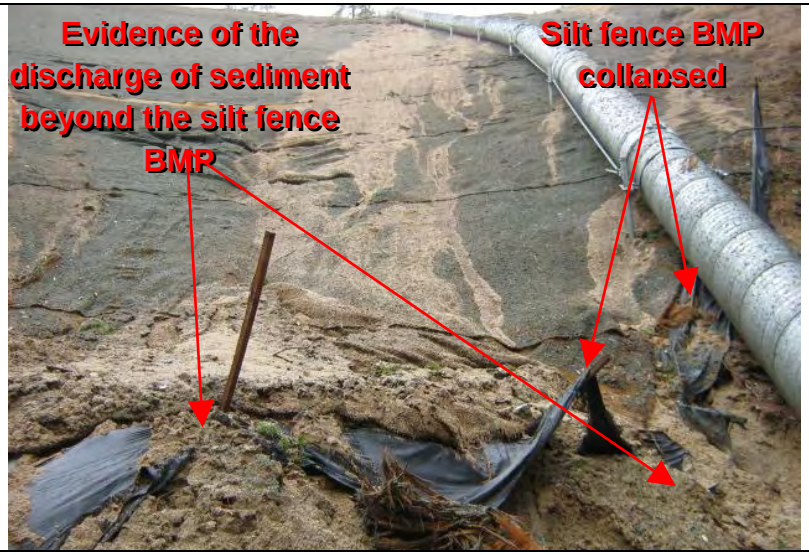
Photograph 11—Evidence of the discharge of sediment to and accumulated in the basin No. 1 which subsequently flows to basin No. 2 and the unnamed tributary to Crystal Creek

Photograph 12 – Close-up view of sediment basin No. 1 outlet structure with sediment accumulation

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Top of Buckhorn Project Caltrans District 2	Photograph date: 10/14/2009

Photograph 13—Adequate BMPs were not implemented to prevent the discharge of sediment from upgradient disturbed slope areas

Photograph 14 – Evidence of sediment transport on the embankment slope of the field constructed sediment basin No. 2. Inadequate silt fence BMP installation under culvert pipe

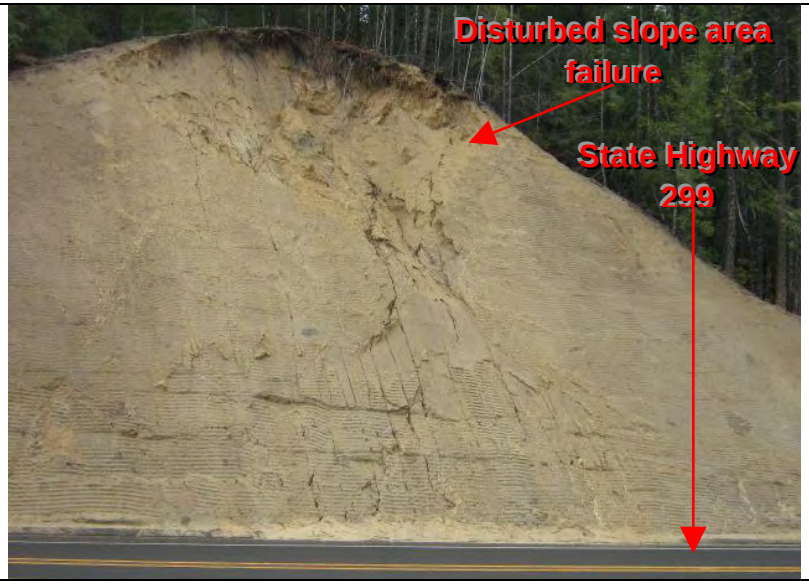


Photograph 15—SF BMPs were not adequately maintained (e.g., collapsed in areas) to prevent the discharge of sediment to the unnamed tributary.

Photographs 16 – Adequate BMPs were not implemented below field constructed sediment basin No. 1 culvert outlet pipe.

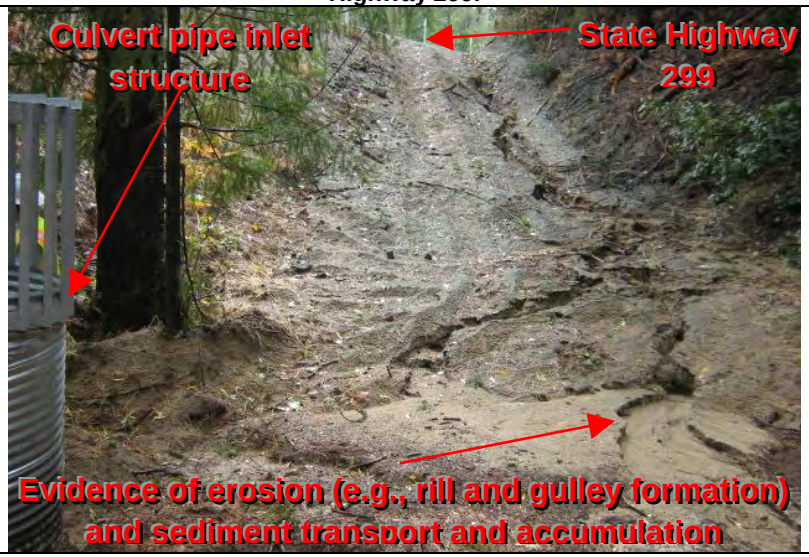
Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Top of Buckhorn Project Caltrans District 2	Photograph date: 10/14/2009

Photograph 17—Adequate BMPs were not implemented to prevent the discharge of sediment from disturbed slope area adjacent to the rip-rap conveyance channel which drains to the unnamed tributary.



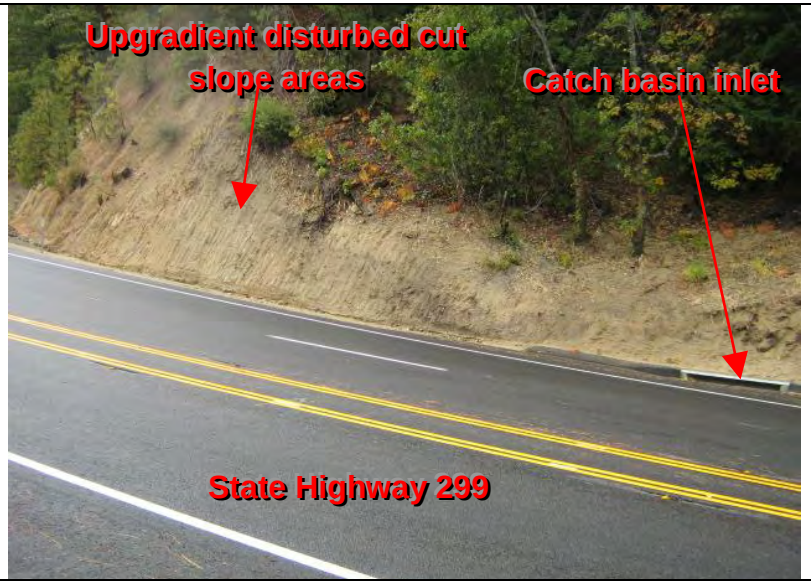
Photographs 18 – Adequate BMPs were not implemented to prevent the discharge of sediment from a disturbed cut slope area adjacent to State Highway 299.

Photograph 19—Evidence of sediment transport to State Highway 299 drainage swale from the adjacent unstabilized disturbed cut slope area.

