



California Regional Water Quality Control Board Central Valley Region

Katherine Hart, Chair



Linda S. Adams
Secretary for
Environmental
Protection

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Arnold
Schwarzenegger
Governor

1 March 2010

Del Rapini
Del Rapini Construction, Inc.
28555 Rollins Lake Road
Colfax, CA 95713

CERTIFIED MAIL
7009 1410 0002 1422 0065

– CORRECTED COPY –

ADMINISTRATIVE CIVIL LIABILITY ORDER R5-2010-0508, DEL RAPINI CONSTRUCTION INC., PINE GROVE BLUFFS, AMADOR COUNTY

Enclosed is Administrative Civil Liability Order (Order) R5-2010-0508, which assesses **one hundred and thirty six thousand dollars (\$136,000)** in civil liabilities for alleged violations of the NPDES General Permit for Storm Water Discharges Associated with Construction Activities, NPDES No. CAS000002, Order No. 99-08-DWQ. The alleged violations occurred at the Pine Grove Bluffs construction site in Amador County. The enclosed payment schedule letter allows Del Rapini Construction, Inc. (Discharger) to pay the civil liability amount in sixteen (16) quarterly payments beginning on 31 March 2010 and ending on 31 December 2013. *Please note that the payment schedule letter dated 26 February 2010 has been replaced by the payment schedule letter dated 1 March 2010 because the original letter misstated the number of payments that needed to be submitted.*

In order to conserve paper and reduce mailing costs, paper copies of Order R5-2010-0508 and the payment schedule letter have been sent to the Discharger only. The full text versions of the documents are available on the Central Valley Water Board's website at:

http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/ .

Anyone may request a paper copy of these documents by calling the Central Valley Water Board staff listed below.

If you have any questions or comments regarding this Order, please contact Steve Rosenbaum at (916) 464-4631.

ORIGINAL SIGNED BY

WENDY S. WYELS
Supervisor, Compliance and Enforcement Section

Enclosures: ACL Order R5-2010-0508
Corrected Payment Schedule Letter

cc list : see second page

cc w/ encl: Barbara Brenner, Stoel Rives, Sacramento

cc w/o encl: Eugene Bromley, U.S. EPA, Region IX, San Francisco
Patrick Pulupa, Office of Chief Counsel, SWRCB, Sacramento
Lori Okun, Office of Chief Counsel, SWRCB, Sacramento
Emel Wadhvani, Office of Chief Counsel, SWRCB, Sacramento
Reed Sato, Enforcement Unit, SWRCB, Sacramento
Ken Landau, Central Valley Water Board, Rancho Cordova
Carol Oz, California Department of Fish and Game, Rancho Cordova
Patrick Halvorsen, Contractors State License Board, Sacramento
Martin Price, Amador County Public Works, Jackson

SER: 1-Mar-10

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ADMINISTRATIVE CIVIL LIABILITY ORDER R5-2010-0508
IN THE MATTER OF
DEL RAPINI CONSTRUCTION, INC.
PINE GROVE BLUFFS
AMADOR COUNTY

This Administrative Civil Liability Order is issued to Del Rapini Construction, Inc. (hereafter Discharger), pursuant to California Water Code (CWC) section 13385, which authorizes the imposition of administrative civil liability, and CWC section 7, which authorizes the delegation of the Executive Officer's authority to a deputy, in this case the Assistant Executive Officer. This Order is based on a settlement of claims presented in an Administrative Civil Liability Complaint, issued by the Executive Officer on 16 July 2009 (ACL Complaint), alleging that the Discharger violated the terms of National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction Activity, Order 99-08-DWQ (General Permit).

The Assistant Executive Officer of the Central Valley Regional Water Quality Control Board (Central Valley Water Board or Board) finds, with respect to the Discharger's acts, or failure to act, the following:

Background

1. The Discharger is the owner and developer of Pine Grove Bluffs, a 30-acre construction project located at the intersection of Ridge Road and Highway 88 west of Pine Grove in Amador County (Site). The project includes both residential and commercial development. The commercial development involves about 12 acres of the project. Runoff from the commercial portion of the Site discharges into Jackson Creek. This Order only addresses the commercial portion of the property.
2. On 19 August 1999, the State Water Resources Control Board adopted the General Permit, which implements Waste Discharge Requirements for storm water discharges associated with construction activity.
3. The General Permit requires those who discharge storm water associated with construction activity to file a Notice of Intent to obtain coverage under the General Permit, and use best available technology economically achievable and best conventional control technology to reduce storm water pollution.
4. The CWC requires that dischargers obtain coverage under the General Permit prior to commencing construction activities. The Discharger obtained coverage under the General Permit and was assigned WDID No. 5S03C337319 on 27 September 2005.

Violation Chronology Alleged in Complaint R5-2009-0554

5. On 26 February 2007, Central Valley Water Board staff inspected the Pine Grove Bluffs construction project and observed numerous storm water management problems. Board

staff observed a significant amount of erosion on many of the graded roadways throughout the project and observed a sediment-laden discharge into one of the storm drain inlets. Board staff provided a verbal warning to the Discharger and explained that the Best Management Practices (hereafter BMPs, which consist of water control devices that prevent pollution runoff from non-point sources, such as construction sites) throughout the project needed to be upgraded for the Site to be in compliance with the General Permit. Photographs from the 26 February inspection are included as Attachment A, a part of this Order.

6. On 20 October 2008, Board staff inspected the project at the beginning of the rainy season and observed active grading underway on the commercial portion of the development. Board staff also noted steep slopes on the Site and the close proximity of the project to nearby surface waters. Only a few perimeter control BMPs were observed during the site inspection, and there were no effective erosion control BMPs at the Site as required by the General Permit. Board staff talked to the Discharger about the condition of the project. Board staff explained that the Site lacked an effective combination of erosion and sediment control BMPs as required by the General Permit, and requested that the Discharger implement additional BMPs to come into compliance. Photographs from the 20 October inspection are included as Attachment B, a part of this Order.
7. On 22 December 2008, staff re-inspected the commercial portion of the development and observed significant storm water management problems. The problems included large graded areas with minimal erosion control, poorly installed and maintained sediment control BMPs, poorly protected drain inlets, rilling on slopes, and slope failures that resulted in sediment deposition in a concrete-lined ditch. Also, significant erosion was observed throughout the project. Board staff walked the Site with the Discharger, identified the storm water management problems, and requested that the Discharger implement additional BMPs to come into compliance. The Discharger seemed to understand the concerns of Board staff, and verbally committed to work on stabilizing the Site. Photographs from the 22 December inspection are included as Attachment C, a part of this Order.
8. On 13 January 2009, Central Valley Water Board and Amador County staff inspected the commercial portion of the Site and observed that the Discharger had installed some additional BMPs; however, staff again identified significant storm water management problems throughout the project. The problems included large graded areas with minimal erosion control, steep slopes, poorly installed and maintained sediment control BMPs, and poorly protected drain inlets. Board and Amador County staff walked the entire Site with the Discharger, identified on-site storm water management problems, and recommended that the Discharger hire a consultant to help better stabilize the Site. Photographs from the 13 January inspection are included as Attachment D, a part of this Order.

9. On 24 January 2009, Board staff re-inspected the commercial portion of the development and again observed significant storm water management problems. These problems included large graded areas with steep slopes with very minimal erosion control BMPs, poorly installed and maintained sediment control BMPs, poorly protected drain inlets and BMPs overwhelmed by very turbid storm water. Sediment-laden storm water was also observed discharging from the project into Jackson Creek at two locations. Photographs from the 24 January inspection are included as Attachment E, a part of this Order.
10. On 2 February 2009, Board staff issued a Notice of Violation to the Discharger for the violations observed during the 24 January 2009 inspection. This Notice is included as Attachment F, a part of this Order.
11. On 11 February 2009, the Discharger responded to the Notice of Violation stating that although he objected to the Notice, he would comply in all ways possible. The Discharger also submitted a very brief plan and inspection reports. The inspection reports stated that the Discharger installed BMPs in selected areas of the project.
12. On 17 February 2009, staff re-inspected the commercial portion of the development and again observed significant storm water management problems. These problems included large graded areas with steep slopes with very minimal erosion control BMPs, poorly installed and maintained sediment control BMPs, and poorly protected drain inlets. In addition, discharges of sediment-laden storm water were observed entering Jackson Creek. Board staff conducted turbidity field measurements of the western outfall discharge from the Site and of Jackson Creek, upstream of the construction site. The turbidity was measured to be 979 NTUs at the western outfall location and 30 NTUs at Jackson Creek, upstream of the construction project. Downstream turbidity was not measured because of problems with access; however, staff observed that the turbidity in the creek downstream of the discharge location was significantly higher than that upstream, and did not observe other sources of turbid discharges, as shown in the photographs in Attachment H. A Staff Environmental Scientist at the California Department of Fish and Game reviewed the discharge and concluded "It is my opinion that the discharge of silt and sediment to this stream was deleterious to the aquatic life in Jackson Creek" and "the highly turbid runoff contained suspended sediments, which could have reduced habitat for aquatic life as well as caused deleterious effects due to physical impacts." The DFG memo is included as Attachment G, a part of this Order.

