FOR CONTRACT NO.: 04-0G4014

INFORMATION HANDOUT

WATER QUALITY INORMATION HANDOUT

ROUTE: 04-SCl-9-4.6

WATER QUALITY INFORMATION HANDOUT

CONTRACT NO. 04-0G4010

04-San Mateo-9-PM 4.64

Reconstruct Failed Fill Slope

California Department of Transportation
District 4
Water Quality Program
111 Grand Avenue
Oakland, California 94612

October 2009

1. Project Vicinity

INDEX OF PLANS

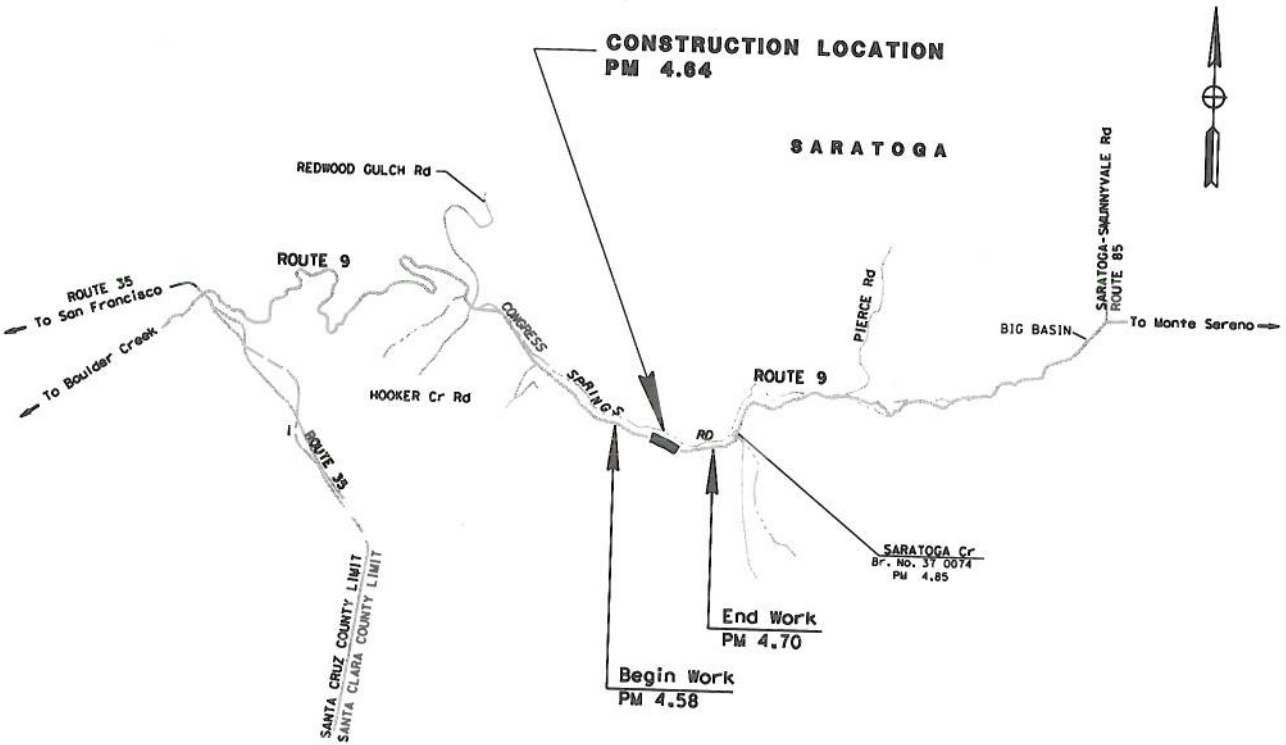
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

IN SANTA CLARA COUNTY
NEAR SARATOGA AT PM 4.64

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SCI	9	4.64		



DESIGN ENGINEER	PROJECT MANAGER
UDAYA SHANKAR	JAY MADHAVARAST

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

PROJECT ENGINEER REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LAST REVISION 03-22-10 | DATE PLOTTED => #DATE | TIME PLOTTED => #TIME

BORDER LAST REVISED 8/1/2008 | CALTRANS WEB SITE IS: HTTP//WWW.DOT.CA.GOV/ | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => @USER DGN FILE => @REQUEST