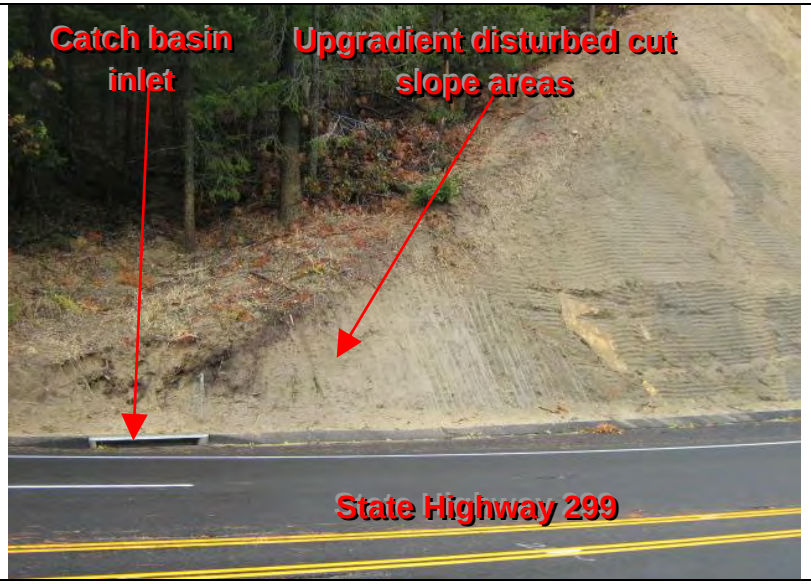


Photographs 20 –Evidence of erosion (e.g. rill and gulley formation) and sediment transport from upgradient disturbed slope area (see Photo 18+19)

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Top of Buckhorn Project Caltrans District 2	Photograph date: 10/14/2009



Photograph 21—BMPs were not implemented to prevent the discharge of sediment from up-gradient disturbed cut slope areas to catch basin inlets.



Photographs 22 – BMPs were not implemented to prevent the discharge of sediment from upgradient disturbed cut slope areas to catch basin inlets.

Site Visit No. 8

Yankee Gulch Project
Site Visit Date: 10/14/2009

Caltrans MS4 (SWRCB Order No. 99-06-DWQ)
Yankee Gulch Project
Caltrans District 2

The EPA Audit Team conducted a site visit at the Yankee Gulch project located approximately 17 miles west of Redding, CA on State Highway 299 east of the intersection of Lewiston Turnpike roadway in Shasta County. The project consisted of roadway realignment (i.e., curve correction) of State Highway 299.

The site visit conducted on October 14, 2009 coincided with a precipitation event on October 12 through October 14, 2009 which produced heavy rains. Precipitation data obtained from the California Data Exchange Center (CDEC) Clear Creek Station, located approximately 2.5 miles southwest of the Yankee Gulch project, indicated that rain began on October 13, 2009 and lasted through October 16, 2009. The total accumulation during the 24 hour period on October 13, 2009 was 7.76 inches of rain, and the accumulation during the 24 hour period on October 14, 2009 was 0.80 inches of rainfall. Site conditions observed on October 14, 2009 are summarized below.

As provided by Mark Harvey (Caltrans District 2 Maintenance Storm Water Coordinator), this project had been completed and a project closeout walk-through was conducted and approved by Caltrans maintenance personnel in mid-September 2009. At the time of inspection the Yankee Gulch project was being managed by Caltrans District 2 Maintenance staff. Final stabilization had not yet been achieved at the project.

Prohibition A.1 of the Permit states the "discharge of runoff from construction sites containing pollutants which have not been reduced using BAT for toxic pollutants and BCT for conventional pollutants to waters of the United States is prohibited." Adequate BMPs were not implemented to prevent the discharge of sediment to the adjacent Crystal Creek receiving water located on the south side of State Highway 299. Specifically, adequate BMPs had not been implemented for the disturbed slope areas on the south side of State Highway 299 which subsequently drain to Crystal Creek. Although straw had been blown/spread on the disturbed slope areas, the slope was too steep for this BMP to be effective (see Photographs 1 and 2). There were no run-on control BMPs for the disturbed slope areas and adequate BMPs to break up the slope length had not been implemented. Evidence of erosion (e.g., rill and gulley formation, sloughing), slope failure, and sediment transport was observed on the disturbed slope area draining to Crystal Creek south of State Highway 299 (see Photographs 3 and 4). As a result, there was a discharge of sediment from the disturbed slope areas to Crystal Creek (see Photographs 5 through 7).

Furthermore, adequate BMPs had not been implemented to prevent the discharge of sediment to the adjacent Yankee Gulch receiving waters located on the north side of State Highway 299. Specifically, adequate BMPs had not been implemented for the disturbed slope areas on the north side of State Highway 299 which drains to Yankee Gulch and subsequently flows south to Crystal Creek. Although straw had been blown/spread on the disturbed slope areas, the slope was too steep for this BMP to be effective (see Photographs 8 and 9). In addition, although silt fence BMPs had been implemented on the slope and around the box culvert inlet and wing walls, several lengths of silt fence had collapsed and were not installed on the contour around the box culvert inlet which was accentuating erosion and sediment accumulation into Yankee Gulch (see

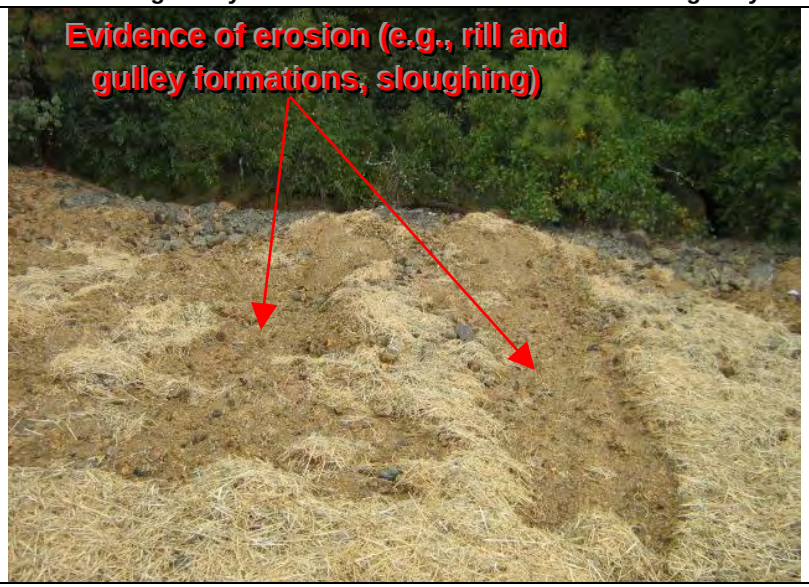
Photographs 10 and 11). As a result, there was a discharge of sediment from the disturbed slope areas on the north side of State Highway 299 to Yankee Gulch (see Photographs 11 and 12).

As provided by Mark Harvey (Caltrans District 2, Maintenance Storm Water Coordinator), there is no specific frequency for Caltrans Maintenance to conduct inspections of recently completed projects such as the Yankee Gulch project. It should also be noted that Caltrans District 2 representatives stated that all slopes prone to erosion had been inspected in the District. The site conditions observed at the Yankee Gulch project may indicate a lack of appropriate identification, prioritization, and tracking of slopes that are prone to erosion.