To calculate runoff during the 17 February 2009 storm event, staff used Tiger Creek Powerhouse (TCP) rainfall data and conservatively estimated the disturbed area contributing to the runoff to be 6 acres. The rainfall for the day was 1.12 inches. Using the rational method, staff conservatively calculated that the commercial portion of the Site discharged over 54,000 gallons of turbid storm water during the rain event. After the

inspection, staff called the Discharger and notified him of the storm water management problems observed on the project and requested that he implement additional BMPs to come into compliance.

13. On 19 February 2009, Board staff issued a second Notice of Violation to the Discharger for the violations observed during the 17 February 2009 inspection. This Notice is included as Attachment H, a part of this Order.
14. On 22 February 2009, Board staff re-inspected the commercial portion of the development. The inspection was conducted shortly after a significant rain event, and light rain was still falling during the inspection. Board staff inspected the entire Site and found no significant storm management improvements since the last inspection. Board staff also observed a turbid storm water discharge at both the eastern and western outfall locations. Discharge from the western outfall location was measured using a field turbidity meter to have a turbidity of 520 NTUs. Jackson Creek was also measured upstream of the Site to have a turbidity of 18 NTUs. Downstream turbidity was not measured because of problems with access; however, staff observed that the turbidity in the creek downstream of the discharge location was significantly higher than that upstream and did not observe other sources of turbid discharges, as shown in the photographs in Attachment I, a part of this Order.

To calculate runoff during the 22 February storm event, staff again used the TCP rainfall data, which showed 0.84 inches of rain for that day. Using the rational method, staff conservatively calculated that the commercial portion of the Site discharged over 40,000 gallons of turbid storm water during the rain event.

15. On 23 February 2009, Board staff conducted a follow-up inspection during a light rain. Staff again observed turbid storm water discharges into Jackson Creek from both outfall areas. The turbidity of the discharge from western outfall location was measured to be 384 NTUs. The turbidity of Jackson Creek upstream of the Site was measured to be 30 NTUs. Downstream turbidity was not measured because of problems with access; however, staff observed that the turbidity in the creek downstream of the discharge location was significantly higher than that upstream and did not observe other sources of turbid discharges, as shown in the photographs in Attachment J, a part of this Order.

To calculate runoff during the 23 February storm event, staff again used the TCP rainfall data, which showed 0.94 inches of rain for that day. Using the rational method, staff conservatively calculated that the commercial portion of the Site discharged over 45,000 gallons of turbid storm water during the rain event. After the inspection, Board staff called the Discharger and notified them of the storm water management problems observed during the inspection.

16. On 23 February 2009, the Discharger responded to the second Notice of Violation. The Discharger stated that he met with a storm water consultant and was working on the storm water issues. The Discharger submitted a BMP map, inspection reports and photographs of the Site.
17. On 4 March 2009, Amador County staff sent Board staff photographs from their 3 March 2009 inspection of the commercial portion of the construction site showing that additional BMPs had been installed on the project.
18. On 12 March 2009, Board staff re-inspected the commercial portion of the development and observed that additional erosion and sediment control BMPs had been installed in many areas of the project. However, Board staff observed some storm water management issues in two specific areas of the project along Ridge Road and along the west side of the project. Board staff informed the Discharger that additional erosion and sediment control measures were required to stabilize the Site in both of these areas.
19. The General Order states, in part, the following:
 - A. DISCHARGE PROHIBITIONS

 3. Storm water discharges shall not cause or threaten to cause pollution, contamination or nuisance.

20. Board staff found the Site in violation of Section A.6 during each of the nine inspections described above in the Complaint. All of those inspections were conducted during the rainy season. The Site continued to have storm water management problems and did not have an effective combination of erosion and sediment control on all disturbed areas as required by the General Permit.

There were four days on which Board staff observed a violation of Discharge Prohibition A.3 of the General Permit. On 24 January 2009 and 17, 22 and 23 February 2009, Board staff observed very turbid discharges of storm water from the Site to Jackson Creek. Board staff measured the turbidity on three of the four days and found the turbidity to be significantly higher in the discharge than the background level in Jackson Creek. At a minimum, these discharges threatened to cause pollution, contamination or nuisance in Jackson Creek.

Regulatory Considerations

21. The *Water Quality Control Plan Central Valley Region—Sacramento River and San Joaquin River Basins, Fourth Edition* (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin. The Basin Plan does not specifically identify beneficial uses for Jackson Creek, but does identify present uses for Sacramento-San Joaquin Delta, to which Jackson Creek, via Amador Lake, Dry Creek and the Mokelumne River, is tributary. Through the Basin Plan's tributary rule, the beneficial uses for Jackson Creek are municipal and domestic supply, agricultural supply for irrigation and stockwatering, industrial process supply and service supply, contact water recreation, other non-contact water recreation, warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm and cold fish migration habitat, warm spawning habitat, wildlife habitat and navigation.
22. Issuance of this Administrative Civil Liability Order to enforce CWC Division 7, Chapter 5.5 is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code section 21000 et seq.), in accordance with California Code of Regulations, title 14, section 15321(a)(2).

Violations under CWC section 13385 Alleged in Complaint R5-2009-0554

23. Administrative civil liability may be imposed for violations of the General Permit pursuant to CWC section 13385 which states, in part, that:
 - (a) Any person who violates any of the following shall be liable civilly in accordance with this section:
 - (1) Section 13375 or 13376
 - (2) Any waste discharge requirements or dredged and fill material permit.

 - (5) Any requirements of Sections 301, 302, 306, 307, 308, 318, or 405 of the Federal Water Pollution Control Act as amended.

 - (c) Civil liability may be imposed administratively by the State Board or a Regional Board pursuant to Article 2.5 (commencing with Section 13323) of Chapter 5 in an amount not to exceed the following:
 - (1) Ten thousand dollars (\$10,000) for each day in which the violation occurs.
 - (2) Where there is discharge, any portion of which is not susceptible to cleanup or is not cleaned up, and the volume discharged but not cleaned up exceeds 1,000 gallons, an additional liability not to exceed ten dollars (\$10) multiplied by the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

 - (e) In determining the amount of liability imposed under this section, the regional board, the state board, or the superior court, as the case may be, shall take into account the nature,

circumstances, extent, and gravity of the violation, or violations, whether the discharge is susceptible to cleanup or abatement, the degree of toxicity of the discharge, and, with respect to the violator, the ability to pay, the effect on its ability to continue its business, any voluntary cleanup efforts undertaken, any prior history of violations, the degree of culpability, economic benefits or savings, if any, resulting from the violation, and other matters that justice may require. At a minimum, liability shall be assessed at a level that recovers the economic benefits, if any, derived from the acts that constitute the violation.

24. Pursuant to CWC section 13385(c), the maximum liability is based on 13 days of violation of the General Permit and the volume of sediment-laden storm water discharged from the Site. There are 13 days when the Discharger was in violation of the General Permit due to inadequate BMPs and rainfall events occurred, leading to the discharge of sediment-laden storm water from the Site. Those days are 24 and 25 January 2009, and 6, 8, 9, 11, 13, 14, 15, 16, 17, 22 and 23 February 2009. At \$10,000 per day of violation, the maximum liability for days of violation is \$130,000 (13 days x \$10,000 per day).

Board staff also calculated that over 139,000 gallons of sediment-laden storm water were discharged from the Site on 17, 22 and 23 February 2009. It is assumed that turbid discharges also occurred on other days when it rained, but staff conservatively calculated the volume of turbid discharge based on days when staff was present to document and measure the turbidity of the discharge. Board staff measured turbidity of the discharges from the Site on these three days and found the turbidity of the discharges to be significantly higher than that of Jackson Creek immediately upstream of the Site. Gallons discharged from the Site were conservatively estimated taking into account the size of the disturbed area, rainfall data, and application of a runoff coefficient. At \$10 a gallon for each gallon over 1,000 gallons per storm event not susceptible to cleanup, the maximum penalty for the discharges from those three days is \$1,360,000 (136,000 gallons x \$10 per gallon).

The total maximum liability is sum of the liability for days of violation and the liability for gallons discharged that was not susceptible to cleanup, which is equal to \$1,490,000.

25. Pursuant to CWC section 13385(e), at a minimum, liability shall be assessed at a level that recovers the economic benefits derived from the acts that constitute the violation. The Discharger gained an economic benefit estimated at \$3,500 per acre by not implementing appropriate BMPs at the Site, resulting in an estimated cost savings of \$21,000. The assessed penalty is higher than the economic benefit.
26. On 16 July 2009, Executive Officer Pamela Creedon issued Administrative Civil Liability Complaint R5-2009-0554 to the Discharger. The Complaint proposed one hundred fifty-four thousand and five hundred dollars (\$154,500) in civil liability pursuant to CWC sections 13385 and 13323. The amount of the liability was established based on a review of the factors cited in CWC section 13385.

27. Following issuance of ACL Complaint, the Discharger and the Board's Prosecution Team conferred for the purpose of settling the violations. On 12 October 2009, after arms-length negotiations, the Discharger, without conceding or admitting liability and to avoid further expense, submitted a proposal to settle the ACL Complaint by paying one hundred thirty six thousand dollars (\$136,000). This settlement amount was accepted by the Executive Officer, who is the head of the Board's Prosecution Team. Pursuant to CWC section 13385, the Central Valley Water Board has considered the following factors:

Nature and Extent of Violations: The Discharger violated the General Permit by failing to install and maintain Best Management Practices (BMPs) and by discharging highly turbid storm water into Jackson Creek. Turbid discharges were observed by Board staff on three occasions and were measured to have significantly higher turbidity than the receiving water. The Discharger violated Section A.6 of the General Permit which requires that, "At a minimum, the discharger/operator must implement an effective combination of erosion and sediment control on all disturbed areas during the rainy season." The Discharger also violated Discharge prohibition A.3 of the General Permit states that, "Storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance." At a minimum, the discharge of highly turbid storm water threatened to cause pollution, contamination or nuisance.

