Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	1	31

ACSTP-4138(004)E

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

IN VENTURA COUNTY
ON ROUTE 33 ABOUT 20 KM NORTH OF WHEELER SPRINGS AT 0.2 KM NORTH OF TULE CREEK BRIDGE AND AT 0.3 KM SOUTH OF DERRYDALE CREEK BRIDGE AND ON ROUTE 150 NEAR SANTA PAULA AT SANTA PAULA CREEK BRIDGE

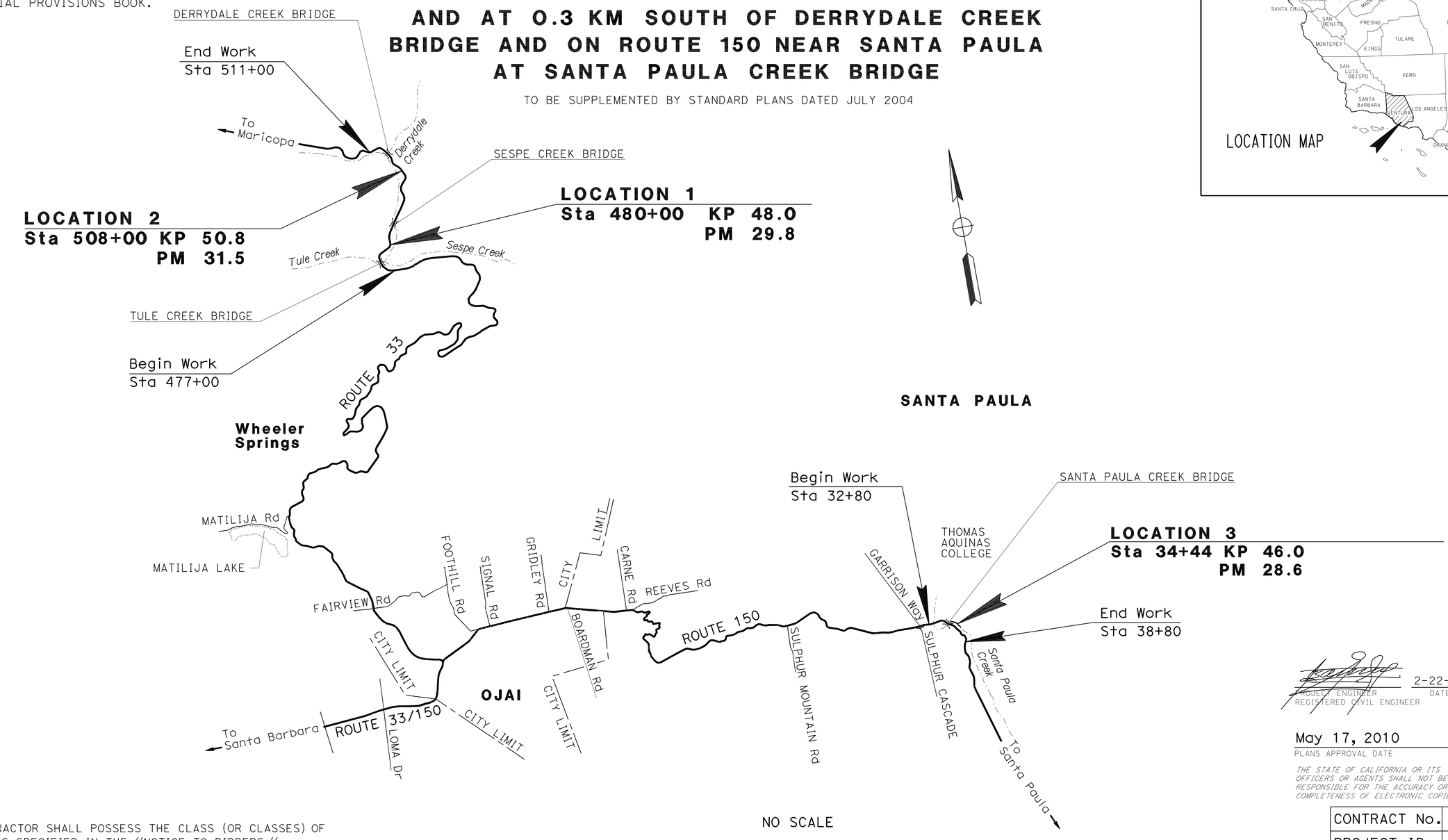
TO BE SUPPLEMENTED BY STANDARD PLANS DATED JULY 2004

INDEX OF SHEETS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	LAYOUTS
3-5	CONSTRUCTION DETAILS
6	CONSTRUCTION AREA SIGNS
7	SUMMARY OF QUANTITIES
8-10	HIGHWAY PLANTING
11-18	REVISED STANDARD PLANS
STRUCTURE PLANS	
19-31	SANTA PAULA CREEK ROCK WEIR SYSTEM Br No. 52-0105

THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

LOCATION MAP



NO SCALE

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

PROJECT ENGINEER REGISTERED CIVIL ENGINEER — 2-22-10 DATE

May 17, 2010
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BF VORREITER No. C 63128 Exp. 06/30/10 CIVIL STATE OF CALIFORNIA

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

DESIGN ENGINEER: BARNABAS F VORREITER
PROJECT MANAGER: DAVID H MIRAANEY

LAST REVISION 01-29-10
DATE PLOTTED => 30-JUL-2010
TIME PLOTTED => 13:16

CONTRACT No.	07-4L5704
PROJECT ID	0700000903

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	2	31

REGISTERED CIVIL ENGINEER 2-22-10 DATE

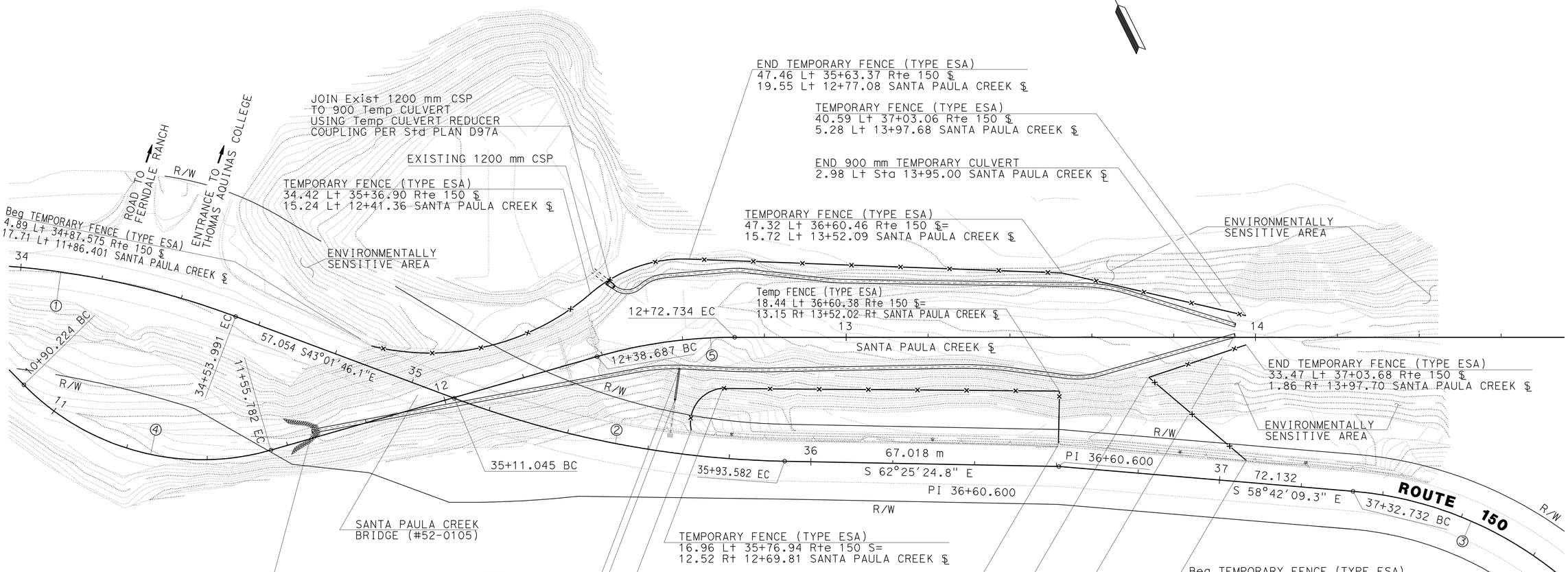
5-17-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BF VORREITER No. C 63128 Exp. 06/30/10 CIVIL STATE OF CALIFORNIA

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

Caltrans Metric

NOTES:
1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. CONTRACTOR SHALL VERIFY ALL FIELD DIMENSIONS PRIOR TO COMMENCEMENT OF WORK.
3. CONTRACTOR SHALL ANCHOR PIPE CULVERTS IN PLACE PER Std PLAN D87A AND D87B AND DETERMINE THE CULVERT LOCATION IN THE FIELD, OR AS DIRECTED BY THE ENGINEER.
4. TEMPORARY FENCE (TYPE ESA) SHALL BE LOCATED TO BE UNOBSTRUCTED FROM VIEW AS SHOWN ON THE PLAN AND AS DIRECTED BY THE ENGINEER.
5. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THIS PLANS.
6. CMP, CSP AND TEMPORARY CULVERT PIPE JOINT SHALL BE WATERTIGHT. SEE STANDARD PLANS D87A, D97A, RSP-D97E AND RSP-D97F.