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Yankee Gulch Project Caltrans District 2	Photograph date: 10/14/2009

Photograph 1 – Evidence of erosion and slope failure on disturbed slope areas draining to Crystal Creek on the south side of State Highway 299

Photograph 2 – Evidence of erosion and slope failure on disturbed slope areas draining to Crystal Creek on the south side of State Highway 299



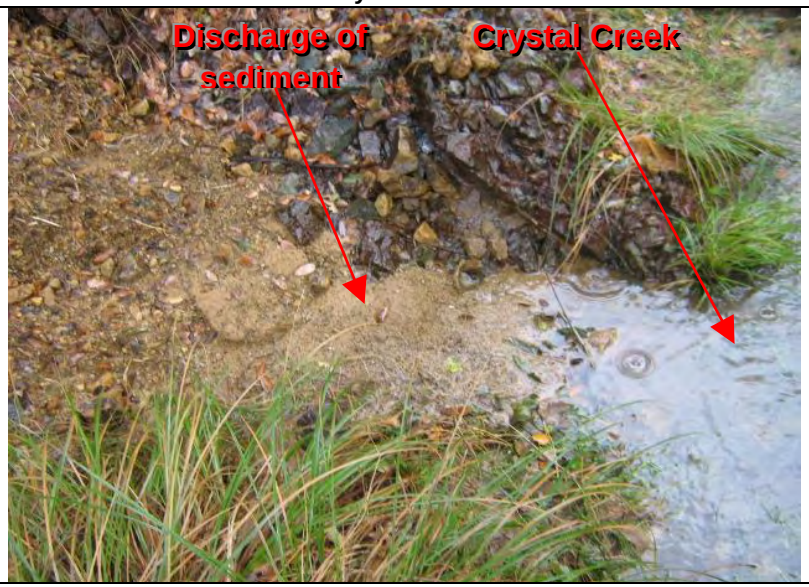
Photograph 3 – Evidence of erosion (e.g., rill and gulley formation) and sediment transport from the disturbed slope failure

Photograph 4 – Visible evidence of erosion (e.g., rill and gulley formation) on the disturbed slope area draining to Crystal Creek

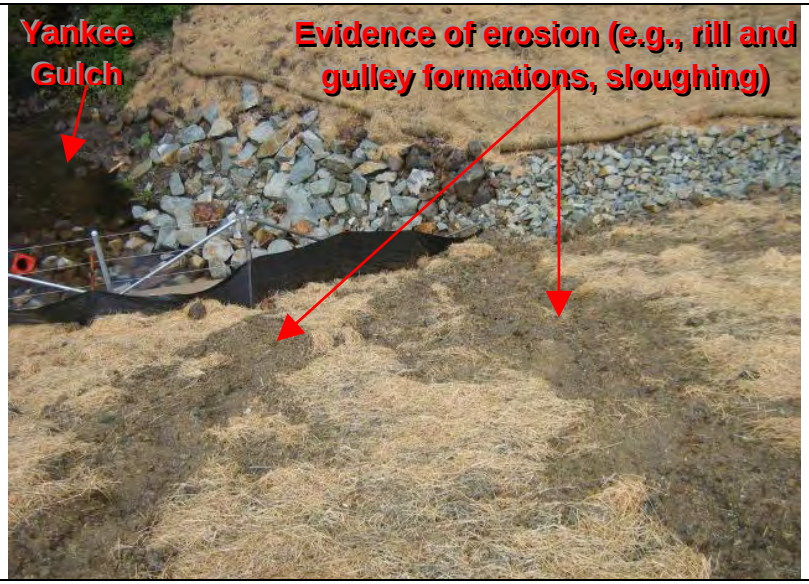
Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Yankee Gulch Project Caltrans District 2	Photograph date: 10/14/2009

Photograph 5—Discharge of sediment and sediment accumulation in Crystal Creek

Photograph 6 – Close-up of sediment accumulation shown in Photograph 5



Photograph 7—Visible evidence of the discharge of sediment from the upgradient disturbed slope areas to Crystal Creek

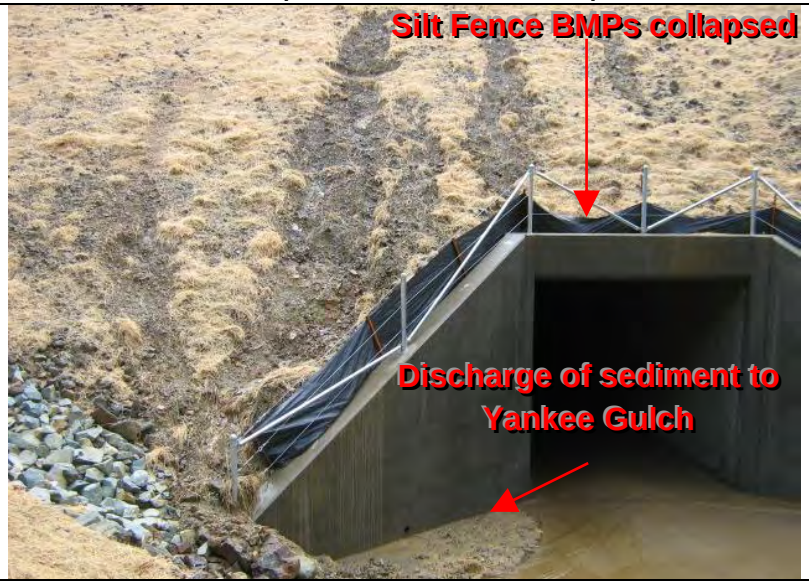


Photograph 8 – Evidence of erosion (e.g., rill and gulley formation) and sediment transport from the disturbed slope failure

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Yankee Gulch Project Caltrans District 2	Photograph date: 10/14/2009

Photograph 9— Evidence of erosion (e.g., rill and gulley formation) and sediment transport from the disturbed slope failure

Photograph 10 – Silt fence BMPs collapsed in areas and evidence of the discharge of sediment to Yankee Gulch



Photograph 11—Visible evidence of slope failure and the discharge of sediment to Yankee Gulch receiving water

Photograph 12 – Close-up view of Photograph 11 depicting the discharge of sediment and sediment accumulation in Yankee Gulch

Site Visit No. 9

Last Chance Grade Roadway Construction Project
Site Visit Date: 10/21/2009

Caltrans MS4 (SWRCB Order No. 99-06-DWQ)
Last Chance Grade Roadway Construction Project
Caltrans District 1

The EPA Audit Team conducted a site visit to the Last Chance Grade Roadway Construction Project located approximately 2.5 miles north of the intersection of Highway 101 and Wilson Creek Road in Del Norte County, CA. The project was located along steep slopes about 1000 feet to the east of the Pacific Ocean.

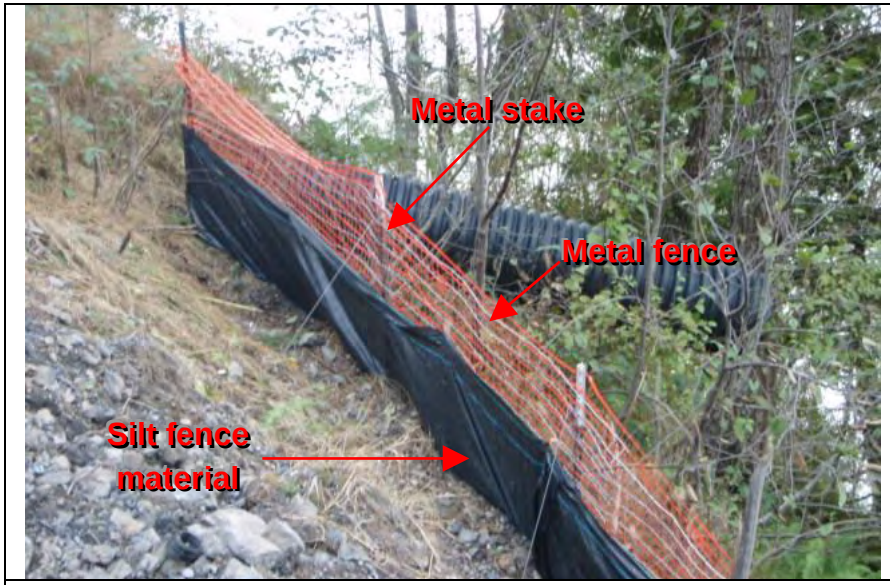
Provision H.1.b of the Permit requires Caltrans to implement a program to control all construction in the rights-of way and states that "program must include requirements of structural and nonstructural BMPs." Appendix D of the SWMP contains the "Statewide Storm Water Quality Practice Guidelines" which provide a description of each approved BMP for statewide application. Adequate BMPs were not implemented for several disturbed areas associated with the construction project or for managing the storage of chemicals and materials at the construction site. Specifically, reinforced silt fence BMPs consisting of metal fencing, metal stakes, and silt fence material had been installed on the steep slopes down-gradient of disturbed areas associated with the construction of several retaining walls (see Photographs 1 and 2). The silt fence BMPs, however, were not adequately maintained and had collapsed in several areas (see Photographs 3, 4, and 5). As a result, there was a potential for the discharge of sediment off-site to the west. Based on discussions with Caltrans staff, it was unclear how the facility representatives could conduct thorough and effective inspections of the inaccessible silt fence BMPs, or determine whether pollutants had been discharged off-site (see Photographs 6 and 7).