Circumstances: This Site continued to have storm water management problems throughout the wet season even though it received multiple inspections from Board and County staff.

Gravity: The Discharger did not come into compliance with the General Permit and caused discharges of sediment-laden storm water to the nearby Jackson Creek. From 24 January 2009 to 23 February 2009, Board staff's inspections documented that the Site lacked adequate BMPs, and during that period, there were 13 days of adequate precipitation to produce runoff. Board staff conducted field turbidity measurements of the runoff from the Site as well as Jackson Creek upstream of the Site and found much higher levels of turbidity in the discharge from the Site.

Susceptibility of the Discharge to Cleanup: Once the turbid runoff entered Jackson Creek, there was no practical way to clean up to avoid impacts to water quality or beneficial uses.

Toxicity: Turbidity measurements were taken at the western discharge location from the Site and upstream in Jackson Creek on 17, 22, and 23 February 2009. Turbidity measurements taken at the discharge location were 979, 520, and 384 NTUs, respectively. Turbidity measurements taken at Jackson Creek upstream of the Site were 30, 18 and 30 NTUs, respectively. On 22 and 23 February, measurements

were taken after significant rain events the night before and runoff from the Site was minimal during the inspection. The highly turbid runoff contained suspended sediments, which could have reduced habitat for aquatic life as well as caused deleterious effects due to physical impacts. The DFG memo is included as Attachment G to this Order.

Degree of Culpability: The Discharger obtained coverage under the General Permit and was assigned WDID No. 5S03C337319 on 27 September 2005. The Discharger was aware of the General Permit requirements. Both Board and Amador County staff met with the Discharger on a number of occasions and discussed the need to effectively stabilize the Site and protect water quality in Jackson Creek.

Degree of Cooperation: After several discussions with staff, the Discharger appeared to understand the gravity of the situation and was cooperative with Board staff. The Discharger, however, did not implement an effective combination of erosion and sediment control on all disturbed areas during the rainy season as required by the General Permit.

Prior History of Violations: There is no past history of violations at the site. Board staff has issued several other enforcement letters to the Discharger for another construction project in Placer County. The Discharger received a Notice of Non-compliance in 2007 and a Notice of Violation in 2008 for the Cerise Estates construction project in Placer County. The Cerise Estates construction site also had storm water management problems because of inadequate BMPs.

Economic Benefit: The Discharger saved approximately \$21,000 by not implementing adequate erosion and sediment control BMPs. Based on a survey of consultants, approximately \$2,000 to \$6,000 per acre is needed to provide the necessary erosion and sediment control measures for construction sites depending on the slope and soil type. The Site has erodible soils and steep slopes; therefore, an effective combination of both erosion and sediment control BMPs is critical to protect the Site. Since only a few BMPs were installed on the project for most of the wet season, the economic benefit received by the Discharger by not installing and maintaining an effective combination of erosion and sediment control BMPs at the Site was estimated to be \$3,500 per acre. Board staff conservatively estimated that erosion and sediment control was necessary on 6 acres of the project. The economic benefit was estimated by multiplying 6 acres by \$3,500 per acre.

Other Matters as Justice May Require

a) **Staff Costs:** Board staff spent a total of 150 hours investigating this incident and preparing this Order. The total cost for staff time is \$22,500 based on a rate of \$150 per hour.

b) Ability of the Discharger to Pay: Board staff contacted the assessor's office in Amador and Placer counties. Board staff found the Discharger owns 19 properties in Amador County encompassing approximately 44 acres. One 0.83 acre commercial property was assessed at \$400,000¹, but the other property values were not available. Eight properties were found in Placer County encompassing approximately 338 acres, with an assessed value of \$2,473,730¹.

28. On 23 April 2009, the Central Valley Water Board delegated the authority to issue Administrative Civil Liability Orders, where the matter is not contested by the Discharger, to the Executive Officer, or to an Assistant Executive Officer when the Executive Officer is serving as head of the Board's Prosecution Team (Resolution R5-2009-0027). Pamela Creedon is serving as the head of the Board's Prosecution Team for this matter, and therefore Assistant Executive Officer Kenneth D. Landau has the authority to issue this Order.
29. This Order constitutes a full and complete settlement of the violations herein mentioned. Notice of this settlement was published on the Central Valley Water Board's website, in a newspaper of general circulation in the community, and was provided to all interested parties. The 30-day public notice and comment period mandated by Federal regulations (40 CFR 123.27) has expired.

IT IS HEREBY ORDERED THAT:

1. Del Rapini Construction, Inc. shall pay **one hundred thirty six thousand dollars (\$136,000)** in administrative civil liability no later than 30 days from the date on which this Order is issued. The payment shall be made by check made payable to the *State Water Pollution Cleanup and Abatement Account* and remitted to the Central Valley Regional Board located at 11020 Sun Center Drive, Suite 200, Rancho Cordova, California. The check shall have written upon it the number of this ACL Order.
2. Payment of the full liability amount shall resolve the violations charged in ACL Complaint R5-2009-0554.
3. The Assistant Executive Officer may refer this matter to the California Attorney General to obtain compliance with the terms of this Order.
4. This Order is final upon signature.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with CWC section 13320 and California Code

¹ As determined by a call from Water Board staff to the County Assessor's Office on 1 July 2009.

of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday (including mandatory furlough days), the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request

ORIGINAL SIGNED BY

KENNETH D. LANDAU, Assistant Executive Officer

26 February 2010

Date

Attachment A: Photographs from the 26 February 2007 inspection
Attachment B: Photographs from the 20 October 2008 inspection
Attachment C: Photographs from the 22 December 2008 inspection
Attachment D: Photographs from the 13 January 2009 inspection
Attachment E: Photographs from the 24 January 2009 inspection
Attachment F: Notice of Violation issued on 2 February 2009
Attachment G: DFG Memo regarding turbidity in Jackson Creek
Attachment H: Second Notice of Violation issued on 19 February 2009
Attachment I: Photographs from the 22 February 2009 inspection
Attachment J: Photographs from the 23 February 2009 inspection

RWM/SER :23-Feb-10



Linda S. Adams
Secretary for
Environmental
Protection

California Regional Water Quality Control Board Central Valley Region

Katherine Hart, Chair

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Arnold
Schwarzenegger
Governor

1 March 2010

Del Rapini
Del Rapini Construction, Inc.
28555 Rollins Lake Road
Colfax, CA 95713

– CORRECTED COPY –

PAYMENT SCHEDULE FOR ADMINISTRATIVE CIVIL LIABILITY ORDER R5-2010-0508, DEL RAPINI CONSTRUCTION INC., AMADOR COUNTY

Pursuant to Administrative Civil Liability Order R5-2010-0508 (Order), you are ordered to pay \$136,000 to the State Water Resources Control Board Cleanup and Abatement Account. Payment will resolve the violations alleged in Administrative Civil Liability Complaint R5-2009-0554. The Order requires full payment within 30 days. However, the Central Valley Water Board will defer collection of the \$136,000 if you comply with the payment schedule specified below:

Del Rapini Construction, Inc. (Discharger) shall pay \$136,000 to the State Water Resources Control Board Cleanup and Abatement Account in sixteen (16) quarterly payments. The payments shall be made by check made payable to the *State Water Pollution Cleanup and Abatement Account* and remitted to the Central Valley Regional Board located at 11020 Sun Center Drive, Suite 200, Rancho Cordova, California. Each check shall be in the amount of **eight thousand five hundred dollars (\$8,500)** and shall have written upon it "**ACL Order R5-2010-0508.**" The first payment is due on **31 March 2010**. Subsequent payments are due quarterly thereafter by the last day of the quarter (i.e., by **30 June, 30 September, and 31 December**). The last payment shall be submitted on or before **31 December 2013**. The Discharger retains the right to pay the remainder of the unpaid balance in full at any time before 31 December 2013.

This letter memorializes and accepts the above payment schedule on the following conditions. If the Discharger fails to make the payments in accordance with the specified deadlines without obtaining explicit approval from the Assistant Executive Officer, the Assistant Executive Officer shall demand that the remaining unpaid balance be paid with 30 days of notification of such failure. Alternatively, the Assistant Executive Officer may refer this matter to the California Attorney General to obtain compliance with the terms of the Order.

California Environmental Protection Agency



Please note this letter replaces the letter dated 26 February 2010. If you have any questions, please contact Wendy Wyels at (916) 464-4835.