CONTRACT No. CU 06222 EA 0G4010

2. Risk Assessment

	A	B	C
1	**Sediment Risk Factor Worksheet**		**Entry**
2	**A) R Factor**		
3	Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.		
4	http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm		
5	**R Factor Value**		48.25
6	**B) K Factor (weighted average, by area, for all site soils)**		
7	The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted.		
8	Site-specific K factor guidance		
9	**K Factor Value**		0.26
10	**C) LS Factor (weighted average, by area, for all slopes)**		
11	The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.		
12	LS Table		
13	**LS Factor Value**		12.75
14			
15	**Watershed Erosion Estimate (=RxKxLS) in tons/acre**	159.94875	
16	**Site Sediment Risk Factor**	**High**	
17	Low Sediment Risk: < 15 tons/acre		
18	Medium Sediment Risk: >=15 and <75 tons/acre		
19	High Sediment Risk: >= 75 tons/acre		
20			

Receiving Water (RW) Risk Factor Worksheet	Entry	Score
A. Watershed Characteristics	yes/no	
A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment**? For help with impaired waterbodies please check the attached worksheet or visit the link below: 2006 Approved Sediment-impared WBs Worksheet http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml **OR** A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? http://www.ice.ucdavis.edu/geowbs/asp/wbguse.asp	Yes	High

Combined Risk Level Matrix

Receiving Water Risk	Sediment Risk: Low	Sediment Risk: Medium	Sediment Risk: High
Low	Level 1	Level 2	Level 2
High	Level 2	Level 2	Level 3

Project Sediment Risk: High

Project RW Risk: High

Project Combined Risk: Level 3

3. Information of Construction Site (Temporary) BMPs

Description of Construction Site (Temporary) BMPs

This project requires implementation of a Storm Water Pollution Prevention Plan (SWPPP). Potential water quality impacts will be reduced to the Maximum Extent Practicable through proper implementation of the SWPPP and inclusion of Standard Special Provisions (SSPs) for Temporary Construction Site Best Management Practices (BMPs) into the project.

Construction Site BMPs will be incorporated into the Construction Contract by way of the Storm Water Pollution Prevention Plan SSP 07-345 and will include consideration for Soil Stabilization, Sediment Control, Tracking Control, Wind Erosion Control, Non-Storm Water Controls and Waste Management and Material Pollution Controls.

The following Construction Site BMPs have been designated as separate Bid Line Items:

Construction Site Management: This non-storm water discharge and waste management practice includes considerations for operations relating to construction activities including: paving and grinding operations, illicit connection/ illegal discharge detection and reporting, vehicle and equipment cleaning, vehicle and equipment fueling, vehicle and equipment maintenance, concrete curing and concrete finishing, solid west management, material delivery and storage, material use, stockpile management, concrete waste management, sanitary/septic waste management and liquid waste management.

Temporary check dams will be used in small open channels, in steep channels where high velocities are expected, and during the establishment of grass linings of ditches and temporary ditches that do not warrant establishment of erosion-resistant linings.

Temporary reinforced silt fence reduces the amount of sediment leaving slopes by filtering sheet runoff. The Contour Grading, Cross Sections, and Layout plans were reviewed to identify the cuts, fills and areas of soil disturbance. Temporary reinforced silt fence will be deployed at the toe of all embankment slopes, cut slopes and around soil stockpiles. Include at the limit of soil disturbance adjacent to ESAs.

Temporary Cover is also proposed for use as a wind erosion control measure by limiting the exposure of temporary stockpiles and untreated slopes to the weather conditions.