Adequate BMPs were not implemented at the construction site for good housekeeping to properly manage the storage of chemicals and materials on-site. Containers of various chemicals, including a form release agent and petroleum products, were improperly stored without secondary containment or coverage (see Photographs 8, 9, 10 and 11). In addition, a portable toilet was not staked into the ground or otherwise secured and was located adjacent to a steep slope (see Photograph 12).

In addition, straw wattle BMPs used for stockpile management were improperly installed on impervious surfaces at the facility, and therefore were not properly entrenched in the ground to retain the stockpiled materials (see Photographs 13 and 14). As a result, there was a potential for the discharge of sediment to the roadway and off-site to the west. The Resident Engineer explained that the SWPPP had been amended to include the use of straw wattle BMPs on impervious surfaces; however, this was not confirmed by the EPA Audit Team.

The EPA Audit Team observed that a water storage tank (approximately 1,000-gallon capacity) located up-gradient had been punctured by a forklift and was leaking (see Photographs 15 and 16). Water was observed slowly flowing underneath the straw wattle BMPs that been placed on the impervious roadway surface adjacent to K-rail barriers near the southern end of the construction project (see Photograph 17). The straw wattle BMPs had been installed prior to the puncture incident. Water had flowed underneath the straw wattles and jersey barriers and was observed on the adjacent roadway (see Photograph 18).

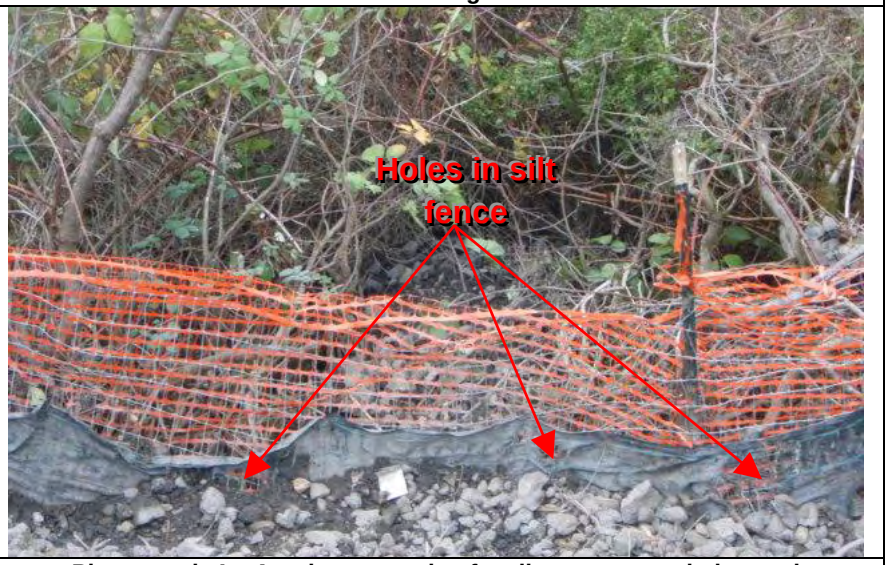
Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Last Chance Grade Roadway Construction Project Caltrans District 1	Photograph date: 10/21/2009



Photograph 1 – Example of reinforced silt fence BMP

Photograph 2 – Example of silt fence BMP implemented down-gradient of disturbance and retaining wall construction

Photograph 3 – Example of sediment accumulation against silt fence BMP



Photograph 4 – Another example of sediment accumulation and unmaintained silt fence

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Last Chance Grade Roadway Construction Project Caltrans District 1	Photograph date: 10/21/2009

Photograph 5— Another example of sediment accumulation and unmaintained silt fence

Photograph 6 – Example of silt fence BMP partially covered by collapsed vegetation

Photograph 7— Another example of silt fence BMP partially covered by collapsed vegetation - view down slope to silt fence BMP

Photograph 8 – 55-gallon drum of "Rock Drill 150" that is partially covered and not within adequate secondary containment

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Last Chance Grade Roadway Construction Project Caltrans District 1	Photograph date: 10/21/2009

Photograph 9— Close-up view of damaged secondary containment pan underneath 55-gallon drum

Photograph 10— Chemical sprayers not within secondary containment

Photograph 11— Example of gas container not stored within secondary containment

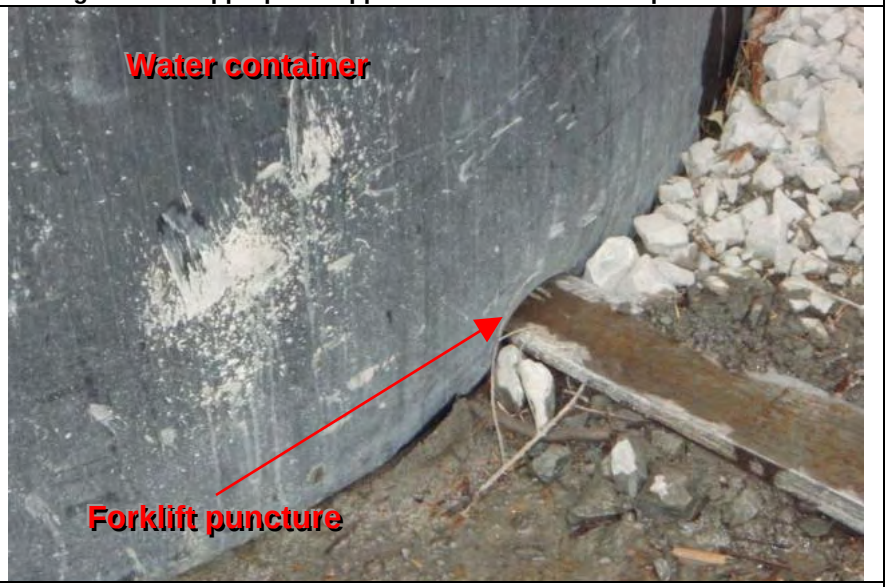
Photograph 12— Portable toilet adjacent to steep slope

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Last Chance Grade Roadway Construction Project Caltrans District 1	Photograph date: 10/21/2009

Photograph 13— Straw wattle not staked or entrenched into ground. Inappropriate application of wattles on impervious surface

Photograph 14— Another example of straw wattle not staked or entrenched into ground. Inappropriate application of wattles on impervious surface.

Photograph 15— View of forklift that had punctured the water container



Photograph 16— Close-up view of puncture in water container

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Last Chance Grade Roadway Construction Project Caltrans District 1	Photograph date: 10/21/2009

Photograph 17— View down-gradient from water container (Note: Wetness on impervious surface and placement of straw wattles)

Photograph 18— View up-gradient to water container (Note: Wetness on roadway surface down-gradient of water container)

Site Visit No. 10

Isabel Avenue/Route 580 Interchange Project
Site Visit Date: 10/7/2009

Caltrans MS4 (SWRCB Order No. 99-06-DWQ)
Isabel Avenue/Route 580 Interchange Project
EA No. 171334

The EPA Audit Team conducted a site visit to the Isabel Avenue/Route 580 Interchange Project located on Route 580 in Alameda County.