ORIGINAL SIGNED BY

KENNETH D. LANDAU
Assistant Executive Officer

cc: Eugene Bromley, U.S. EPA, Region IX, San Francisco
Patrick Pulupa, Office of Chief Counsel, SWRCB, Sacramento
Lori Okun, Office of Chief Counsel, SWRCB, Sacramento
Emel Wadhvani, Office of Chief Counsel, SWRCB, Sacramento
Reed Sato, Enforcement Unit, SWRCB, Sacramento
Carol Oz, California Department of Fish and Game, Rancho Cordova
Barbara Brenner, Stoel Rives, Sacramento
Patrick Halvorsen, Contractors State License Board, Sacramento
Martin Price, Amador County Public Works, Jackson

SER: 1-Mar-10

2/26/07



Figure 1:



Figure 2:



Figure 3:



Figure 4:



Figure 5:



Figure 6:

2/26/07



Figure 7:



Figure 8:



Figure 9:



Figure 10:



Figure 11:



Figure 12:

2/26/07



Figure 13:



Figure 14:



Figure 15:



Figure 16:



Figure 17:



Figure 18:

Storm Water Construction General Permit Inspection Report

RWQCB - Region 5S

WDID # 5S03C337319

County: Amador

Del Rapini Const Inc
Owner's Name

Pine Grove Bluffs
Name of Development

28555 Rollins Lake Rd
Owner's Street Address

Developer Contact and Phone No #

Colfax, CA 95713
Owner's City, State and Zip code

Ridge Road & Hwy 88
Site Address

Del Rapini 530-389-8002
Owner's contact person and phone #

Pine Grove, CA 95665
Site City, State, and Zip Code

Rich Muhl
Inspection Conducted By

10/20/2008 _____
Date of Inspection Time of Inspection

Dry Hot **Clear** Overcast **X** **Cold** **Raining**
Weather Conditions During Inspection (circle all that apply)

Status of Construction

Type of Inspection:

<input type="checkbox"/>	Inspection in Conjunction with Other Permit	Permit Type: <u>Construction</u>
<input type="checkbox"/>	Termination Request	
<input checked="" type="checkbox"/>	Compliance Inspection	
<input type="checkbox"/>	Outreach Inspection	
<input type="checkbox"/>	Discharger/Facility Request	
<input type="checkbox"/>	Follow-up to previous inspection ** Date of Previous Inspection _____	
<input type="checkbox"/>	Other _____	

Storm Water Samples Collected?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Non-Storm Water Discharge or Evidence of Non-Storm Water Discharge Observed?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Separate Inspection Report Written?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Updated SWPPP on Site?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

Control Measures Checklist:

	Yes - Evident on inspection	No - Non evident on inspection
Areas of Concern:	Yes	No
Evidence of erosion? (hills, gullies, slips)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Dirt/sediment tracked in streets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Evidence of dewatering?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other _____		
The SWPPP was not reviewed		

Inspection Summary (complete only if no separate inspection report is written):

Staff observed construction activity underway at the time of the site inspection. A few perimeter control BMPs were observed on the project however the site was not well protected with an effective combination of erosion and sediment control BMPs (see inspection photographs). Staff talked with Mr. Rapini about the project and Mr. Rapini stated that the site would be stabilized in 5 days.



Signature

1541571
Date Entered: 12/4/08
Entered By: HT
Senior Review: SYM

10/20/08



Figure 1:



Figure 2:



Figure 3:



Figure 4:



Figure 5:

5/28/08



Figure 7:



Figure 8:



Figure 9:



Figure 10:



Figure 11:



Figure 12:



Figure 1:



Figure 2:



Figure 3:



Figure 4:



Figure 5:



Figure 6:

Storm Water Construction General Permit Inspection Report

RWQCB - Region 5S

WDID # 5S03C337319

County: Amador

Del Rapini Const Inc
Owner's Name

Pine Grove Bluffs
Name of Development

28555 Rollins Lake Rd
Owner's Street Address

Developer Contact and Phone NC #

Colfax, CA 95713
Owner's City, State and Zip code

Ridge Road & Hwy 88
Site Address

Del Rapini 530-389-8002
Owner's contact person and phone #

Pine Grove, CA 95665
Site City, State, and Zip Code

Rich Muhl
Inspection Conducted By

12/22/2008 _____
Date of Inspection Time of Inspection

Dry Hot Clear Overcast X Cold Raining
Weather Conditions During Inspection (circle all that apply)

_____ _____
Status of Construction

Type of Inspection:

<input type="checkbox"/>	Inspection in Conjunction with Other Permit	Permit Type: <u>Construction</u>
<input type="checkbox"/>	Termination Request	
<input checked="" type="checkbox"/>	Compliance Inspection	
<input type="checkbox"/>	Outreach Inspection	
<input type="checkbox"/>	Discharger/Facility Request	
<input type="checkbox"/>	Follow-up to previous inspection ** Date of Previous Inspection _____	
<input type="checkbox"/>	Other _____	

Storm Water Samples Collected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Yes	No		
Non-Storm Water Discharge or Evidence of Non-Storm Water Discharge Observed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Yes	No		
Separate Inspection Report Written?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Yes	No		
Updated SWPPP on Site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Yes	No		

Control Measures Checklist:

	Yes	No
Areas of Concern:		
Evidence of erosion? (hills, gullies, slips)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Dirt/sediment tracked in streets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Evidence of dewatering?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other _____		
The SWPPP was not reviewed		

Inspection Summary (complete only if no separate inspection report is written):

Significant storm water management issues were observed during the site inspection. These problems included poorly installed and maintained BMPs, poorly protected drain inlets, and the lack of an effective combination of erosion and sediment control BMPs. The site was walked with Mr. Rapini and the onsite problems were identified. A significant amount of erosion was observed throughout the project from the first few rain events and the site discharges almost directly into (blue line) receiving waters. Additional inspections will be required on this construction site.

Signature

Inspection ID: 1580613
 WDID: 5S03C337319
 Entering ID: 354896
 Date Entered: 11/21/2009
 Entered By: J.C.
 Senior Review: SJM



Figure 1: One of the discharge locations



Figure 2: Poor BMPs directly around a outfall location



Figure 3: A portion of the site



Figure 4: Poorly protected down drain inlet



Figure 5: Rilling on the slope



Figure 6: Slump that has deposited sediment in the concrete lined storm water conveyance system

12/22/08



Figure 7: Poor erosion control BMPs



Figure 8: Another view of a portion of the project which requires additional BMPs



Figure 9: Poorly protected drain inlet



Figure 10: Another view of the protected drain inlet



Figure 11: Another view of the protected drain inlet



Figure 12: : Poor erosion control BMPs

12/22/08



Figure 13: : Poor erosion control BMPs



Figure 1: Area on the construction site that has not been effectively stabilized



Figure 2: Erosion on the steep cut slope on the development



Figure 3: Another area that is poorly protected



Figure 4: Lack of an effective combination of erosion and sediment control BMPs



Figure 5: Poorly installed and maintained BMPs



Figure 6: Another poorly installed and maintained BMP

1/13/09



Figure 7: Lack of an effective combination of erosion and sediment control BMPs



Figure 8: Poorly protected drain inlet



Figure 9: Another view of the poorly protected drain inlet



Figure 10: Poorly installed and maintained BMPs

Storm Water Construction General Permit Inspection Report

RWQCB - Region 5S

WDID # 5S03C337319

County: Amador

Del Rapini Const Inc

Pine Grove Bluffs

Owner's Name

Name of Development

28555 Rollins Lake Rd

Developer Contact and Phone NC #

Owner's Street Address

Ridge Road & Hwy 88

Colfax, CA 95713

Site Address

Owner's City, State and Zip code

Pine Grove, CA 95665

Del Rapini 530-389-8002

Site City, State, and Zip Code

Owner's contact person and phone #

1/24/2009

Rich Muhl

Date of Inspection

Time of Inspection

Inspection Conducted By

Dry Hot Clear Overcast Cold Raining

Weather Conditions During Inspection (circle all that apply)

Status of Construction

Type of Inspection: Inspection in Conjunction with Other Permit **Permit Type:** Construction

Termination Request

Compliance Inspection

Outreach Inspection

Discharger/Facility Request

Follow-up to previous inspection ** Date of Previous Inspection _____

Other _____

Control Measures Checklist:

Storm Water Samples Collected? Yes No

Non-Storm Water Discharge or Evidence of Non-Storm Water Discharge Observed? Yes No

Separate Inspection Report Written? Yes No

Updated SWPPP on Site? Yes No

Yes - Evident on inspection *No - Non evident on inspection*

Areas of Concern: Yes No

Evidence of erosion? Yes No

(hills, gullies, slips) Yes No

Dirt/sediment tracked in streets? Yes No

Evidence of dewatering? Yes No

Other _____

The SWPPP was not reviewed

Inspection Summary (complete only if no separate inspection report is written):

During the site inspection staff observed significant storm water management problems on the construction site. These problems included the general lack of an effective combination of sediment and erosion control BMPs in many areas of the project, poorly protected drain inlets and turbid storm water discharge from the construction site at two locations (see inspection photographs). The inspection was conducted early in morning after a significant rain event which occurred the night before the inspection.