CURVE DATA

No.	R	Δ	T	L
①	204.216	80°11'45.9"	171.954	285.839
②	243.840	19°23'38.7"	41.667	82.538
③	91.440	37°29'17.2"	31.029	59.829
④	60.960	61°37'02.4"	36.352	65.558
⑤	121.920	16°00'00.3"	17.135	34.047

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1:500

L-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans **DESIGN**

FUNCTIONAL SUPERVISOR: OC LEE
CALCULATED-DESIGNED BY: BARNABAS F. VORREITER
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 02-22-10 | DATE PLOTTED => 17-MAY-2010 | TIME PLOTTED => 11:00

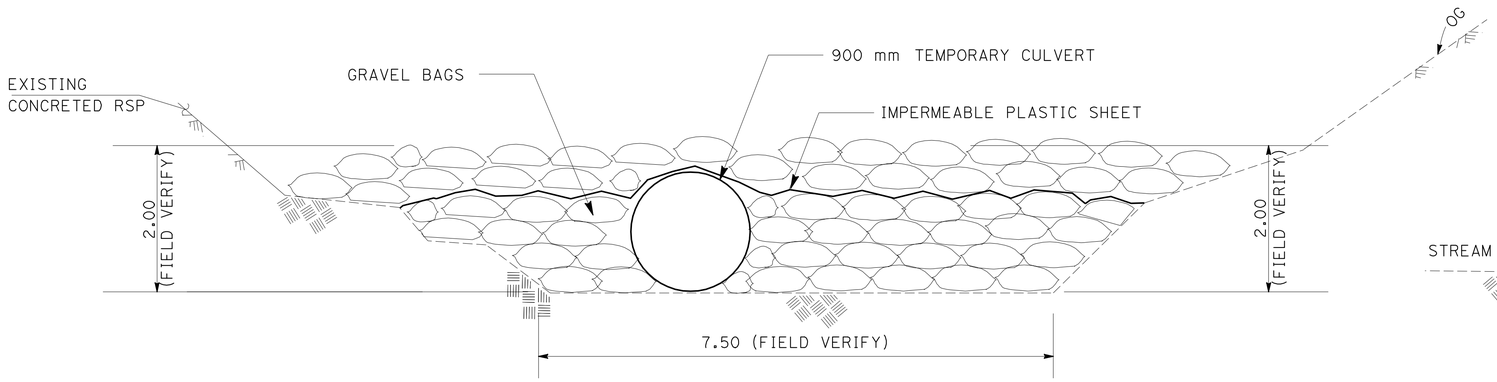
Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	3	31

REGISTERED CIVIL ENGINEER 2-22-10 DATE

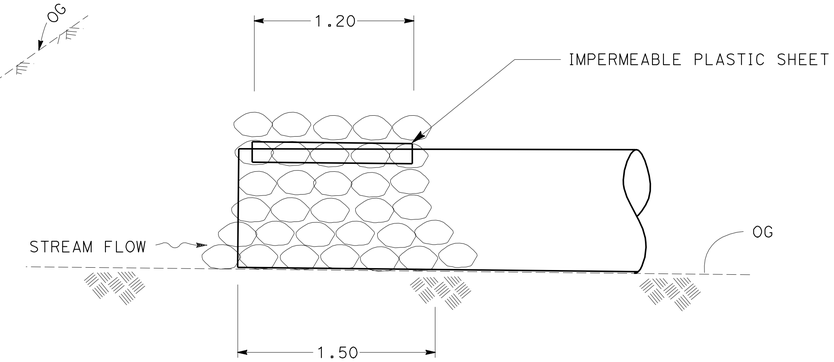
5-17-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BF VORREITER No. C 63128 Exp. 06/30/10 CIVIL STATE OF CALIFORNIA

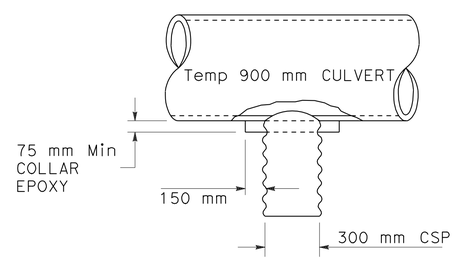
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



TEMPORARY GRAVEL BAG HEADWALL



SIDE VIEW



CONNECTION DETAIL-A

TEMPORARY CREEK DIVERSION SYSTEM

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

CONSTRUCTION DETAILS

NO SCALE

C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: OC LEE

CALCULATED-DESIGNED BY: BARNABAS F. VORREITER
CHECKED BY

REVISED BY
DATE REVISED

LAST REVISION 02-22-10
DATE PLOTTED => 17-MAY-2010
TIME PLOTTED => 09:55

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	4	31

REGISTERED CIVIL ENGINEER 2-22-10 DATE

5-17-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BF VORREITER No. C 63128 Exp. 06/30/10 CIVIL STATE OF CALIFORNIA

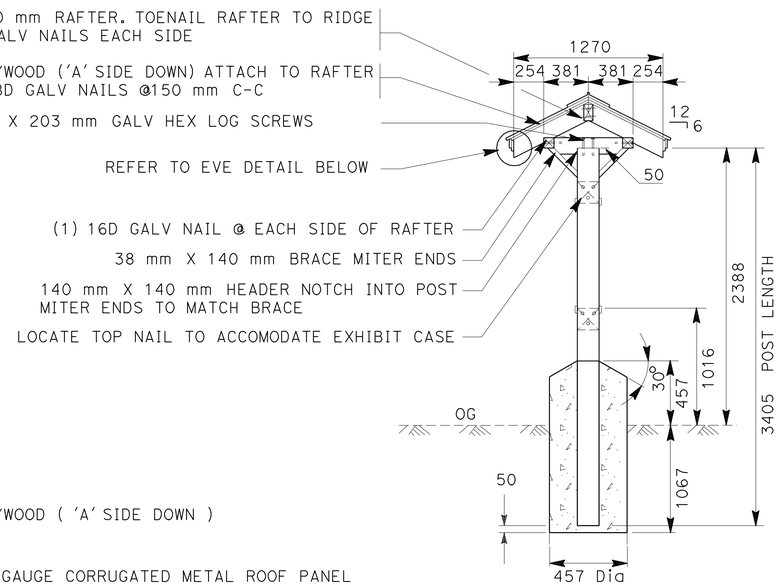
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

Caltrans Metric

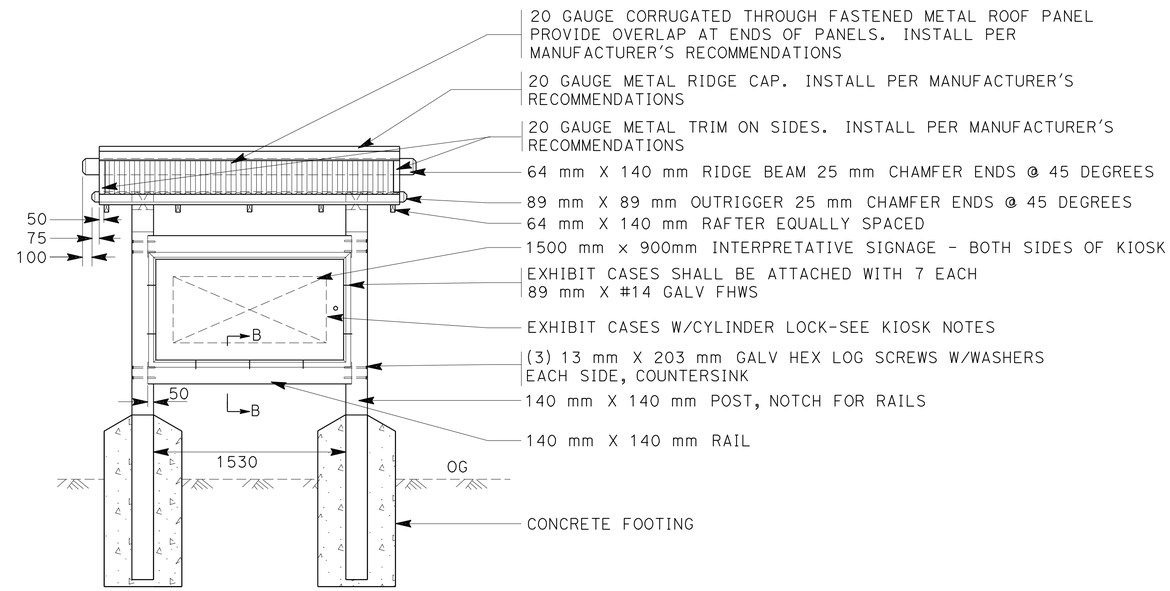
NOTE:
1. EXACT LOCATION OF KIOSKS TO BE DETERMINE IN THE FIELD AS DIRECTED BY THE ENGINEER.