Provision H.1.b of the Permit requires Caltrans to implement a program to control all construction in the rights-of way and states that "program must include requirements of structural and nonstructural BMPs." Appendix D of the SWMP contains the "Statewide Storm Water Quality Practice Guidelines" which provide a description of each approved BMP for statewide application. Along the Portola Avenue Extension, adequate BMPs were not implemented for disturbed areas associated with an access road and overpass construction. Specifically, a silt fence BMP installed along the constructed Arroyo Los Positas diversion was improperly installed on an impervious surface, and therefore was not properly entrenched in the ground to retain sediment (see Photographs 1, 2, and 3).

In an area located upstream of the constructed diversion near the entrance to the construction access road, a silt fence BMP was improperly installed in a drainage depression leading to Arroyo Los Positas and had partially collapsed. Although two tiers of silt fence had been installed for BMP redundancy, both tiers were in need of maintenance and the first tier of silt fence had failed (see Photographs 4 and 5). As a result, there was a potential for the discharge of sediment to Arroyo Los Positas.

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Isabel Avenue/Route 580 Interchange Project EA No. 171334	Photograph date: 10/7/2009

Photograph 1 – View of constructed Arroyo Los Positas diversion

Photograph 2 – View of constructed Arroyo Los Positas diversion

Photograph 3 – Close-up view of area shown in Photograph 2

Photograph 4 – Silt fence BMP installed in a drainage depression

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Isabel Avenue/Route 580 Interchange Project EA No. 171334	Photograph date: 10/7/2009

Photograph 5— Failure of first tier of silt fence shown in Photograph 4

Site Visit No. 11

Sunol Grade/Route 680 Roadway Rehabilitation Project
Site Visit Date: 10/7/2009

Caltrans MS4 (SWRCB Order No. 99-06-DWQ)
Sunol Grade/Route 680 Roadway Rehabilitation Project
EA No. 253794

The EPA Audit Team conducted a site visit at the Scott Creek staging yard located west of Route 680 at the Scott Road interchange near the Alameda-Santa Clara County boundary. The Scott Creek waterway is located approximately 500 feet southeast of the staging yard.

Provision H.1.b of the Permit requires Caltrans to implement a program to control all construction in the rights-of way and states that "program must include requirements of structural and nonstructural BMPs." Appendix D of the SWMP contains the "Statewide Storm Water Quality Practice Guidelines" which provide a description of each approved BMP for statewide application. Adequate BMPs were not implemented at the Scott Creek staging yard for construction waste handling and disposal. Various construction wastes and chemicals were improperly disposed and/or stored throughout the Scott Creek staging yard (see Photographs 1 through 9). Uncovered and uncontained construction waste included asphalt release agent and petroleum products without secondary containment BMPs (see Photographs 6, 7, and 8). In an oversight inspection conducted on September 9, 2009, the Caltrans Construction Storm Water Coordinator's inspector also identified the asphalt release agent and petroleum products lacking secondary containment, but these issues had not been corrected through adequate enforcement of the contract conditions as of October 7, 2009 (see Appendix C, Exhibits 6, 7, and 8).

Furthermore, coverage and containment BMPs had not been implemented for a sweeper and roadway waste stockpile at the Scott Creek staging yard (see Photographs 10 and 11). Caltrans Maintenance operates this site for the temporary storage of debris picked up by its road sweepers and road cleaning crews, before the waste is hauled to the nearest landfill for disposal. Appendix D of the Caltrans SWMP, Section 2.29, Sweeping and Vacuuming, states "dispose of waste to a landfill or approved site…There is to be no dumping on site, especially during the rainy season or during unseasonal storm events." Because collected road sweepings and debris contain fine pollutant particles and non-visible pollutants, K-rail barriers are not adequate to contain the collected waste. Provision I.3 of the Permit requires Caltrans to provide appropriate site specific BMPs for maintenance facilities.

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Sunol Grade/Route 680 Rehabilitation EA No. 253794	Photograph date: 10/7/2009

Photograph 1 – Construction wastes and chemicals improperly disposed

Photograph 2 – Close-up view showing open containers of pipe cement

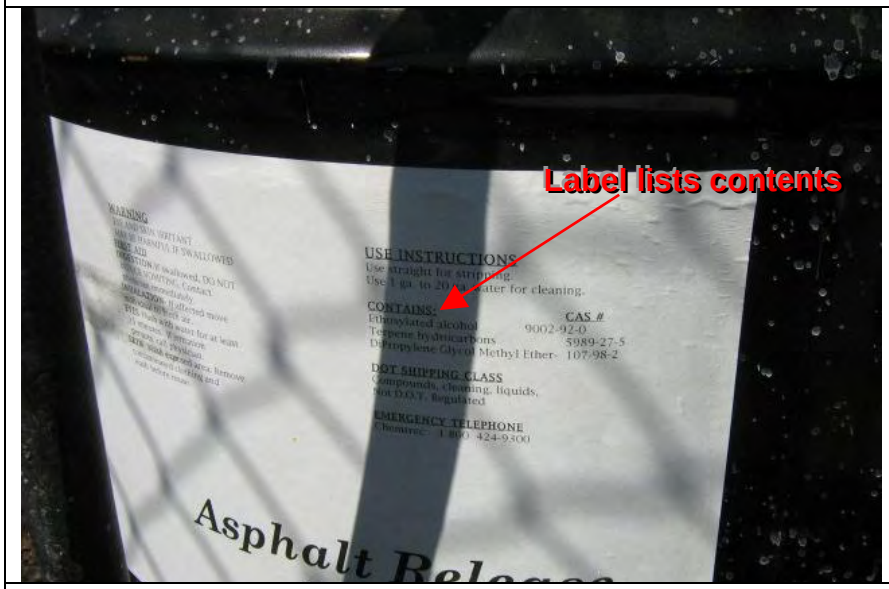
Photograph 3 – Construction wastes and chemicals improperly disposed

Photograph 4 – Construction wastes and chemicals improperly disposed

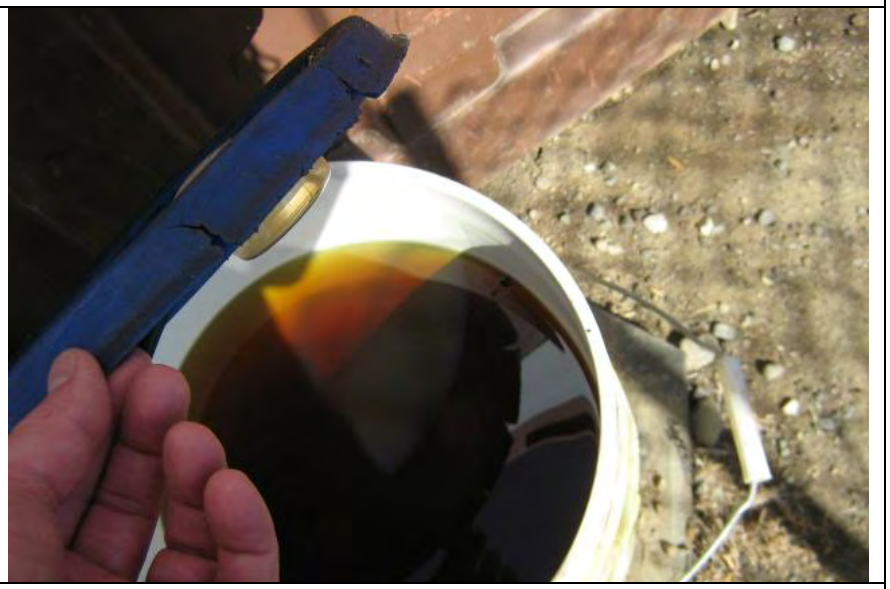
Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Sunol Grade/Route 680 Rehabilitation EA No. 253794	Photograph date: 10/7/2009

Photograph 5— Uncovered and uncontained construction waste

Photograph 6 – Asphalt release agent without secondary containment



Photograph 7— Close-up view of drum label shown in Photograph 6



Photograph 8 – Petroleum product without secondary containment

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Sunol Grade/Route 680 Rehabilitation EA No. 253794	Photograph date: 10/7/2009