Signature

Date Entered: _____

Entered By: _____

Senior Review: SJM



Figure 1: One of the many areas where soil is slumping on the steep slopes on the northern side of the project



Figure 2: Overview of one portion of the project



Figure 3: Overview of another portion of the project



Figure 4: Lack of an effective combination of erosion and sediment control BMPs



Figure 5: Lack of effective BMPs on the slopes and lack of BMPs in a defined drainage channel



Figure 6: Lack of an effective combination of erosion and sediment control BMPs

1/24/09



Figure 7: Lack of an effective combination of erosion and sediment control BMPs



Figure 8: Partially protected slope Note: the turbid discharge leaving the site which flows directly under the roadway and into the creek



Figure 9: Poorly protected slopes



Figure 10: Lack of an effective combination of erosion and sediment control BMPs on a portion of the project



Figure 11: Lack of an effective combination of erosion and sediment control BMPs on another portion of the project



Figure 12: Lack of an effective combination of erosion and sediment control BMPs on still another portion of the project

1/24/09



Figure 13: Inadequate BMPs at a location where storm water flows from the site into a down drain which directly flows under the roadway and into the creek



Figure 14: Inadequate BMPs at another one of the discharge areas



Figure 15: Storm water discharge from the site entering the culvert which flows under the highway and directly into the creek



Figure 16: Storm water flowing on the site along Ridge Road



Figure 17: Poorly protected drain inlet along Ridge Road



Figure 18: Another view of the poorly protected drain inlet



Figure 19: Another view of the same area



Figure 20: Pondered storm water around another drain inlet



Figure 21: Still another view of the same area



Figure 22: Lack of an effective combination of erosion and sediment control BMPs on another portion of the project



Figure 23: Storm water from the site mixing in the creek at one of the discharge locations Note: the storm water from the site is on the left hand side of the photograph

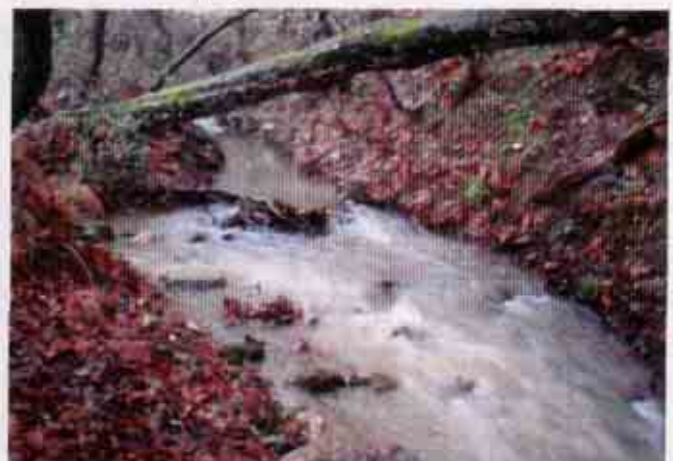


Figure 24: Storm water from the site mixing in the creek at another discharge location Note: the storm water from the site is on the left hand side of the photograph

1/24/09



Figure 25: Another view of the same area



Linda S. Adams
Secretary for
Environmental
Protection

California Regional Water Quality Control Board Central Valley Region

Karl E. Longley, ScD, P.E., Chair

11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
Phone (916) 464-3291 • FAX (916) 464-4645
<http://www.waterboards.ca.gov/centralvalley>



Arnold
Schwarzenegger
Governor

2 February 2009

Mr. Del Rapini
Del Rapini Construction
28555 Rollins Lake Road
Colfax, CA 95713

CERTIFIED MAIL
7005 3110 0002 7905 6495

NOTICE OF VIOLATION, CONSTRUCTION STORM WATER GENERAL PERMIT NO. CAS000002, DEL RAPINI CONSTRUCTION INC., W DID NO. 5S03C337319, AMADOR COUNTY

On 24 January 2009, Central Valley Water Board staff inspected your construction project located close to the intersection of Ridge Road and Highway 88 in Amador County to evaluate compliance with the NPDES General Permit for Storm Water Discharges Associated with Construction Activities, NPDES No. CAS000002, Order No. 99-08-DWQ (General Permit). You are responsible for complying with the General Permit.

During the inspection, Water Board staff noted significant storm water management issues at your property. Your site lacked an effective combination of erosion and sediment control BMPs; the drain inlets were not adequately protected, and sediment-laden storm water was discharging from your site. Storm water from the site ultimately discharges onto Jackson Creek.

You are in violation of Section A.6 of the General Permit which requires that, *"At a minimum, the discharger/operator must implement an effective combination of erosion and sediment control on all disturbed areas during the rainy season."* It is the rainy season, and your construction site does not have an effective combination of erosion and sediment control BMPs (see inspection photographs).

The discharge of sediment-laden water from your site is a violation of Discharge Prohibition A.3 of the General Permit, which states, *"Storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance."* Sediment-laden storm water from your construction site threatened to cause a condition of pollution and/or nuisance in Jackson Creek, therefore, is a violation of Prohibition A. 3. (See photographs 8, 15, 23-25).

Response

In response to this Notice of Violation, You must immediately do the following:

- Immediately install and maintain BMPs throughout the project
- Ensure that all BMPs installed on the construction site meet the Best Conventional Pollutant Control Technology/ Best Available Technology Economically Achievable (BAT/ BCT) standard required by the General Permit.

California Environmental Protection Agency



In order to demonstrate compliance with the General Permit, we request that you submit the following to the Regional Board by **16 February 2009**:

- A written explanation of how the BMPs will be installed and maintained throughout the construction site.
- An updated SWPPP map showing all of the BMPs installed on the project.
- A copy of the Storm Water Pollution Prevention Plan (SWPPP).
- All inspection reports from 10/15/08 to present

Send the information to:

Attn: Richard Muhl
Central Valley Regional Water Board
11020 Sun Center Drive # 200
Rancho Cordova, CA 95670

This violation of the General Permit has exposed you to possible further enforcement action. Under Section 13385 of the CWC, the Regional Water Board can impose administrative civil liabilities for violations of CWC Section 13376. The maximum administrative civil liability for each day of violation is ten thousand dollars (\$10,000) and ten dollars per gallon of polluted storm water discharged in excess of 1,000 gallons.

If you have any questions contact Rich Muhl at (916) 464-4749.



SUE MCCONNELL
Chief, Storm Water Compliance and Enforcement Unit

Enclosures: Water Board Inspection reports
Site photographs

cc w/out enc: Eugene Bromley, U.S. EPA, Region IX, San Francisco
Larry Peterson, Amador County Director of Public Works, Jackson
Bobby Wurm, Amador County Public Works, Jackson

Storm Water Construction General Permit Inspection Report

RWQCB - Region 5S

WDID # 5S03C337319

County: Amador

Del Rapini Const Inc

Owner's Name

Pine Grove Bluffs

Name of Development

28555 Rollins Lake Rd

Owner's Street Address

Developer Contact and Phone N#

Colfax, CA 95713

Owner's City, State and Zip code

Ridge Road & Hwy 88

Site Address

Del Rapini 530-389-8002

Owner's contact person and phone #

Pine Grove, CA 95665

Site City, State, and Zip Code

Rich Muhl

Inspection Conducted By

1/24/2009

Date of Inspection

Time of Inspection

Dry Hot Clear Overcast Cold Raining

Weather Conditions During Inspection (circle all that apply)

Status of Construction

Type of Inspection: Inspection in Conjunction with Other Permit Permit Type: Construction
 Termination Request
 Compliance Inspection
 Outreach Inspection
 Discharger/Facility Request
 Follow-up to previous inspection ** Date of Previous Inspection
 Other

Storm Water Samples Collected? Yes No

Non-Storm Water Discharge or Evidence of Non-Storm Water Discharge Observed? Yes No

Separate Inspection Report Written? Yes No

Updated SWPPP on Site? Yes No

Control Measures Checklist:

Yes - Evident on inspection	No - Non evident on inspection
Areas of Concern:	
Evidence of erosion? (hills, gullies, slips)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Dirt/sediment tracked in streets?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Evidence of dewatering?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other	<u></u>
The SWPPP was not reviewed	

Inspection Summary (complete only if no separate inspection report is written):

During the site inspection staff observed significant storm water management problems on the construction site. These problems included the general lack of an effective combination of sediment and erosion control BMPs in many areas of the project, poorly protected drain inlets and turbid storm water discharge from the construction site at two locations (see inspection photographs). The inspection was conducted early in morning after a significant rain event which occurred the night before the inspection.


Signature

Date Entered: _____

Entered By: _____

Senior Review: SAM



Figure 1: One of the many areas where soil is slumping on the steep slopes on the northern side of the project



Figure 2: Overview of one portion of the project



Figure 3: Overview of another portion of the project



Figure 4: Lack of an effective combination of erosion and sediment control BMPs



Figure 5: Lack of effective BMPs on the slopes and lack of BMPs in a defined drainage channel



Figure 6: Lack of an effective combination of erosion and sediment control BMPs

1/24/09



Figure 7: Lack of an effective combination of erosion and sediment control BMPs



Figure 8: Partially protected slope Note: the turbid discharge leaving the site which flows directly under the roadway and into the creek



Figure 9: Poorly protected slopes



Figure 10: Lack of an effective combination of erosion and sediment control BMPs on a portion of the project

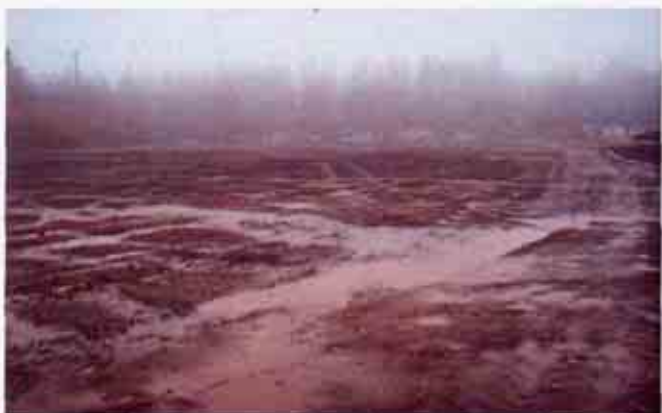


Figure 11: Lack of an effective combination of erosion and sediment control BMPs on another portion of the project