ABBREVIATIONS:

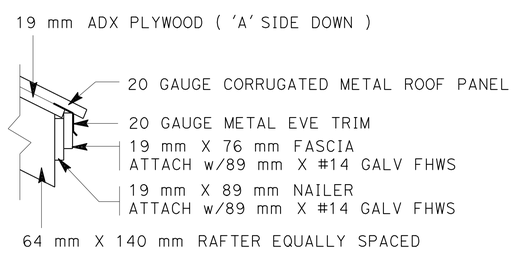
FHWS - FLAT HEAD WOOD SCREW
HEX - HEXAGONAL



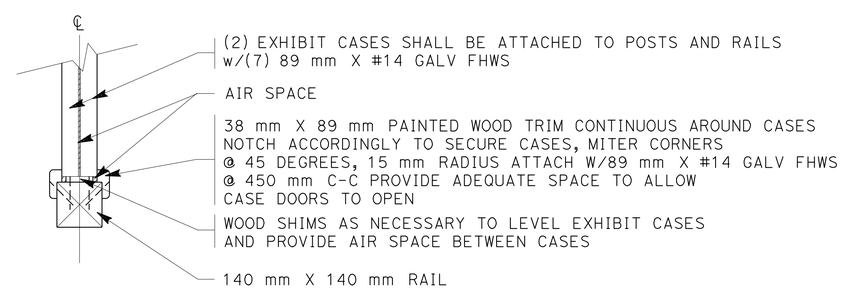
KIOSK SIDE VIEW



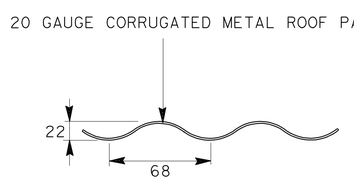
KIOSK FRONT VIEW



EVE DETAIL



SECTION B-B



CORRUGATED METAL ROOF PANEL SECTION

KIOSK ROUTE 33
LOCATIONS 1 AND 2

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

CONSTRUCTION DETAILS

NO SCALE

C-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: OC LEE
CALCULATED-DESIGNED BY: BARNABAS F. VORREITER
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 02-22-10 DATE PLOTTED => 17-MAY-2010 TIME PLOTTED => 0955

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	5	31

REGISTERED CIVIL ENGINEER 2-22-10 DATE

5-17-10
PLANS APPROVAL DATE

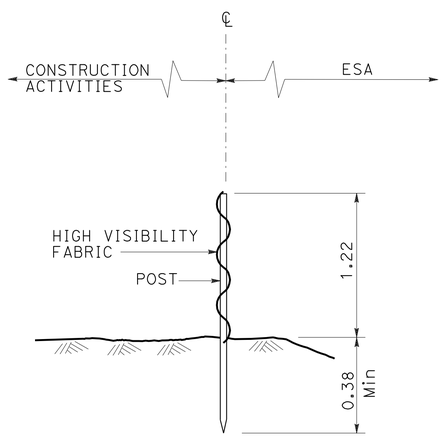
REGISTERED PROFESSIONAL ENGINEER BF VORREITER No. C 63128 EXP. 06/30/10 CIVIL STATE OF CALIFORNIA

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

Caltrans Metric

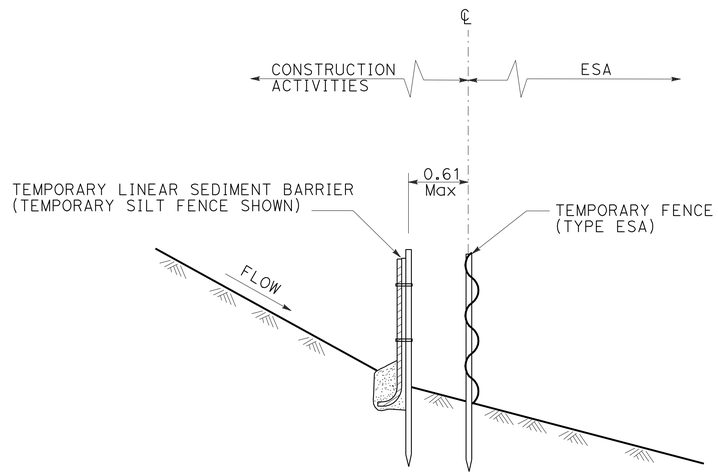
NOTE:

1. TEMPORARY SILT FENCE AND TEMPORARY STRAW BALE BARRIER SHOWN FOR REFERENCE PURPOSE ONLY.



SECTION

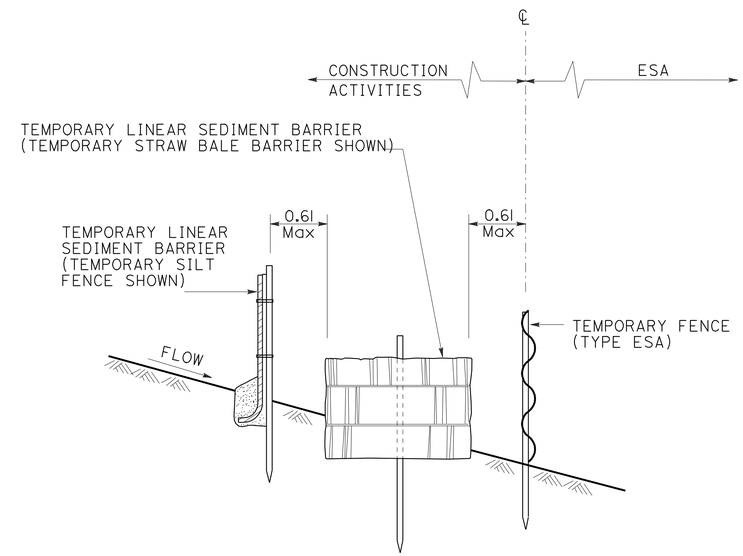
TEMPORARY FENCE (TYPE ESA)



SECTION

PLACEMENT DETAIL
FOR TEMPORARY LINEAR SEDIMENT BARRIER
USED WITH TEMPORARY
FENCE (TYPE ESA)

(See Note 1)



SECTION

PLACEMENT DETAIL
FOR TEMPORARY SILT FENCE
AND TEMPORARY STRAW BALE BARRIER
USED WITH TEMPORARY FENCE (TYPE ESA)

(See Note 1)

TEMPORARY FENCE (TYPE ESA)

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

CONSTRUCTION DETAILS

NO SCALE

C-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: OC LEE

CALCULATED-DESIGNED BY | CHECKED BY

BARNABAS F. VORREITER

REVISED BY | DATE REVISED

LAST REVISION 02-22-10 | DATE PLOTTED => 17-MAY-2010 | TIME PLOTTED => 09:55

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	6	31

REGISTERED CIVIL ENGINEER 2-22-10 DATE

5-17-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BF VORREITER No. C 63128 Exp. 06/30/10 CIVIL STATE OF CALIFORNIA