Photograph 9— Pipe joint lubricant

Photograph 10 – Sweeper and roadway waste stockpile

Photograph 11— Close-up view of sweeper and roadway waste stockpile

Site Visit No. 12

Smith River Safety Roadway Construction Project
Site Visit Date: 10/21/2009

Caltrans MS4 (SWRCB Order No. 99-06-DWQ)
Smith River Safety Roadway Construction Project
Caltrans District 1

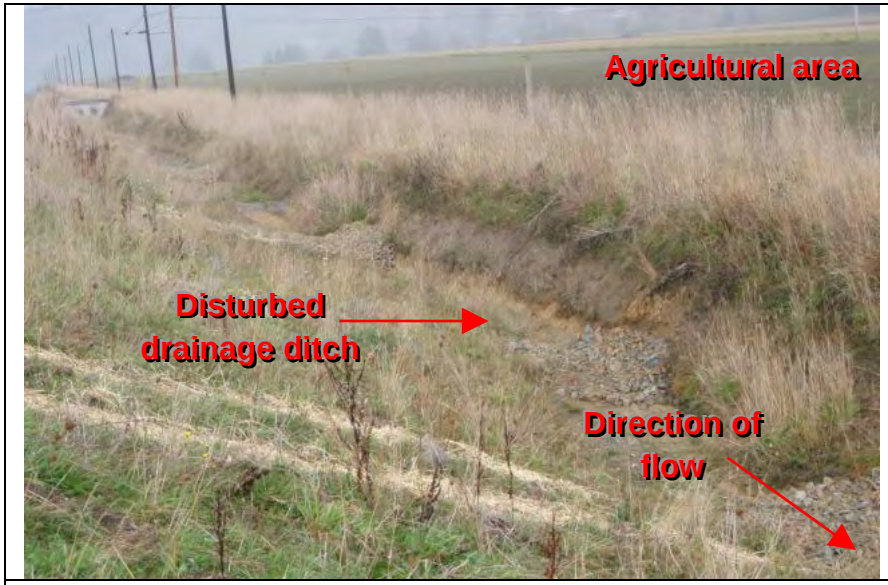
The EPA Audit Team conducted a site visit at the Smith River Safety Project located along post mile 43–45 on Highway 101, in Del Norte County, CA. No active construction was observed during the site inspection and the project appeared to be nearing completion. However, adequate BMPs for erosion and sediment control were not implemented for several disturbed areas associated with the roadway construction project. The Pacific Ocean is located approximately 200 yards west of the construction project.

Provision H.1.b of the Permit requires Caltrans to implement a program to control all construction in the rights-of way and states that "program must include requirements of structural and nonstructural BMPs." Appendix D of the SWMP contains the "Statewide Storm Water Quality Practice Guidelines" which provide a description of each approved BMP for statewide application. Adequate BMPs were not implemented for a disturbed drainage ditch along the east side of Highway 101 that discharges through a culvert crossing of the highway and subsequently to the Pacific Ocean (see Photographs 1 and 2). The Resident Engineer explained that the drainage ditch had been relocated to the east during the construction project and was in an area that received significant run-on from adjacent agricultural land. At the time of the inspection, vegetation had yet to be established in the drainage ditch to the north of the culvert, after it was disturbed about one year ago. Gravel check dam BMPs had been installed in the drainage ditch to dissipate flows (see Photograph 3); however, the check dams were not included in the SWPPP as approved BMPs. As a result, there was a potential for the discharge of sediment off-site to the west from the disturbed drainage ditch. Vegetation had been established in the drainage ditch to the south of the culvert crossing (see Photographs 4 and 5), however, straw had been spread over the ground surface in the drainage ditch which could potentially be entrained and discharged off-site. Furthermore, on the west side of the culvert crossing, straw had been spread over the ground surface in and around the drainage channel (see Photographs 6 and 7).

In addition, straw wattle BMPs had been removed from an area above the box culvert crossing of Lopez Creek near the southern end of the construction project (see Photographs 8, 9 and 10). As a result, a small area of disturbance was located directly above the box culvert crossing and there was a potential for the discharge of sediment to Lopez Creek.

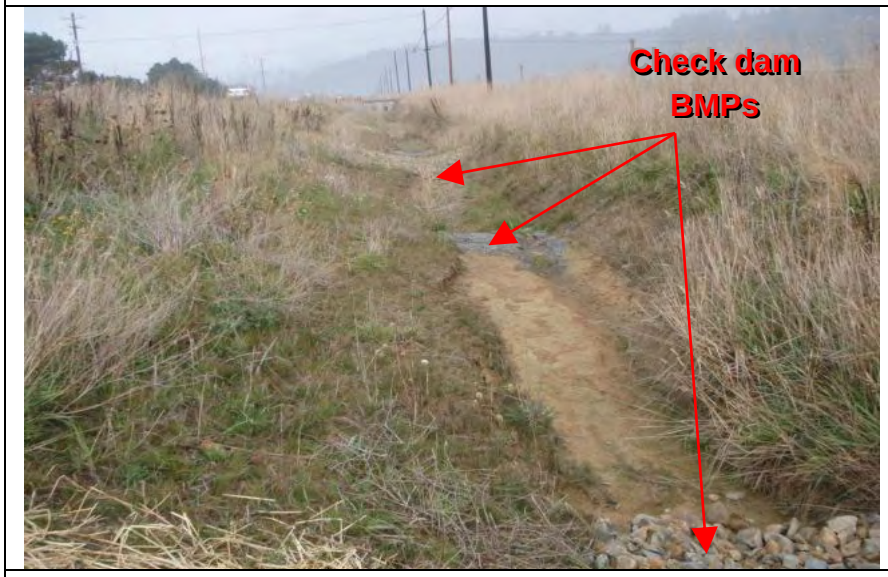
Moreover, evidence of sidecast asphalt pieces in areas adjacent to the roadway were observed near the northern end of the construction project (see Photograph 11).

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Smith River Safety Roadway Construction Project Caltrans District 1	Photograph date: 10/21/2009



Photograph 1 – View of disturbed drainage ditch looking to the northeast

Photograph 2 – Closer view of disturbed drainage ditch and culvert inlet



Photograph 3 – View up drainage channel

Photograph 4 – View of drainage ditch south of the culvert inlet

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Smith River Safety Roadway Construction Project Caltrans District 1	Photograph date: 10/21/2009

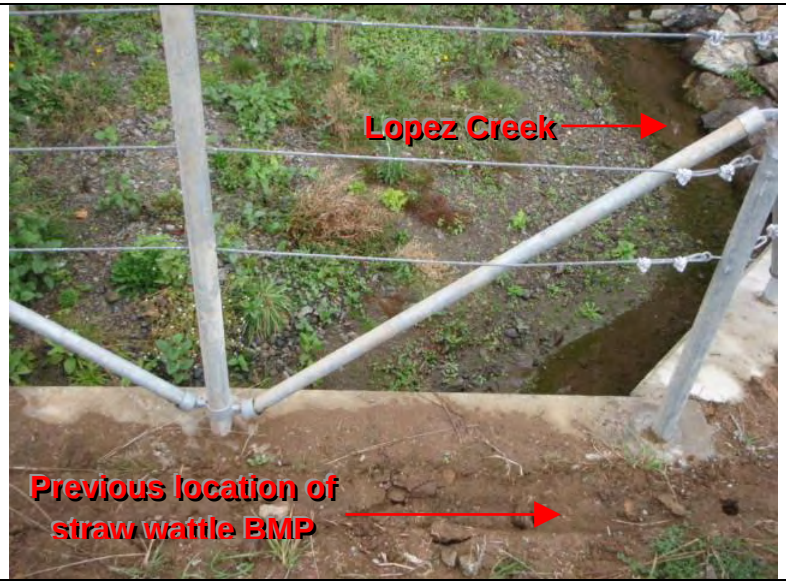
Photograph 5— View of drainage ditch south of the culvert inlet