Figure 12: Lack of an effective combination of erosion and sediment control BMPs on still another portion of the project

1/24/09



Figure 13: Inadequate BMPs at a location where storm water flows from the site into a down drain which directly flows under the roadway and into the creek



Figure 14: Inadequate BMPs at another one of the discharge areas



Figure 15: Storm water discharge from the site entering the culvert which flows under the highway and directly into the creek



Figure 16: Storm water flowing on the site along Ridge Road



Figure 17: Poorly protected drain inlet along Ridge Road



Figure 18: Another view of the poorly protected drain inlet

1/24/09



Figure 19: Another view of the same area



Figure 20: Pondered storm water around another drain inlet



Figure 21: Still another view of the same area



Figure 22: Lack of an effective combination of erosion and sediment control BMPs on another portion of the project



Figure 23: Storm water from the site mixing in the creek at one of the discharge locations. Note: the storm water from the site is on the left hand side of the photograph



Figure 24: Storm water from the site mixing in the creek at another discharge location. Note: the storm water from the site is on the left hand side of the photograph

1/24/09



Figure 25: Another view of the same area

State of California
Department of Fish and Game

Memorandum

Date: 7/7/09

To: Richard Muhl
California Regional Water Quality Control Board
11020 Sun Center Dr. Ste. # 200
Rancho Cordova, CA 95670

From: Carol Oz, Staff Environmental Scientist
CA Department of Fish and Game-Region 2
1701 Nimbus Rd.
Rancho Cordova, CA 95670

Carol Oz

Subject: Sediment Pollution in Jackson Creek, Amador County

On 6/2/09 I received information from you regarding a storm water release from a construction site (Del Rapini Construction, Inc.) near Hwy 88 and Ridge Rd. in Amador County, which resulted in a turbid water discharge to Jackson Creek. The discharge occurred for approximately 24 hours on and around 2/17/09. I reviewed the information you provided in the 2/17/09 "Storm Water Construction General Permit Inspection Report" (Report) including photographs and water monitoring results collected during the incident. This memo includes my evaluation of the information you provided and my conclusions regarding deleterious impact to natural resources caused by anthropogenic turbidity in the stream.

Per the Report, turbidity measured at the discharge construction site outfall to Jackson Creek was 979 Nephelometric Turbidity Units (NTU); background measurement of turbidity in the creek upstream of the discharge location was 30 NTU. A photograph (Figure 3) in the Report shows two water samples collected at the site. The sample collected from the construction site outfall in Jackson Creek was opaque brown in color, the same color as water on the construction site, while the Jackson Creek background water sample (Figure 2) was clear. Photographs show similar opaque brown sediment-laden stormwater on the construction site and flowing off the site into the clear waters of Jackson Creek (Figures 1-4).

DELETERIOUS EFFECT OF TURBIDITY ON AQUATIC LIFE

Turbidity is a condition of water resulting from the presence of suspended particles (Welch 1952), such as clay, silt, finely divided organic matter, bacteria, plankton, and other microscopic organisms. As an expression of the optical property of water, which causes light to be scattered and absorbed rather than transmitted in straight lines through the sample, turbidity is commonly measured optically with the use of a special light meter. Data is commonly reported in NTUs. It is natural to find silt and sediment in water but problems result when excess amounts are introduced into the water. Excess

amounts can harmfully affect water quality, an essential component of fish habitat. Excessive turbidity is deleterious to fish and aquatic resources in several ways. The most obvious effect is that it reduces light penetration into the water and, therefore, reduces photosynthesis by phytoplankton organisms, attached algae, and submersed vegetation which are essential for food chain development and support. Additionally, excessive turbidity may inhibit normal feeding behavior for sight feeders, such as trout and other freshwater species of fish and nanoplankton.

Excessive turbidity can cause gill irritation, increase mucous secretion, and respiratory and physiologic distress. Death of fish and aquatic invertebrates exposed to "inert" particulates, which cause increased turbidity, is not usually the result of classic toxic response, but rather the effect of physical abrasion, gill clogging and ultimately suffocation. Natural weathered sediments tend to clog spaces between sensitive gill tissue, while un-weathered mineral solids, coat the actual gill filaments, and thus impede water contact and proper gas exchange, resulting in asphyxiation (Sherk, 1971). Exposure to suspended particles can also dislodge insects and algal populations sufficiently to inhibit primary and secondary productivity to the detriment of the stream's carrying capacity (Iwamoto, 1978, Gammon, 1970).

Buck (1956) investigated several farm ponds, hatchery ponds, and reservoirs over a 2-year period in which he measured fish production. He observed that the maximum production of 161.7 lb/acre occurred in farm ponds when the average turbidity was less than 25 NTU; between 25 and 100 NTU fish yield dropped 41.7 percent to 94 lb/acre, and in muddy ponds, where turbidity exceeded 100 NTU, the yield was only 29.3 lb/acre or 18.2 percent of clear ponds.

Exposure to suspended particles can also dislodge insects and algal populations sufficiently to inhibit primary and secondary productivity to the detriment of the stream's carrying capacity (Iwamoto, 1978, Gammon, 1970). While a sand or mud bottom may provide limited habitat for burrowing invertebrates, burrowers are not as available to salmonids as are the preferred forms such as mayflies, caddisflies, and stoneflies that normally inhabit clean, gravel habitat.

Among the biological effects due to suspended sediments are shading, abrasion, smothering, and reduced feeding due to increased turbidity (Berry, et al, 2003). Suspended sediment can be abrasive and may damage the fine gills and mouthparts of macroinvertebrates. It may also make it harder for predatory macroinvertebrates to see their food. Macroinvertebrates that feed on algae may have to spend more time feeding because fine sediment sticks to the algae, reducing nutritional value. Increased sedimentation can disrupt the food web by influencing the distribution and abundance of fish, macroinvertebrates, plants and algae (Till and Trayler, 2000).

Suspended particulates also add significantly to the amount of solar radiation which is absorbed by the water, and thus increases water temperature to the detriment of oxygen dynamics, and fish respiration. Finally, when suspended particles settle the resulting sedimentation is detrimental to benthic and other aquatic life (EPA 1986).

Modification of streambed habitat by deposition of fine sand, silt, or clay-sized particles poses one of the most serious threats to the survival of many salmon and trout species (Tarzwell and Gauvin, 1953; McNeil and Ahnell, 1964). The streambed is the incubator for developing eggs; it provides vital cover or refuge for developing fry, and provides habitat for the bulk of the food organisms required by young salmon, trout, and other fish for survival (Crouse et al, 1981, Phillips, 1971, Wolf, 1950). The success of this

interdependent relationship is directly related to the presence of "clean", suitably-sized streambed materials (McNeil and Ahnell, 1964).

The mainstay of the diet of salmonid fishes, such as trout, is composed of insects such as stoneflies, mayflies and caddisflies. These insects develop on the clean surfaces of large gravels and cobbles, and depend to a large degree on turbulent water around these rocky surfaces to bring them food. The deposition of sands, silts, or clays, around and on top of streambed rubble, reduces the area upon which aquatic insects develop (Phillips, 1971), reducing the feed available for downstream salmonids. Other aquatic species can be equally and adversely affected by the deposition of fine particulates. Salamanders, amphibians, and a host of insect species can become physically entrapped, along with fish fry and incubating eggs, beneath cemented (fine sediments settle into gravel and tend to cement the gravel together) gravels and rocks (Branson and Batch, 1972).

RESOURCES AT RISK

Jackson Creek originates in Amador County and flows through the city of Jackson to Lake Amador west of Hwy 49. From Lake Amador the creek flows into Dry Creek, thence the Mokelumne River. Beneficial uses of this creek include warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm and cold fish migration habitat, warm spawning habitat, and wildlife habitat. Species found in this water system include Pike minnow, Green sunfish, Brown trout, Rainbow trout, Pacific chorus frog, Bullfrog, Crayfish, Garter snake, River otter, and benthic macroinvertebrates. Sensitive species found in the creek ecosystem include state Species of Special Concern: Foothill yellow-legged frog (*Rana boylei*), Western Pond turtle (*Clemmys marmorata*). Habitat exists downstream of Hwy 49 that would support the Federally Threatened California red-legged frog (*Rana aurora draytonii*).

CONCLUSIONS

It is my opinion that the discharge of silt and sediment to this stream was deleterious to aquatic life in Jackson Creek. The turbidity measurement of the construction site discharge water in the creek was almost 33 times higher than the normal background water turbidity. Cloudiness and turbidity of waters that would otherwise have been clear would have deleterious impacts on fish and aquatic macroinvertebrates such as clogging and abrasion of the gills, behavioral changes in fish, including movement and migration; decreased resistance to disease; impairment of feeding; poor egg and fry development, and; fatal impacts to small aquatic animals that are food for fish. Prior to this pollution incident, the stream would have provided habitat for benthic macroinvertebrates. Turbidity and potential deposition of sediment in the stream at and below the construction site likely displaced macroinvertebrates and would result in a shift in the aquatic community, changing the benthic macroinvertebrate composition to fewer sediment intolerant mayfly, caddisfly, and stonefly species. Reduction in macroinvertebrate abundance and diversity reduce food supply for downstream fish species such as trout.