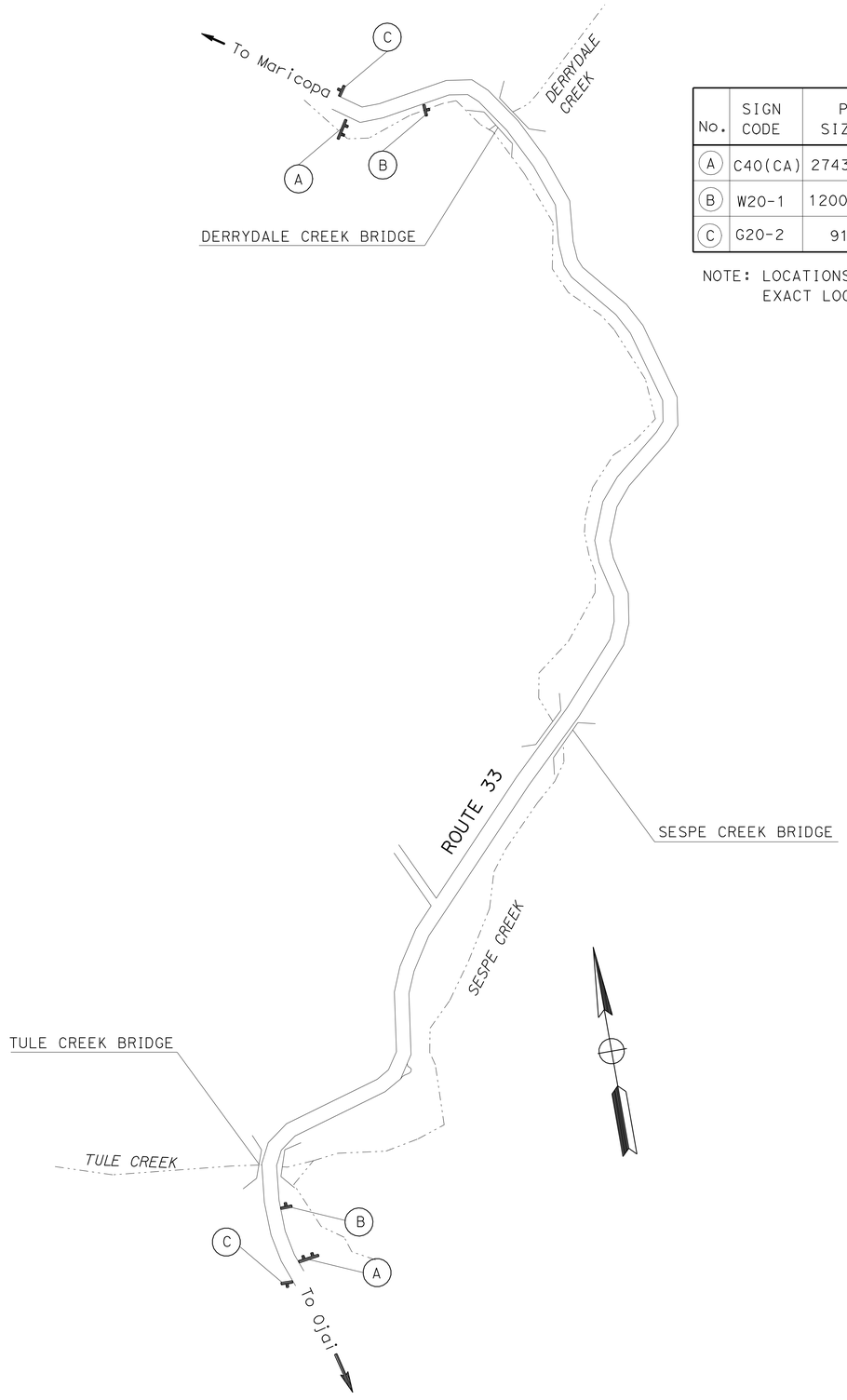
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

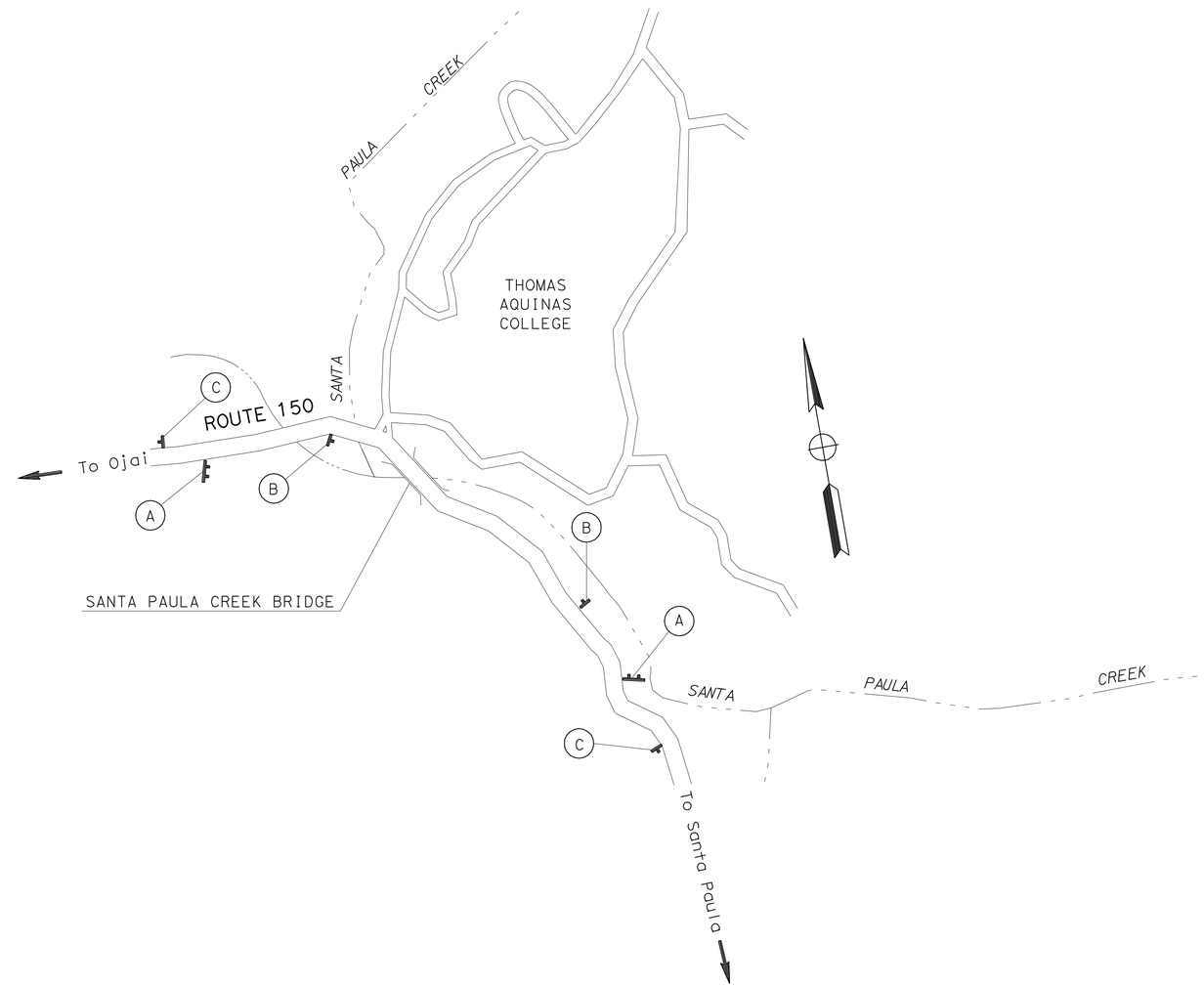
Caltrans Metric

CONSTRUCTION AREA SIGNS
(STATIONARY MOUNTED)

No.	SIGN CODE	PANEL SIZE (mm)	SIGN MESSAGE	No. OF POSTS & SIZE (mm)	No. OF SIGNS
A	C40(CA)	2743 x 1067	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2-140 x 140	4
B	W20-1	1200 x 1200	ROAD WORK AHEAD	1-140 x 140	4
C	G20-2	914 x 457	END ROAD WORK	1-140 x 140	4

NOTE: LOCATIONS OF CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.