Photograph 6 – West side of culvert outlet (Note: Straw around and within drainage channel)

Photograph 7— Another view of the west side of culvert outlet

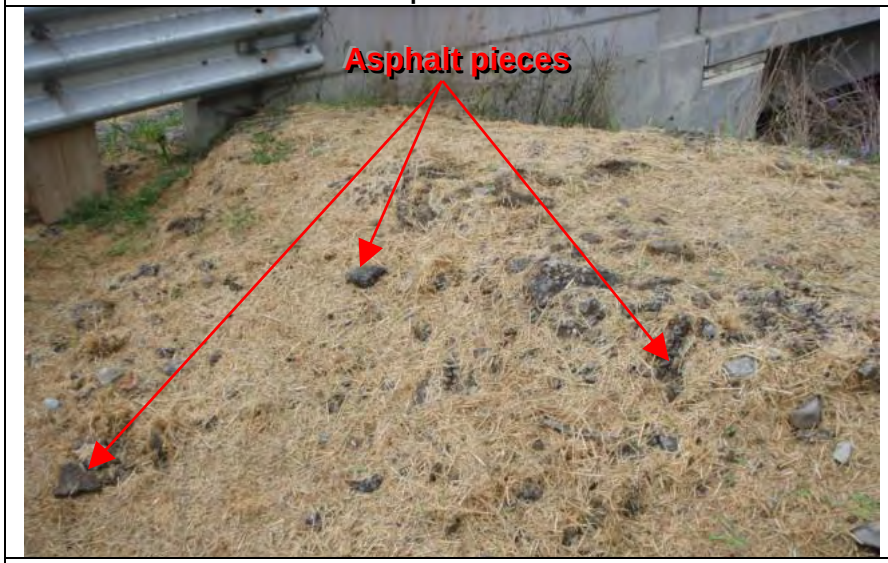
Photograph 8 – Area above culvert crossing of Lopez Creek

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Smith River Safety Roadway Construction Project Caltrans District 1	Photograph date: 10/21/2009



Photograph 9— Another view of the area above the culvert crossing of Lopez Creek

Photograph 10— Culvert crossing of Lopez Creek



Photograph 11— Sidecast asphalt pieces along side of roadway at northern end of construction project

Site Visit No. 13

Dana to Downtown Project
Site Visit Date: 10/14/2009

Caltrans MS4 (SWRCB Order No. 99-06-DWQ)
Dana to Downtown Project
EA No. 02328034

The EPA Audit Team conducted a site visit at the Dana to Downtown Project located in Redding on I-5 from 0.1 km north of Hartnell overcrossing to 0.9 km north of Hilltop Drive overcrossing, and on Route 44 from Pine Street to 0.2 km west of the Routes 5/44 separation.

Provision H.1.b of the Permit requires Caltrans to implement a program to control all construction in the rights-of way and states that "program must include requirements of structural and nonstructural BMPs." Appendix D of the SWMP contains the "Statewide Storm Water Quality Practice Guidelines" which provide a description of each approved BMP for statewide application. Adequate BMPs were not implemented for the disturbed areas associated with the replacement construction of the Sacramento River Bridge (a four span concrete box girder bridge replacement). Specifically, portions of the disturbed slope area along the southeastern side of the bridge had been temporarily stabilized and the hay bale flow dissipation BMPs had been improperly installed on an impervious surface (see Photograph 1).

In an area along the northern portion of Interstate 5 and east of the Auditorium Drive Bridge, a perimeter control silt fence located at the toe of the slope had failed (see Photographs 2 and 3). As a result, there was potential for the discharge of sediment offsite into the Sacramento River Turtle Bay Park (see Photograph 3).

Adequate BMPs were not implemented for disturbed areas associated with the disturbed slope area under the Auditorium Drive Bridge overpass replacement and construction. Specifically, silt fence BMPs had accumulated sediment to approximately half the exposed silt fence height in several areas (see Photograph 4). Although three tiers of silt fence had been installed for BMP redundancy, the tiers were in need of maintenance (see Photograph 4), and sediment was visible beyond the BMPs on the highway shoulder.

Furthermore, adequate BMPs were not implemented at the staging area on the southeast corner of the Auditorium Drive Bridge adjacent to Interstate 5. Specifically, perimeter controls were not implemented around a temporary construction material storage pile (see Photograph 5). Additionally, the portable toilet located in the staging area had not been secured (see Photograph 6).

Moreover, adequate BMPs were not implemented and maintained to prevent the discharge of sediment and debris at inlets located at the staging area on the southeast corner of the Auditorium Drive Bridge and along the bike path on the north side of Interstate 5 adjacent to the Auditorium Drive Bridge main staging area. The straw wattle implemented at the drop inlet located near the Auditorium Drive Bridge was badly deteriorated and had not been properly entrenched (see Photograph 7). Although rock sacks had been installed to protect the inlet, sediment had accumulated around and in the storm drain inlet located along the bike path (see Photograph 8).

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Dana to Downtown Project EA No. 02328034	Photograph date: 10/14/2009

Photograph 1 – View of disturbed slope at Sacramento River Bridge

Photograph 2 – View of temporary plastic slope stabilization along the north side of I-5, at the terminus of the bike path

Photograph 3 – View of deteriorated slope stabilization BMP and collapsed silt fence in Photograph 2

Photograph 4 – Silt fence on the north side of I-5, view facing south-southeast

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Dana to Downtown Project EA No. 02328034	Photograph date: 10/14/2009

Photograph 5 – Lack of perimeter control BMPs around a construction material disposal stockpile

Photograph 6 – View of unsecured portable toilet

Photograph 7 – Storm drain inlet at the northwestern portion of the Auditorium Drive Bridge temporary staging area

Photograph 8 – Storm drain inlet located along the bike path adjacent to Interstate 5

Site Visit No. 14

Tudor Bypass Project
Site Visit Date: 10/7/2009

Caltrans MS4 (SWRCB Order No. 99-06-DWQ)
Tudor Bypass Project
Caltrans District 3

The EPA Audit Team conducted a site visit at the Tudor Bypass project located on State Highway 99 from the intersection with Hull Road to the intersection with Wilson Road in Sutter County, CA. The project consisted of a roadway realignment of State Highway 99.

Provision H.1.b of the Permit requires Caltrans to implement a program to control all construction in the rights-of way and states that "program must include requirements of structural and nonstructural BMPs." Appendix D of the SWMP contains the "Statewide Storm Water Quality Practice Guidelines" which provide a description of each approved BMP for statewide application. Adequate BMPs were not implemented at approximately Station 338 + 60 to prevent the discharge of sediment from disturbed embankment slopes adjacent to the irrigation channel traversing through the project (see Photographs 5, 6, and 8). BMPs were not implemented to limit run-on to the slope and the surface of the slope was not stabilized. Evidence of sediment accumulation was observed in the irrigation channel culvert pipe (see Photographs 8 and 9). As a result, there was a discharge of sediment to the irrigation channel which subsequently drains to levees at Sutter Bypass, and ultimately to the Sacramento River

Adequate structural and non-structural BMPs had not been implemented for up-gradient areas of disturbance located directly adjacent to an irrigation channel located at Station 300 + 00 (see Photographs 13 through 16). Specifically, erosion and sediment controls had not been implemented for disturbed slope areas and no inlet protection BMPs had been implemented. As a result, there was a potential for the discharge of sediment from the up-gradient areas of disturbance to the irrigation channel which subsequently drains to levees at Sutter Bypass and ultimately to the Sacramento River.