Please contact me at (916) 358-2918 if you have any questions.

cc: Kent Smith-DFG Habitat Conservation Program Manager

REFERENCES AND LITERATURE CITED:

- Berry, Rubinstein, Melzian and Hill. 2003. The Biological Effects of Suspended and Bedded Sediment (SABS) in Aquatic Systems: A Review (Internal Report). USEPA.
- Branson, B.A., and D.L. Batch. 1972. Effects of strip mining on small stream fishes in east-central Kentucky, USA. *Proc. Biol. Soc., Washington* 84(50):507-517.
- Buck, D.H. 1956. Effects of turbidity on fish and fishing. Oklahoma Fisheries Research Laboratory, Report Number 56. Norman, Oklahoma, 62pp.
- Crouse, M.R., C.A. Callahan, K.W. Malueg, and S.E. Dominguez. 1981. Effects of fine sediments on growth of juvenile coho salmon in laboratory streams. *Trans. Am. Fish Society*. 110:281-286.
- Environmental Protection Agency. 1986. Federal Water Pollution Control Administration. Water Quality Criteria, Report of the National Technical Advisory Committee to the Secretary of the Interior. US Government Printing Office, Washington DC, 20402.
- Iwamoto, Robert N., Ernest O. Salo, Mary Ann Madej, R. Lynn McCormas. 1978. Sediment and water quality: a review of the literature including a suggested approach for water quality criteria. EPA 910/9-78-048.
- McNeil, W.J. and W.H. Ahnell. 1964. Success of pink salmon spawning relative to size of spawning bed materials. U.S. Fish and Wildlife Service, Special Science Report-Fish. No. 490. 15pp.
- Phillips, R.W. 1971. Effects of sediment on the gravel environment and fish production. Pp. 64-74. In: J.T. Drygier and J.D. Hall (directors), Proceedings of a symposium. Forest land uses and stream environment. October 19-21, 1970. Oregon State University, Corvallis, OR.
- Sherk, J.A., Jr. 1971. The effects of suspended and deposited sediments on the estuarine organisms, literature summary and research needs. *Nat. Res. Inst., Univ. Maryland, Chesapeake Biol. Lab., Control No. 443, Solomons, Maryland.* 73 pp.
- Tarzwell, C.M., and Arden Gauvin. 1953. Some important biological effects of pollution often disregarded in stream surveys. *Purdue Univ. Eng. Bull. Proc. Of the 18th Industrial Waste Conference. U.S./Dept. of Health, Education and Welfare, Public Health Service, Environmental Health Center, Cincinnati, OH.* 38pp.
- Till, B. and Trayler, K. 2000. Sediment in Streams in Water Notes. WN17. Water and Rivers Commission, Western Australia.
- Waters, Thomas F. 1995. Sediment in Streams: Sources, Biological Effects and Control. American Fisheries Society Monograph 7. Bethesda, Maryland.
- Welch, P.S. 1952. Limnology, Second Edition, McGraw-Hill Book company, Inc. 538pp.
- Wolf, P. 1950. American problems and practice, I. Salmon which disappeared. *Salmon and Trout Magazine*, No. 130, pp. 201-202.



California Regional Water Quality Control Board Central Valley Region

Karl E. Longley, ScD, P.E., Chair



Linda S. Adams
Secretary for
Environmental
Protection

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Phone (916) 464-3291 • FAX (916) 464-4645
<http://www.waterboards.ca.gov/centralvalley>

Arnold
Schwarzenegger
Governor

19 February 2009

Mr. Del Rapini
Del Rapini Construction
28555 Rollins Lake Road
Colfax, CA 95713

CERTIFIED MAIL
7008 1140 0002 8805 9450

SECOND NOTICE OF VIOLATION, CONSTRUCTION STORM WATER GENERAL PERMIT NO. CAS000002, DEL RAPINI CONSTRUCTION INC, W DID NO. 5S03C337319, AMADOR COUNTY

On 2 February 2009, you were issued a Notice of Violation (NOV) for violating the NPDES General Permit for Storm Water Discharges Associated with Construction Activities, NPDES No. CAS000002, Order No. 99-08-DWQ (General Permit). This was based on a 24 January 2009 inspection of your construction project located close to the intersection of Ridge Road and Highway 88 in Amador County. During the inspection, staff noted that your site lacked an effective combination of erosion and sediment control BMPs; the drain inlets were not adequately protected, and sediment-laden storm water was discharging from your site.

On 17 February 2009, Central Valley Water Board staff inspected your construction project again to evaluate compliance with General Permit and found similar problems as before. Staff noted that your site still lacked an effective combination of erosion and sediment control BMP and sediment-laden storm water was discharging from your site. Storm water from the site ultimately discharges onto Jackson Creek.

Staff took field measurements of turbidity in Jackson Creek at two locations, upstream of discharges from your site and at the location of the downstream discharge from your site. The upstream turbidity was measured to be 30 NTUs, and turbidity at the western discharge location was measured to be 979 NTUs.

You continue to be in violation of Section A.6 of the General Permit which requires that, "At a minimum, the discharger/operator must implement an effective combination of erosion and sediment control on all disturbed areas during the rainy season." It is the rainy season, and your construction site does not have an effective combination of erosion and sediment control BMPs (see inspection photographs).

The discharge of sediment-laden water from your site is a violation of Discharge Prohibition A.3 of the General Permit, which states, "Storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance." Sediment-laden storm water discharges from your construction site threatened to cause a condition of pollution and/or nuisance in Jackson Creek; therefore, you are in violation of Prohibition A. 3 (see photographs 11, 17, 18).

California Environmental Protection Agency



Response

In response to this Notice of Violation, you must immediately do the following:

- Immediately install and maintain BMPs throughout the project
- Ensure that all BMPs installed on the construction site meet the Best Conventional Pollutant Control Technology/ Best Available Technology Economically Achievable (BAT/ BCT) standard required by the General Permit.

In order to demonstrate compliance with the General Permit, we request that you submit the following to the Regional Board by **2 March 2009**:

- A written explanation of how the BMPs will be installed and maintained throughout the construction site.
- An updated SWPPP map showing all of the BMPs installed on the project.
- A copy of the full Storm Water Pollution Prevention Plan (SWPPP). We need to receive the entire binder prepared for the construction site. Include any amendments to the SWPPP.

Send the information to:

Attn: Richard Muhl
Central Valley Regional Water Board
11020 Sun Center Drive # 200
Rancho Cordova, CA 95670

This continued violation of the General Permit has exposed you to possible further enforcement action. Under Section 13385 of the CWC, the Regional Water Board can impose administrative civil liabilities for violations of CWC Section 13376. The maximum administrative civil liability for each day of violation is ten thousand dollars (\$10,000) and ten dollars per gallon of polluted storm water discharged in excess of 1,000 gallons.

If you have any questions contact Rich Muhl at (916) 464-4749.



SUE MCCONNELL
Chief, Storm Water Compliance and Enforcement Unit

Enclosures: Water Board Inspection reports
Site photographs

cc w/out enc: Eugene Bromley, U.S. EPA, Region IX, San Francisco
Marissa Nishikawa, Caltrans District 10, Stockton
Larry Peterson, Amador County Director of Public Works, Jackson
Bobby Wurm, Amador County Public Works, Jackson

Storm Water Construction General Permit Inspection Report

RWQCB - Region 5S

WDID # 5S03C337319

County: Amador

Del Rapini Const Inc

Owner's Name

Pine Grove Bluffs

Name of Development

28555 Rollins Lake Rd

Owner's Street Address

Developer Contact and Phone N#

Colfax, CA 95713

Owner's City, State and Zip code

Ridge Road & Hwy 88

Site Address

Del Rapini 530-389-8002

Owner's contact person and phone #

Pine Grove, CA 95665

Site City, State, and Zip Code

Rich Muhl

Inspection Conducted By

2/17/2009

Date of Inspection

Time of Inspection

Dry **Hot** **Clear** **Overcast** **Cold** **Raining** **X**

Weather Conditions During Inspection (circle all that apply)

Status of Construction

Type of Inspection:

Inspection in Conjunction with Other Permit

Permit Type: Construction

Termination Request

X Compliance Inspection

Outreach Inspection

Discharger/Facility Request

Follow-up to previous inspection ** Date of Previous Inspection

Other

Storm Water Samples Collected?

X

Yes

No

Non-Storm Water Discharge or Evidence of Non-Storm Water Discharge Observed?

Yes

X

Separate Inspection Report Written?

Yes

X

Updated SWPPP on Site?

X

Yes

No

Control Measures Checklist:

Yes - Evident on inspection *No - Non evident on inspection*

Areas of Concern:

Evidence of erosion?

X

Yes

No

(hills, gullies, slips)

Dirt/sediment tracked in streets?

X

Evidence of dewatering?

X

Other

The SWPPP was not reviewed

Inspection Summary (complete only if no separate inspection report is written):

During the site inspection staff observed significant storm water management problems on the construction site. These problems included the general lack of an effective combination of sediment and erosion control BMPs in many areas of the project, poorly protected drain inlets and turbid storm water discharge from the construction site at two locations (see inspection photographs). Similar problems were observed during the last inspection on 1/24/09. The inspection was conducted during a significant rain event. The discharge at from the western culvert was sampled and discharge upstream of the eastern culvert was sampled for a baseline reading in the creek. The samples were then field tested using a Hach 2100P turbidimeter and the upstream reading in Jackson Creek was 30 NTUs and the western discharge location was 979 NTUs (see photograph # 18).