CONSTRUCTION AREA SIGNS
NO SCALE

CS-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: OC LEE

CALCULATED-DESIGNED BY: BARNABAS F. VORREITER
CHECKED BY

REVISED BY
DATE REVISED

LAST REVISION 02-22-10 | DATE PLOTTED => 17-MAY-2010 | TIME PLOTTED => 09:55

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	7	31

REGISTERED CIVIL ENGINEER DATE 2-22-10

5-17-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BF VORREITER No. C 63128 Exp. 06/30/10 CIVIL STATE OF CALIFORNIA

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

Caltrans Metric

ROADWAY ITEMS

SHEET No.	TEMPORARY FENCE (TYPE ESA)	300 mm TEMPORARY CULVERT (N)	900 mm TEMPORARY CULVERT (N)	TEMPORARY CREEK DIVERSION SYSTEM	KIOSK
	m	m	m	LS	EA
L-1	425	10	460	1	
C-2					2
TOTAL	425	10	460	1	2

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

SUMMARY OF QUANTITIES

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: OC LEE

CALCULATED-DESIGNED BY: BARNABAS F. VORREITER
CHECKED BY

REVISED BY
DATE REVISED

LAST REVISION 02-22-10
DATE PLOTTED => 17-MAY-2010
TIME PLOTTED => 0955

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	8	31

LICENSED LANDSCAPE ARCHITECT

5-17-10
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT JOSEPH WILLMAN No. 1837 STATE OF CALIFORNIA
Original signature
31 JULY 2010
Renewal date
18 AUGUST 2009
Date

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

Caltrans Metric

ABBREVIATIONS

g — gram
kg — kilogram
m — meter
m² — square meter
m³ — cubic meter
MAX — maximum
mm — millimeter

APPLICABLE WHEN CIRCLED:

1 - Quantities shown are "per plant" unless shown as m² application rates.
(2) - Sufficient to receive root ball.
3 - Does not apply to mulch areas.
(4) - As directed by RE, may place three plants in the same hole.
5 - Place between rip rap into sub-soil
6 - See detail.
7 - See Special Provisions.
(8) - Install shrubS in dry soil locations, (further away from edge of step-pool).
(9) - Install trees in wet soil locations, (closer to edge of step-pool).

NOTE:

1. Underlined portions of botanical name indicate abbreviations used on Planting Plans.

PLANT LIST AND PLANTING SPECIFICATIONS

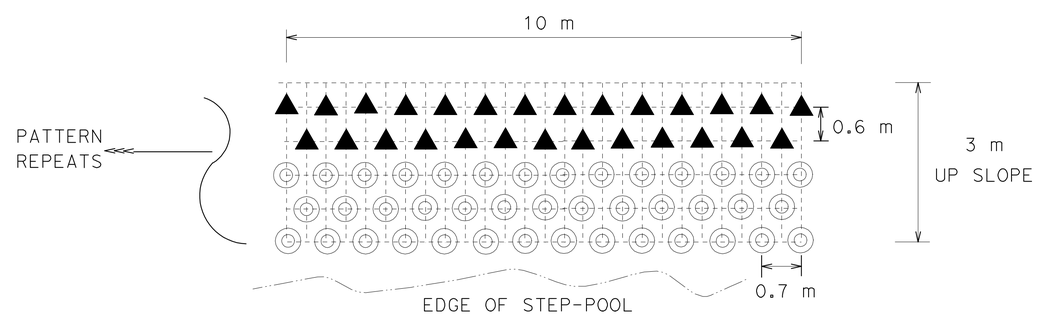
PLANT GROUP	PLANT No	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY EACH	HOLE SIZE (mm) DIA	HOLE SIZE (mm) DEPTH	BASIN TYPE	IRON SULFATE	SOIL AMEND	COMMERCIAL FERTILIZER PLANTING	COMMERCIAL FERTILIZER PLT ESTB	BASIN MULCH (m^3)	STAKING	PLANTING LIMITS MINIMUM DISTANCE (m) FROM TRVD WAY	PVMT	FENCE	WALL	PAVED DITCH	EARTH DITCH	ON CENTER (m)	REMARKS
A	1		ALNUS RHOMBIFOLIA	WHITE ALDER	No. 1	84	(2)	(2)	II	---	---	---	---	.001	---	---	---	---	---	---	---	(4)	TREE (9)
	2		PLANTANUS RACEMOSA	CALIFORNIA SYCAMORE	No. 1	9	(2)	(2)	II	---	---	---	---	.001	---	---	---	---	---	---	---	---	TREE (9)
I	3	—	ARTEMISIA CALIFORNICA	CALIFORNIA SAGEBRUSH	Pot	25	(2)	(2)	II	---	---	---	---	.001	---	---	---	---	---	---	---	1.7	SHRUB
	4	—	ARTEMISIA LUDOVICIANA	WHITE SAGE	Pot	25	(2)	(2)	II	---	---	---	---	.001	---	---	---	---	---	---	---	1.7	SHRUB
	5	—	ELYMUS CANADENSIS	WILD RYE	Pot	25	(2)	(2)	II	---	---	---	---	.001	---	---	---	---	---	---	---	1.7	SHRUB
	6	—	ERIOGONUM FASCICULATUM	BUCKWHEAT	Pot	25	(2)	(2)	II	---	---	---	---	.001	---	---	---	---	---	---	---	1.7	SHRUB
	7	—	MALOSMA LAURINA	LAUREL SUMAC	Pot	25	(2)	(2)	II	---	---	1 Pkt	---	.001	---	---	---	---	---	---	---	1.7	SHRUB
	8	—	SAMBUCUS CANADENSIS	ELDERBERRY	Pot	25	(2)	(2)	II	---	---	1 Pkt	---	.001	---	---	---	---	---	---	---	1.7	SHRUB
W	9	▲	BACCHARIS SALICIFOLIA	MULEFAT	CUTTING	324	(2)	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	0.7	SHRUB (8)
	10	◎	SALIX LASIOLEPIS	ARROYO WILLOW	CUTTING	492	(2)	(2)	---	---	---	1 Pkt	---	---	---	---	---	---	---	---	---	0.7	TREE (9)

LEGEND:

360 m² EROSION CONTROL (HYDROSEED),
WETLANDS INDICATOR SPECIES SEED MIX
SHALL BE INSTALLED FROM EDGE OF STEP-POOL TO 3 m UP SLOPE.

580 m² EROSION CONTROL (HYDROSEED),
UPLAND SEED MIX
SHALL BE INSTALLED STARTING AT 3 m ABOVE EDGE OF STEP-POOL TO RETAINING WALL UP SLOPE.

PLANTING ENCLAVE 340 m²



PLAN
CUTTINGS PLANTING (WILLOW AND MULEFAT)
REPEAT 12 TIMES
NO SCALE

PLANT LIST
PL-1

REVISED BY | DATE REVISED
JENNIFER KURTH | JOSEPH MILLMAN
CALCULATED/DESIGNED BY | CHECKED BY
PROJECT LANDSCAPE ARCHITECT PATTY WATANABE
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE

LAST REVISION 02-10-10
DATE PLOTTED => 17-MAY-2010
TIME PLOTTED => 10:13

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	9	31

LICENSED LANDSCAPE ARCHITECT

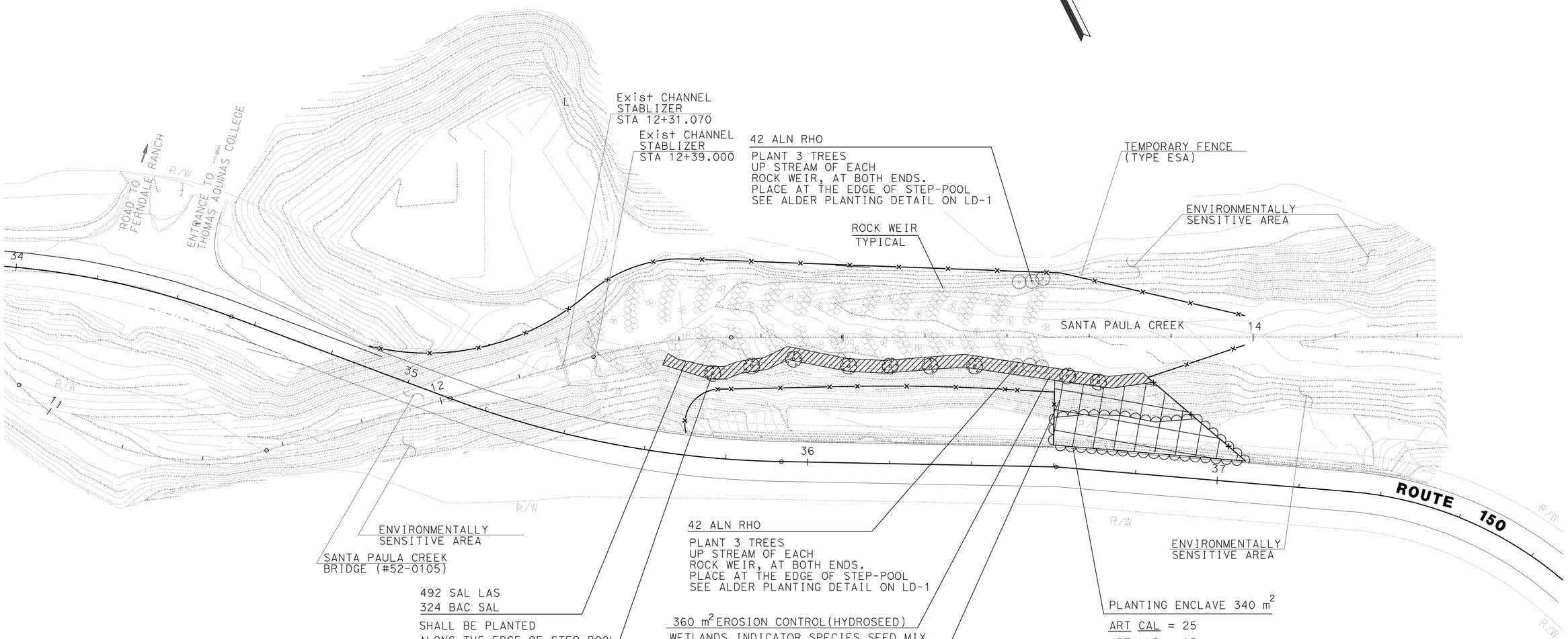
5-17-10
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT JOSEPH MILLMAN No. 1831 Expiration Date 31 JULY 2010 Renewal Date 18 AUGUST 2009 Date STATE OF CALIFORNIA