Street Sweeping: This sediment control practice minimizes the amount of derbies and sediment on the roadway from entering storm drain system or watercourses. Street sweeping has been included as an item of work to ensure that the contractor will maintain at least one sweeper on the job site at all time during the period that sweeping work is required. Sweepers will be self-loading, motorized, and will have spray nozzles. Sweeper may include a vacuum apparatus. Street sweeping will be performed immediately after soil disturbance activities occur or offsite tracking of material is observed. Street sweeping will be performed so that dust is minimized. If dust generation is excessive or sediment pickup is ineffective, use of water or a vacuum will be required.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Scl	9	4.6		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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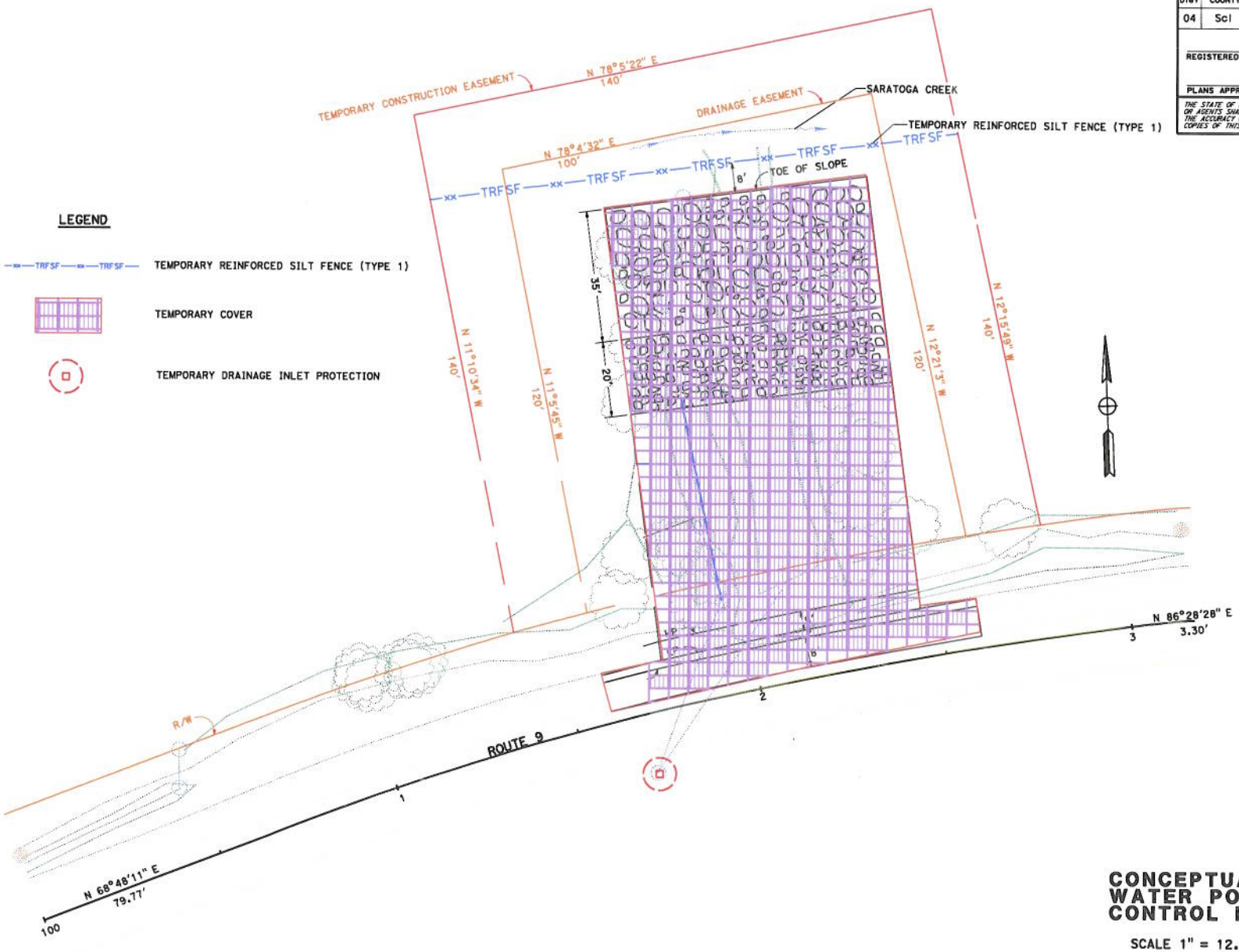

LEGEND

TRFSF TEMPORARY REINFORCED SILT FENCE (TYPE 1)

TEMPORARY COVER

TEMPORARY DRAINAGE INLET PROTECTION

CONCEPTUAL TEMPORARY WATER POLLUTION CONTROL PLAN

SCALE 1" = 12.5'