In addition, BMPs were not adequately maintained for the adjacent roadway drainage swale located at approximately Station 300 + 00 on the west side of the roadway. Evidence of erosion (e.g., rill and gulley formations) was observed on the drainage swale embankment slopes (see Photographs 17 and 18). As a result, there was a potential for the discharge of sediment to the drainage swale which subsequently drains to the irrigation channel and levees at Sutter Bypass, and ultimately to the Sacramento River.

Note: Additional site conditions and inadequate structural and non-structural controls are shown in the attached site photographs log.

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Tudor Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 1 – Drainage swale adjacent to roadway without adequate BMPs implemented (Drill seeding only)

Photograph 2 – Unstabilized drainage swale and slope adjacent to roadway

Photograph 3 – Uncontained concrete waste adjacent to roadway drainage swale

Photograph 4 – Close-up of Photograph 3 and concrete waste

Site Visit Date: 10/7/2009

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Tudor Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 5 – View looking upgradient on irrigation channel located adjacent to project. Note unstabilized slopes adj. to irrigation channel.

Photograph 6 – Culvert outlet pipes and disturbed embankment slope in irrigation ditch

Photograph 7 – Culvert pipe inlet with no BMPs implemented – drains to irrigation ditch.

Photograph 8 – Culvert pipe outlet from Photograph 7 to irrigation channel.

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Tudor Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 9 – Visible sediment accumulation in the irrigation channel and associated culvert pipe

Photograph 10- View of down-gradient irrigation channel below outlet. Note: Inlet to this area is shown in Photograph 9.

Photograph 11 –Tracking control BMPs were not implemented near Station 346 + 70.

Photograph 12 – No tracking control BMPs implemented at Sta. 346 + 70.

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Tudor Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 13 – Adequate E&S controls were not implemented for areas of disturbance up-gradient of irrigation channel (East side)

Photograph 14 - Adequate E&S controls were not implemented for areas of disturbance up-gradient of irrigation channel (West side)

Photograph 15 – Inlet protection BMPs were not implemented for a culvert inlet draining to the irrigation channel.

Photographs 16 – BMPs were not implemented for the entire disturbed slope areas of the adjacent roadway drainage swale (East side).

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Tudor Bypass Project Caltrans District 3	Photograph date: 10/7/2009

Photograph 17 – Evidence of previous erosion (e.g., rill/gulley formation) was observed on the adjacent roadway drainage swale slopes (West side).

Photograph 18 – Vantage point view of Photograph 17. Adjacent roadway swale drains to irrigation channel near top of Photograph.

Photograph 19 – Silt fence not adequately maintained (e.g., collapsed in areas) near the new Hwy 99 and Wilson Road intersection.

Photograph 20 – Adequate tracking control BMPs had not been implemented at the Wilson Road intersection.

Site Visit No. 15

Sunol Grade/Route 680 Roadway Rehabilitation Project
Site Visit Date: 10/7/2009

Caltrans MS4 (SWRCB Order No. 99-06-DWQ)
Sunol Grade/Route 680 Roadway Rehabilitation Project
EA No. 4A5204

The EPA Audit Team conducted a site visit at the Sunol Grade/Route 680 Roadway Rehabilitation Project located west of Route 680 at the Vargas Road interchange in Alameda County, CA. Provision E.1 of the Permit states "Caltrans shall maintain and implement an effective SWMP." Provision F of the Permit states "Caltrans shall implement the program specified in the SWMP." Appendix D of the Caltrans SWMP, Section 4.5.9, Stabilized Construction Roadway, states "properly grade roadway to prevent runoff from leaving construction site…stabilize roadway using aggregate, asphalt concrete, or concrete based on site conditions." Adequate BMPs were not implemented for the disturbed areas associated with a construction access road. Specifically, proper drainage had not been provided for the access road (see Photograph 1) and the road had failed in areas (see Photographs 2, 3, and 4). Moreover, several disturbed areas of the access road fill slope were unprotected as BMPs had not been implemented to prevent the discharge of sediment offsite to the west (see Photographs 5, 6, and 8).

Appendix D of the Caltrans SWMP, Section 4.5.1, Temporary Sediment Control, states "repair undercut silt fences…repair or replace split, torn, slumping or weathered fabric." The EPA Audit Team observed areas along the access road fill slope where the silt fence BMP had not been adequately inspected and maintained and several lengths of silt fence had collapsed (see Photographs 6 and 7).

Additionally, adequate BMPs were not implemented for vehicle tracking control at the construction site entrance off Vargas Road. Although gravel had been placed at the access road entrance, the length of the pad and size of the gravel were too small to be effective (see Photograph 8). As a result, sediment had been transported onto Vargas Road (see Photographs 8 and 9).

Provision G.5 of the Permit states "Caltrans shall have an inspection program to insure actions are implemented and facilities are constructed, operated, and maintained in accordance with this NPDES Permit and the SWMP." In an oversight inspection conducted on September 28, 2009, the Caltrans Construction Storm Water Coordinator's inspector also identified the lack of adequate vehicle tracking control and had similar issues with "toe of slope BMP measures," but these issues had not been corrected through adequate enforcement of the contract conditions as of October 7, 2009 (see Appendix C, Exhibits 9 and 10). Furthermore, the issues identified by the Caltrans Construction Storm Water Coordinator's inspector in a SWPPP punch-list, generated from inspections conducted prior to September 25, 2009, demonstrate the issues had been outstanding for a longer period of time (see Appendix C, Exhibit 11).

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Sunol Grade/Route 680 Rehabilitation EA No. 4A5204	Photograph date: 10/7/2009

Photograph 1 – View down-gradient along access road

Photograph 2 – Failed fill slope along access road

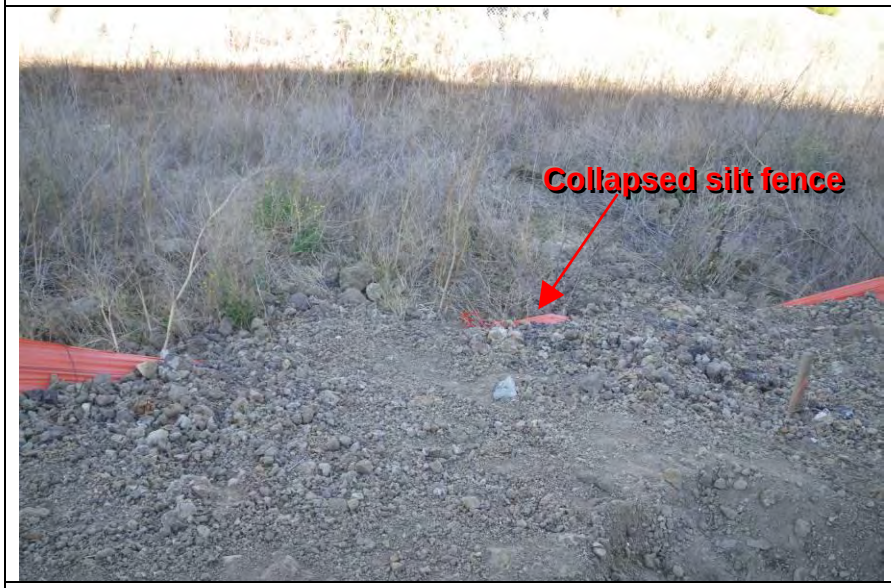
Photograph 3 – Slope erosion below undercut K-rail shown in Photograph 2

Photograph 4 – Failed area along access road

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Sunol Grade/Route 680 Rehabilitation EA No. 4A5204	Photograph date: 10/7/2009

Photograph 5— Fill slope along access road without BMPs

Photograph 6 – Fill slope along access road without BMPs



Photograph 7— Collapsed silt fence due to slide

Photograph 8 – View of fill slope along access road without BMPs and vehicle tracking control pad

Site Photographs	Caltrans MS4 (SWRCB Order No. 99-06-DWQ) Sunol Grade/Route 680 Rehabilitation EA No. 4A5204	Photograph date: 10/7/2009

Photograph 9— Sediment conveyed onto roadway