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

Caltrans Metric

NOTE:
TEMPORARY IRRIGATION FOR PLANTS AND SEEDING AREAS (EROSION CONTROL) SHALL BE SPRINKLERS CAPABLE OF A 6 m RADIUS, SPACED 4 m ON CENTER.



THIS PLAN ACCURATE FOR PLANTING AND EROSION CONTROL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

PLANTING PLAN

SCALE 1:500

PP-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE

CONSULTANT SENIOR LANDSCAPE ARCHITECT: PATTY WATANABE
CALCULATED-DESIGNED BY: JENNIFER KURTH
CHECKED BY: JOSEPH MILLMAN
REVISED BY
DATE REVISED

LAST REVISION 02-11-10
DATE PLOTTED => 17-MAY-2010
TIME PLOTTED => 11:01

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	10	31

LICENSED LANDSCAPE ARCHITECT

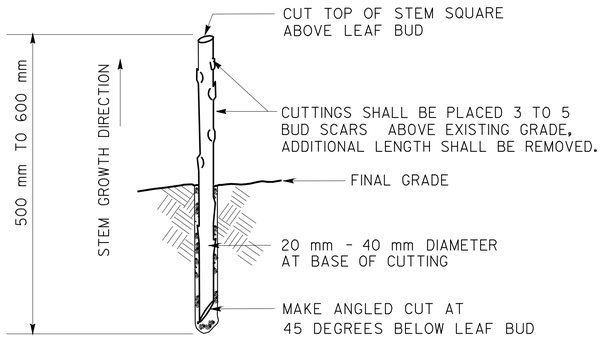
5-17-10

PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT JOSEPH MILLMAN NO. 1831 Signature 31 JULY 2010 Renewal Date 18 AUGUST 2009 Date STATE OF CALIFORNIA

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

Caltrans Metric

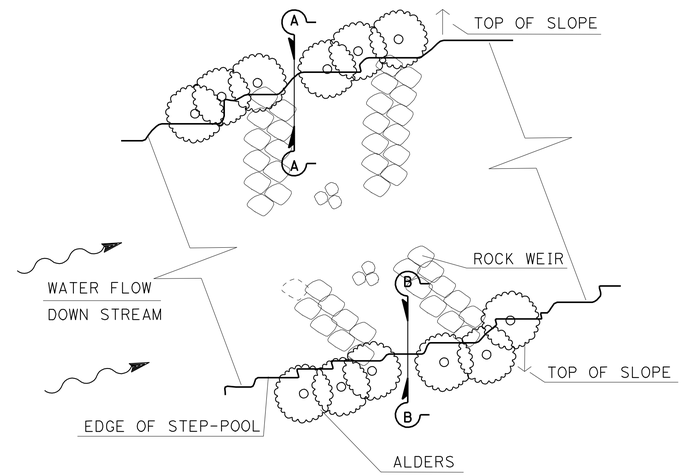


NOTE:

1. CUTTINGS SHALL HAVE LEAVES AND BRANCHES TRIMMED OFF FLUSH WITH THE STEM.
2. CUTTINGS SHALL BE PLANTED WITH APPROXIMATELY HALF OF THEIR LENGTH BENEATH FINISHED GRADE.

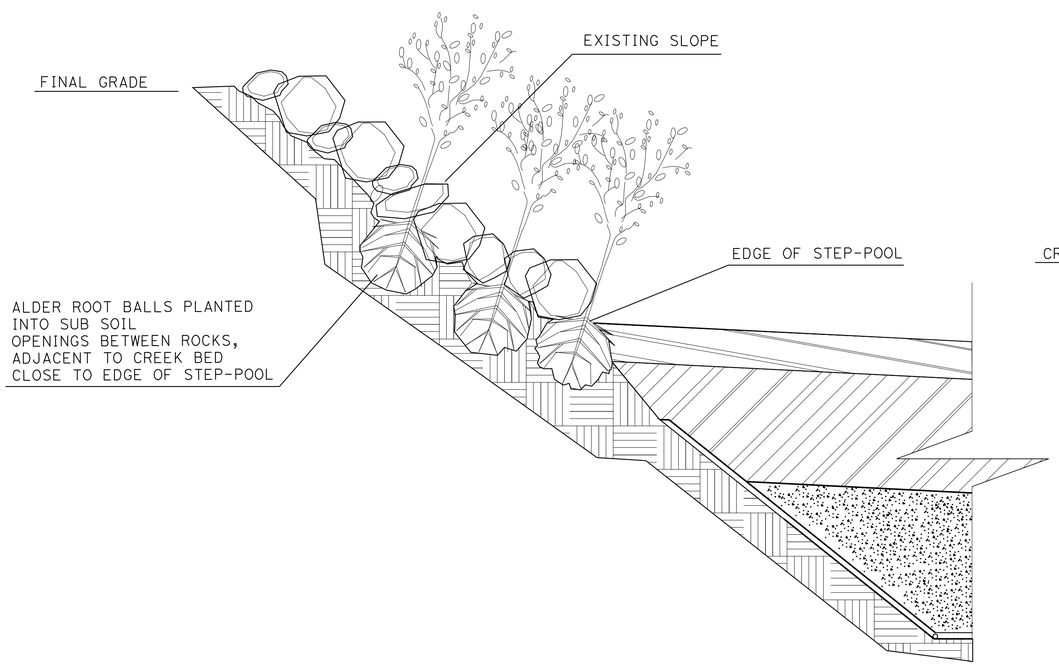
ELEVATION

WILLOW CUTTINGS



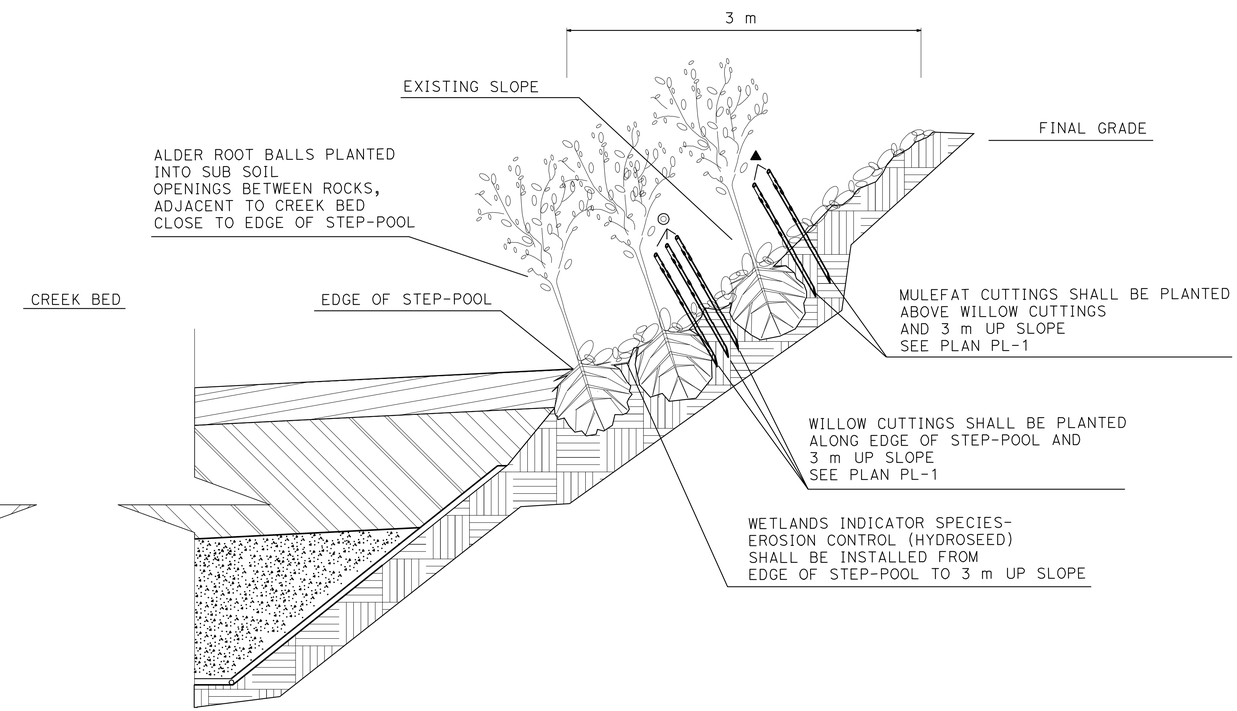
PLAN (ALDER PLANTING)