CWPC-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

FUNCTIONAL SUPERVISOR: GURBHAY BRAR

CALCULATED-DESIGNED BY: UDAYA SHANKAR

CHECKED BY: DAVID VELAZCO

REVISED BY

DATE REVISED

LAST REVISED DATE PLOTTED => 12-MAY-2010 TIME PLOTTED => 16:09

03-24-10

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => s131656

DGN FILE => 400401_Conceptual Temp Water Pollution Control Plan.dgn

CU 06222

EA 0G4010

4. Information of Erosion Control

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCL	9	4.64		

LICENSED LANDSCAPE ARCHITECT

PLANS APPROVAL DATE

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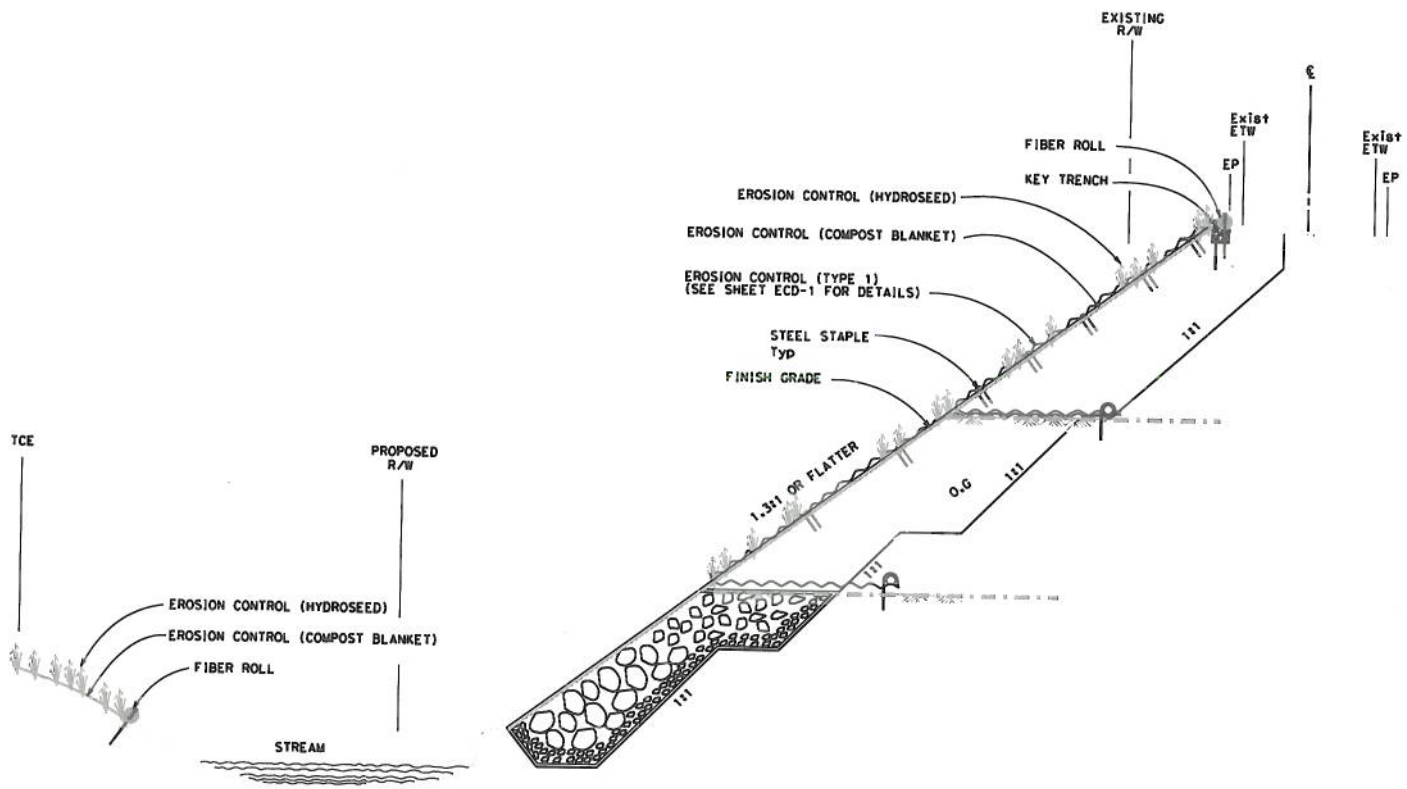
LICENSED LANDSCAPE ARCHITECT 11-30-11 STATE OF CALIFORNIA

EROSION CONTROL QUANTITIES

SHEET No.	EROSION CONTROL TYPE	EROSION CONTROL (COMPOST BLANKET)	ROLLED EROSION CONTROL PRODUCT (NETTING)	EROSION CONTROL (HYDROSEED)	FIBER ROLLS
		CY	SQFT	SQFT	LF
EC-1	1	13.5	8745	8745	300
EC-1	2	13.2	-	8549	-
TOTAL		26.7	8745	17294	300