Signature

Date Entered: _____

Entered By: _____

Senior Review: SYM



Figure 1: Overview of site, showing inadequate storm water BMPs. Storm water sheet flows to conveyance channels like that shown in Figure 2.



Figure 2: One of the channels directing storm water to a culvert that discharges under Highway 88, directly into Jackson Creek.



Figure 3: Another view of a portion of the project. Note the lack of BMPs.



Figure 4: Another portion of the project.



Figure 5: Another view of the graded area.



Figure 6: Turbid storm water discharging into the culvert.

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Figure 7: Turbid storm water sheet flowing to a culvert which conveys storm water down slope.



Figure 8: Another portion of the project without effective storm water management BMPs.



Figure 9: Another view of a portion of the flat pad without effective BMPs.



Figure 10: Turbid discharge from the project flowing from the eastern culvert.



Figure 11: Turbid discharge from the eastern culvert mixing with clear flow in Jackson Creek.



Figure 12: Partially stabilized slope on the western side of the project.

2/17/09



Figure 13: Discharge from the site flowing along the Highway 88 right of way.



Figure 14: Discharge from the site cutting into the bank on the western side of the project.



Figure 15: Turbid storm water from the project flowing down to the discharge location.



Figure 16: Very turbid storm water from the site discharging into the western culvert.



Figure 17: Storm water from the western culvert mixing in Jackson Creek. The water in Jackson Creek was already turbid from the upstream discharge from the eastern culvert of the project shown in Figure 10



Figure 18: Bottles with water samples taken from Jackson Creek. The larger one was taken at the western culvert with a turbidity of over 900 NTUs. The smaller one was taken upstream of site, with a turbidity of 30 NTUs.



Figure 1: Lack of an effective combination of erosion and sediment control BMPs



Figure 2: Lack of an effective combination of erosion and sediment control BMPs



Figure 3: Storm water from the site flowing in a channel adjacent to highway 88 right-of-way



Figure 4: Turbid storm water discharging into the eastern culvert



Figure 5: Another view of turbid storm water discharging into the eastern culvert which flows into Jackson Creek



Figure 6: Looking at the western discharge location in the distance

2/22/09



Figure 7: Storm water in the Caltrans right-of-way flowing to the western discharge location



Figure 8: Turbid storm water flowing down to the western discharge location



Figure 9: Lack of an effective combination of erosion and sediment control BMPs on the slope adjacent to Highway 88



Figure 10: Lack of effective BMPs upslope of the western discharge location. Note: the large rill that is forming at the top of the slope



Figure 11: Lack of effective BMPs on top of the slope above the western discharge location



Figure 12: Area where concrete drain along the slope discharges into the area that flows down to the western discharge location. Note: the lack of BMPs other than rip-rap

2/22/09



Figure 13: Lack of an effective combination of erosion and sediment control BMPs



Figure 14: Lack of an effective combination of erosion and sediment control BMPs



Figure 15: Lack of an effective combination of erosion and sediment control BMPs



Figure 16: Lack of an effective combination of erosion and sediment control BMPs Note: the poorly stabilized stockpile



Figure 17: Turbid storm water in the concrete channel that runs along the slope on the northern side of the project



Figure 18: Lack of an effective combination of erosion and sediment control BMPs



Figure 19: Lack of an effective combination of erosion and sediment control BMPs



Figure 20: Lack of an effective combination of erosion and sediment control BMPs



Figure 21: Lack of an effective combination of erosion and sediment control BMPs Note: the turbid storm water ponded adjacent to one of the discharge locations



Figure 22: Turbid storm water flowing on the site Note: the lack of effective storm water management BMPs



Figure 23: Turbid storm water ponded onsite just prior to discharge into the eastern culvert



Figure 24: Lack of an effective combination of erosion and sediment control BMPs



Figure 25: Lack of an effective combination of erosion and sediment control BMPs Note: the only BMPs observed were a few small fiber rolls



Figure 26: Lack of an effective combination of erosion and sediment control BMPs around one of the discharge locations



Figure 27: Lack of an effective combination of erosion and sediment control BMPs



Figure 28: Lack of an effective combination of erosion and sediment control BMPs



Figure 29: Lack of an effective combination of erosion and sediment control BMPs



Figure 30: Lack of an effective combination of erosion and sediment control BMPs



Figure 31: Lack of an effective combination of erosion and sediment control BMPs



Figure 32: Lack of an effective combination of erosion and sediment control BMPs



Figure 33: Turbid storm water discharging from the project



Figure 34: Turbid storm water from the site flowing into Jackson Creek



Figure 35: Turbid storm water from the site mixing with clean storm water in Jackson Creek



Figure 36: Turbid storm water from the site mixing with clean storm water in Jackson Creek

Storm Water Construction General Permit Inspection Report

RWQCB - Region 5S

WDID # 5S03C337319

County: Amador

Del Rapini Const Inc
Owner's Name

Pine Grove Bluffs
Name of Development

28555 Rollins Lake Rd
Owner's Street Address

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Ridge Road & Hwy 88
Site Address

Del Rapini 530-389-8002
Owner's contact person and phone #

Pine Grove, CA 95665
Site City, State, and Zip Code

Rich Muhl
Inspection Conducted By

2/23/2009 Samples taken 7:20 AM
Date of Inspection Time of Inspection

Dry Hot Clear Overcast X Cold Raining X
Weather Conditions During Inspection (circle all that apply)

Status of Construction

Type of Inspection: Inspection in Conjunction with Other Permit Permit Type: Construction
 Termination Request
 Compliance Inspection
 Outreach Inspection
 Discharger/Facility Request
 Follow-up to previous inspection ** Date of Previous Inspection
 Other

Storm Water Samples Collected? Yes No

Non-Storm Water Discharge or Evidence of Non-Storm Water Discharge Observed? Yes No

Separate Inspection Report Written? Yes No

Updated SWPPP on Site? Yes No

Control Measures Checklist:

	Yes - Evident on inspection	No - Non evident on inspection
Areas of Concern:	Yes	No
Evidence of erosion? (hills, gullies, slips)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Dirt/sediment tracked in streets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Evidence of dewatering?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other <u></u>		
The SWPPP was not reviewed		

Inspection Summary (complete only if no separate inspection report is written):

During the site inspection staff observed significant storm water management problems on the construction site. The inspection was conducted just after a significant rain event that had occurred the previous day and throughout the night. Light rain was falling during the site inspection. The entire site was again walked and staff observed no significant improvement to the BMPs since the site inspection the previous day. Staff again observed a turbid storm water discharge from both outfall areas. The western outfall location was sampled and flow was measured in the discharge channel. Using a field turbidity meter the turbidity was 384 NTUs at the outfall location. Jackson Creek was also sampled upstream of the construction site using a field turbidity meter and the turbidity level was 30 NTUs (see inspection photographs)

[Signature]
Signature
Inspector ID: 1634394 Enforcement ID: 362788
Violation ID(A): 811389
Violation ID (B): 811389

Date Entered: 3/20/2009
Entered By: JIC
Senior Review: LM



Figure 1: Turbid storm water discharging from the construction site



Figure 2: View of the western discharge location



Figure 3: Another view of the western discharge location



Figure 4: Turbid storm water flowing into the western culvert which discharges into Jackson Creek



Figure 5: Sample location



Figure 6: Area above the western discharge location where staff observed no effective storm water management BMPs

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Figure 7: Area directly below the area shown in Figure 6



Figure 8: Same area Note: the general lack of BMPs on the slope



Figure 9: Area above the discharge location in Figure 8 Note: the lack of erosion control BMPs



Figure 10: View of the same area



Figure 11: General lack of BMPs above the area in Figure 9



Figure 12: Lack of an effective combination of erosion and sediment control BMPs



Figure 13: Lack of an effective combination of erosion and sediment control BMPs



Figure 14: Poorly stabilized stockpile



Figure 15: Lack of an effective combination of erosion and sediment control BMPs



Figure 16: Lack of an effective combination of erosion and sediment control BMPs prior to one of the discharge locations



Figure 17: Fiber rolls installed prior to turbid stormwater discharge into the down drain



Figure 18: Another view of the fiber rolls installed prior to discharge into the down drain



Figure 19: Poorly protected slope



Figure 20: Lack of an effective combination of erosion and sediment control BMPs Note: the discharge into the down drain and the lack of effective BMPs prior to the down drain



Figure 21: Lack of an effective combination of erosion and sediment control BMPs



Figure 22: Turbid storm water ponded onsite



Figure 23: Another view of the same area Note: the general lack of erosion control BMPs



Figure 24: Lack of an effective combination of erosion and sediment control BMPs

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Figure 25: Lack of an effective combination of erosion and sediment control BMPs Note: the only BMP installed is a fiber roll



Figure 26: Another view of the same area Note: the lack of erosion control BMPs



Figure 27: Light application of straw mulch along Ridge Road



Figure 28: Sediment laden storm water flowing down to the drain inlet adjacent to Ridge Road



Figure 29: Turbid storm water flowing into the drain inlet along Ridge Road



Figure 30: Another view of the drain inlet along Ridge Road

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Figure 31: Another view of the area just above the drain inlet on Ridge Road



Figure 32: Lack of an effective combination of erosion and sediment control BMPs