PLANT 3 TREES UP STREAM OF EACH ROCK WEIR, AT BOTH ENDS.
PLACE AT THE EDGE OF STEP-POOL, AT THE WATERS EDGE



TYPICAL SECTION -A

PLEASE REFER TO STEP-POOL SECTION ON DRAINAGE PLANS



TYPICAL SECTION -B

PLEASE REFER TO STEP-POOL SECTION ON DRAINAGE PLANS

LANDSCAPE DETAILS

NO SCALE

LD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE

PROJECT LANDSCAPE ARCHITECT PATTY WATANABE

CALCULATED/DESIGNED BY JENNIFER KURTH
CHECKED BY JOSEPH MILLMAN

REVISED BY | DATE REVISED

LAST REVISION 02-11-10 | DATE PLOTTED =>17-MAY-2010 TIME PLOTTED =>10:13

To accompany plans dated 5-17-10

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	11	31

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Raymond Don Tsztoo No. C37332 Exp. 6-30-08 STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To get to the Caltrans web site, go to: http://www.dot.ca.gov

ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION (mm)	PIPE SIZE (mm)	W OR A (mm)	PIPE WALL THICKNESS CSP (mm)	PIPE WALL THICKNESS CAP (mm)	BAND THICKNESS CSP (mm)	BAND THICKNESS CAP (mm)	BAR AND STRAP (CSP ONLY) STRAP THICKNESS (mm)	BOLTS (mm ø)	BAR Dia (mm)	BAR YIELD STRENGTH (MPa)	ANGLE DIMENSIONS CSP (mm)	ANGLE DIMENSIONS CAP (mm)	BOLTS (No.-mm ø) CSP	BOLTS (No.-mm ø) CAP	RIVETS ANGLE TO BAND CSP	RIVETS ANGLE TO BAND CAP	SPOT WELDS ANGLE TO BAND CSP
TWO PIECE INTEGRAL FLANGE	38 x 6.5	150 - 250	178	1.32 - 2.01	1.22 - 1.52	1.32	1.52							2-10	2-10			
		300 - 450	178	1.32 - 2.01		1.63								2-13				
	68 x 13	300 - 600	178	1.32 - 2.01	1.52 - 2.67	1.63	1.52							2-13	2-13			
UNIVERSAL	68 x 13	THROUGH 900	305	1.32 - 3.51	1.52 - 3.43	1.32	1.52					51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	3-15 mm
		1050 - 1500	305	1.32 - 4.27	1.91 - 4.17	1.32	1.52					51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		THROUGH 1800	305	1.32 - 4.27	4.17	1.32	2.67	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1950 - 2100	413	4.27		2.01		DOUBLE 2.01	13	22	220							
ANNULAR	68 x 13	THROUGH 900	178	1.63 - 3.51	1.52 - 3.43	1.32	1.52	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	2-13	2-13	3-9.5 mm	3-9.5 mm	3-15 mm
		1050 - 1800	305	1.63 - 4.27	1.91 - 4.17	1.32	2.67	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1950 - 2100	305	4.27		2.01		2.77	13	22	310	51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
	75 x 25	1200 - 2250	355	1.63 - 2.77		1.32		2.01	13	22	220	51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
		2400 - 3000	355	2.01 - 2.77		1.32		2.77	13	22	310	51 x 51 x 4.8		3-13		4-9.5 mm		
		1050 - 2700	355		1.52 - 3.43		1.52						51 x 51 x 4.8		3-13		3-9.5 mm	
HELICAL	68 x 13	THROUGH 900	305	1.32 - 3.51	1.52 - 3.43	1.32	1.52	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	3-15 mm
		1050 - 1800	305	1.32 - 4.27	1.91 - 4.17	1.32	1.52	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1950 - 2100	305	4.27		2.01		2.77	13	22	310	51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
	75 x 25	1200 - 2250	355	1.63 - 2.77		1.32		2.01	13	22	220	51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
		2400 - 3000	355	2.01 - 2.77		1.32		2.77	13	22	310	51 x 51 x 4.8		3-13		4-9.5 mm		
		1050 - 2700	355		1.52 - 3.43		1.52						51 x 51 x 4.8		3-13		3-9.5 mm	
HUGGER	68 x 13 REROLLED END	300 - 1350	100	1.32 - 2.77		1.32						64 x 38 x 4.8	64 x 38 x 4.8	1-13				3-15 mm
		1500 - 1650	100	2.77		1.63						64 x 38 x 4.8	64 x 38 x 4.8	1-13				3-15 mm
		900 - 1200	100	3.51		1.63						64 x 38 x 4.8	64 x 38 x 4.8	1-13				3-15 mm
		THROUGH 1800	267	1.32 - 4.27		1.32		2.01	13	22	220							
		1950 - 2100	267	4.27		2.01		2.77	13	22	310							
	75 x 25 REROLLED END	1200 - 2250	267	1.63 - 2.77		1.32		2.01	13	22	220							
		2400 - 3000	267	2.01 - 2.77		1.32		2.77	13	22	310							
	125 x 25 REROLLED END	1200 - 1650	190	1.63 - 2.77		1.63		2.01	13	22	220	64 x 38 x 4.8	64 x 38 x 4.8	1-13				3-15 mm
		1800 - 2250	190	1.63 - 2.01		1.63		2.01	13	22	220	64 x 38 x 4.8	64 x 38 x 4.8	1-13				3-15 mm
		1200 - 2250	190	1.63 - 3.51		1.63		2.01	13	22	220							
		1200 - 3000	305 SEE	1.63 - 2.77		1.63		2.01	13	22	220							
		1200 - 2100	305 NOTE	3.51		1.63		2.01	13	22	220							
		2250 - 3000	305 11	3.51		1.63		DOUBLE 2.01	13	22	220							

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION (mm)	PIPE SIZE (mm)	W (mm)	PIPE WALL THICKNESS SSRP (mm)	PIPE WALL THICKNESS ASRP (mm)	BAND THICKNESS SSRP (mm)	BAND THICKNESS ASRP (mm)	BAR AND STRAP (SSRP ONLY) STRAP THICKNESS (mm)	BOLTS (mm ø)	BAR Dia (mm)	BAR YIELD STRENGTH (MPa)	ANGLE DIMENSIONS SSRP (mm)	ANGLE DIMENSIONS ASRP (mm)	BOLTS (No.- mm ø) SSRP	BOLTS (No.- mm ø) ASRP	RIVETS ANGLE TO BAND SSRP	RIVETS ANGLE TO BAND ASRP	SPOT WELDS ANGLE TO BAND SSRP
ANNULAR	68 x 13 * REROLLED END	600 - 900	305	1.63 - 2.77	1.52 - 2.67	1.32	1.52	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1050 - 1500	305	1.63 - 2.77	1.91 - 2.67	1.32	2.67	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1650 - 1800	305	1.63 - 2.77		1.32		2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1950 - 2900	305	2.01 - 2.77		2.01		2.77	13	22	310	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
HUGGER	68 x 13 * REROLLED END	600 - 1800	267	1.63 - 2.77		1.32		2.01	13	22	220							
		1950 - 2100	267	2.77		2.01		2.77	13	22	310							

* See Note 14.