SECTION A-A Typ

EROSION CONTROL DETAILS

NO SCALE

ECD-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

WATER QUALITY

SENIOR LANDSCAPE ARCHITECT: DAVID W. YAM

CALCULATED-DESIGNED BY: VIRGIL FRANCISCO

CHECKED BY: LAURIE J SMITH

REVISED BY

DATE REVISED

LAST REVISION 03-02-10

DATE PLOTTED => $DATE
TIME PLOTTED => $TIME

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

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CU 04343

EA 0G4011

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	4.64		

LICENSED LANDSCAPE ARCHITECT

PLANS APPROVAL DATE

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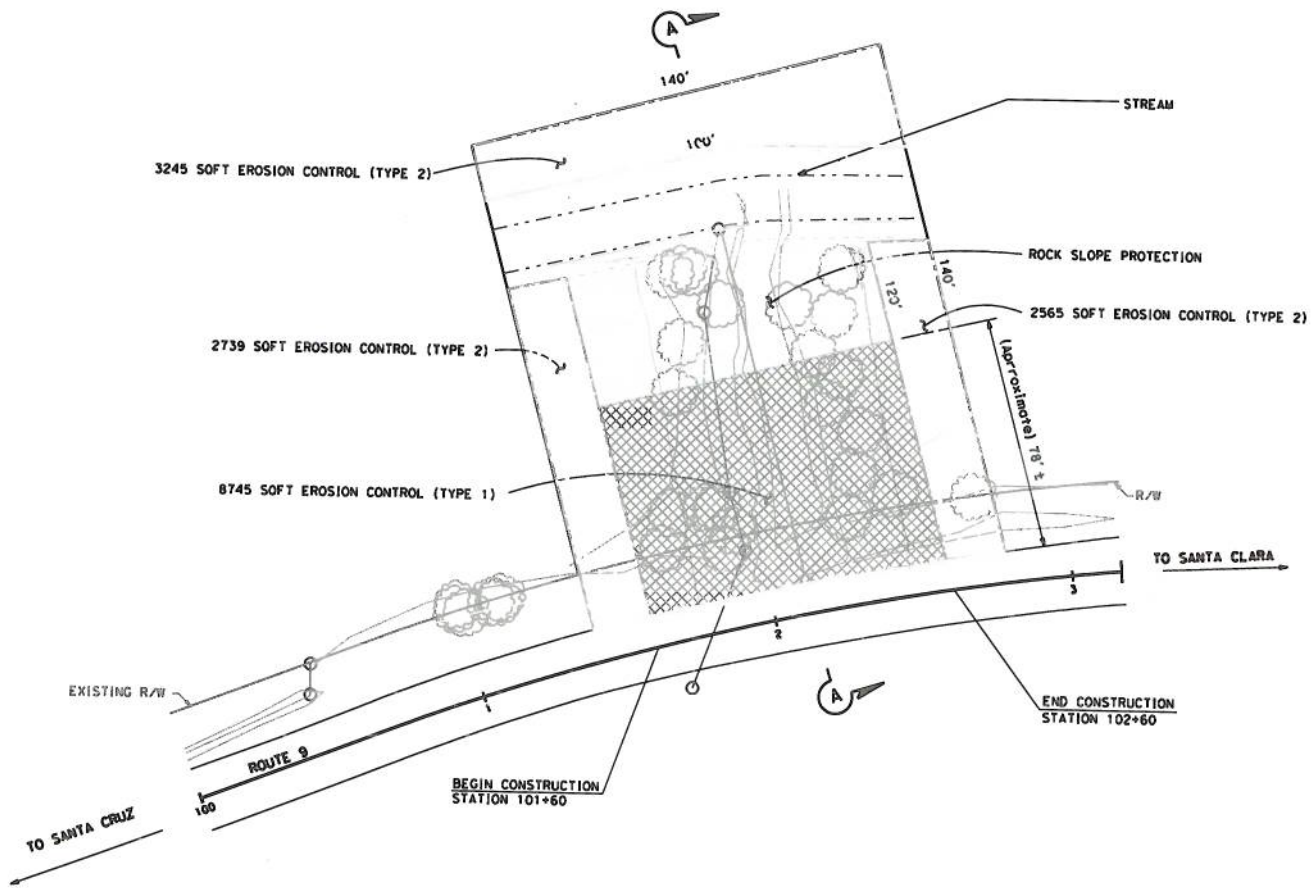
LICENSED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA

NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



LEGEND

- EROSION CONTROL (TYPE 1)
- EROSION CONTROL (COMPOST BLANKET)
- ROLLED EROSION CONTROL PRODUCT (NETTING)
- EROSION CONTROL (HYDROSEED)
- EROSION CONTROL (TYPE 2)
- EROSION CONTROL (COMPOST BLANKET)
- EROSION CONTROL (HYDROSEED)
- FIBER ROLL
- SLOPE DIRECTION

THIS PLAN ACCURATE FOR EROSION CONTROL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

SENIOR LANDSCAPE ARCHITECT

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

WATER QUALITY

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => &USER
DGN FILE => &REQUEST

CU 04343

EA 0G4011

LAST REVISION 03-01-10

DATE PLOTTED => &DATE
TIME PLOTTED => &TIME

5. Other Stormwater Information

Rainfall Intensity of the Project Area:

25-Yr, 24 hour event, 0.472 inches/hour

2-Yr, 1 hour event, 0.67 inches/hour