14. All profiles of Spiral Rib Pipe (19 mm x 19 mm ribs at 191 mm pitch and 19 mm x 25 mm ribs at 292 mm pitch in both steel and aluminum and 19 mm x 25 mm ribs at 216 mm pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 68 mm x 13 mm annual corrugations with a minimum of two full corrugations at each end.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

NOTES

1. All ferrous metal coupling band connection hardware shall be galvanized or electro-plated in accordance with the Standard Specifications.
2. For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
3. Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
4. Use 32 mm gage line dimension on attached angle leg for rivets and spot welds.
5. Band thickness shall not be less than:
   a. 3 standard thicknesses lighter than the thickness of the pipe for Corrugated Steel Pipe.
   b. 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 1.5 mm for Corrugated Aluminum Pipe.
6. Dimensions, thicknesses and strengths shown are minimum.
7. For pipe arches use same width band as for round pipe of equal periphery.
8. Fillet welds of equivalent strenght may be substituted for spot welds or rivets.
9. Spot welds shall develop minimum required strength of strap.
10. Pipe with rerolled ends having at least two 68 mm x 13 mm annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 68 mm x 13 mm corrugations.
11. In the case of H-305 huggerbands, two piece bands are required for diameters through 2400 mm and three piece bands are required for diameters 2550 mm through 3000 mm.
12. Two piece bands are required for pipes greater than 1050 mm diameter.
13. The 57 mm x 51 mm x 2.8 mm thick galvanized die-formed angle connector may be used in lieu of the 51 mm x 51 mm 4.8 mm angle connector for standard joints only on pipes through 1800 mm diameter.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CORRUGATED METAL PIPE COUPLING DETAILS No. 5 STANDARD JOINT

NO SCALE

RSP D97E DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97E DATED July 1, 2004 - PAGE 187 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP D97E

2004 REVISED Std PLAN RSP D97E

05-19-08

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	12	31

Caltrans Metric

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Raymond Don Tsztoo No. C37332 Exp. 6-30-08 STATE OF CALIFORNIA

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To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 5-17-10

ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION (mm)	PIPE SIZE (mm)	W OR A (mm)	PIPE WALL THICKNESS CSP (mm)	PIPE WALL THICKNESS CAP (mm)	BAND THICKNESS CSP (mm)	BAND THICKNESS CAP (mm)	BAR AND STRAP (CSP ONLY) STRAP THICKNESS (mm)	BAR AND STRAP (CSP ONLY) BOLTS (mm ø)	BAR AND STRAP (CSP ONLY) BAR Dia (mm)	BAR AND STRAP (CSP ONLY) BAR YIELD STRENGTH (MPa)	ANGLE DIMENSIONS CSP (mm)	ANGLE DIMENSIONS CAP (mm)	ANGLE BOLTS (No. - mm ø) CSP	ANGLE BOLTS (No. - mm ø) CAP	ANGLE RIVETS ANGLE TO BAND CSP	ANGLE RIVETS ANGLE TO BAND CAP	ANGLE SPOT WELDS ANGLE TO BAND CSP
TWO PIECE INTEGRAL FLANGE	38 x 6.5	150-250	178	1.63-2.01	1.52	1.63	1.52							2-10	2-10			
	68 x 13	300-600	305		1.52-2.67		1.52								3-13			
UNIVERSAL	68 x 13	THROUGH 900	305	1.63-3.51	1.52-3.43	1.63	1.52	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1050-1500	413	1.63-4.27	1.52-4.17	1.63	1.52	DOUBLE 2.01	13	22	220	51 x 51 x 6.4	51 x 51 x 6.4	4-13	4-13	5-9.5 mm	5-9.5 mm	
ANNULAR	68 x 13	THROUGH 900	305	1.63-3.51	1.52-3.43	1.63	1.52					51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1050-1500	305	1.63-2.01		1.63						51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
		1050-1500	305	2.77-4.27	3.43-4.17	1.63	1.91					51 x 51 x 6.4	51 x 51 x 6.4	3-13	3-13	5-9.5 mm	5-9.5 mm	
		1650-1800	610		4.17		2.67						51 x 51 x 6.4		5-13		5-13 mm	
		1650-2100	610	2.77-4.27		1.63						51 x 51 x 6.4		5-13		7-9.5 mm		
		1050-1350	305		1.52-2.67		1.52						51 x 51 x 4.8		3-13		3-9.5 mm	
	75 x 25	1200-1500	355	1.63-2.01		1.63						51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
		1200-1500	355	2.77		1.63						51 x 51 x 4.8		3-13		5-9.5 mm		
		1650-3000	635	1.63-2.77		1.63						51 x 51 x 4.8		5-13		9-9.5 mm		
		1050-1500	355		1.52-2.67		1.52						51 x 51 x 4.8		3-13		5-9.5 mm	
		1050-1500	355		3.43		1.91						51 x 51 x 6.4		3-13		5-9.5 mm	
		1650-2400	635		1.52-3.43		1.52						51 x 51 x 6.4		5-13		7-9.5 mm	
		2400-2700	635		3.43		1.91						51 x 51 x 6.4		5-13		7-9.5 mm	
HELICAL	68 x 13	THROUGH 900	305	1.63-3.51	1.52-3.43	1.63	1.52					51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1050-1350	305		1.52-2.67		1.52						51 x 51 x 4.8		3-13		3-9.5 mm	
		1050-1500	305	1.63-2.01		1.63						51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
		1050-1500	305	2.77-4.27	3.43-4.17	1.63	1.91					51 x 51 x 6.4	51 x 51 x 6.4	3-13	3-13	5-9.5 mm	5-9.5 mm	
		1650-2100	610	2.77-4.27		1.63						51 x 51 x 6.4		5-13		7-9.5 mm		
		1650-1800	610		4.17		2.67						51 x 51 x 6.4		5-13		5-9.5 mm	
	75 x 25	1200-1500	355	1.63-2.01		1.63						51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
		1200-1500	355	2.77		1.63						51 x 51 x 4.8		3-13		5-9.5 mm		
		1650-3000	635	1.63-2.77		1.63						51 x 51 x 4.8		5-13		9-9.5 mm		
		1050-1500	355		1.52-2.67		1.52						51 x 51 x 4.8		3-13		5-9.5 mm	
		1050-1500	355		3.43		1.91						51 x 51 x 6.4		3-13		5-9.5 mm	
		1650-2400	635		1.52-3.43		1.52						51 x 51 x 6.4		5-13		7-9.5 mm	
		2400-2700	635		3.43		1.91						51 x 51 x 6.4		5-13		7-9.5 mm	
HUGGER	68 x 13 REROLLED END	THROUGH 1200	267	2.77		1.63		2.01	13	22	220							
		1350 - 1650	267	2.77		1.63		DOUBLE 2.01	13	22	220							
		THROUGH 1350	267	1.63 - 2.01		1.63		2.01	13	22	220							
		THROUGH 1500	267	3.51		2.01		DOUBLE 2.01	13	22	220							
		1650 - 1800	267	3.51		2.77		DOUBLE 2.01	13	22	220							
		THROUGH 1800	267	4.27		2.77		DOUBLE 2.77	13	22	310							
	75 x 25 REROLLED END	1200 - 2100	267	2.77		2.01		DOUBLE 2.01	13	22	220							
		1200 - 2250	267	1.63 - 2.01		1.63		DOUBLE 2.01	13	22	220							
		2400 - 2550	267	2.01		2.01		DOUBLE 2.01	13	22	220							
		2250 - 3000	267	2.77		2.77		DOUBLE 2.77	13	22	310							

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION (mm)	PIPE SIZE (mm)	W (mm)	PIPE WALL THICKNESS SSRP (mm)	PIPE WALL THICKNESS ASRP (mm)	BAND THICKNESS SSRP (mm)	BAND THICKNESS ASRP (mm)	BAR AND STRAP (SSRP ONLY) STRAP THICKNESS (mm)	BAR AND STRAP (SSRP ONLY) BOLTS (mm ø)	BAR AND STRAP (SSRP ONLY) BAR Dia (mm)	BAR AND STRAP (SSRP ONLY) BAR YIELD STRENGTH (MPa)	ANGLE DIMENSIONS SSRP (mm)	ANGLE DIMENSIONS ASRP (mm)	ANGLE BOLTS (No.- mm ø) SSRP	ANGLE BOLTS (No.- mm ø) ASRP	ANGLE RIVETS ANGLE TO BAND SSRP	ANGLE RIVETS ANGLE TO BAND ASRP	ANGLE SPOT WELDS ANGLE TO BAND SSRP
ANNULAR	68 x 13 ✳ REROLLED END	600 - 900	305	1.63 - 2.77	1.52 - 2.67	1.63	1.52	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1050 - 1500	305	1.63 - 2.01	1.90 - 2.67	1.63	1.90	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1050 - 1500	305	2.77		1.63		2.01	13	22	220	51 x 51 x 6.4		3-13		5-9.5 mm		
		1650 - 2100	610	2.77		1.63		2.01	13	22	220	51 x 51 x 6.4		5-13		7-9.5 mm		
HUGGER	68 x 13 ✳ REROLLED END	600 - 1350	267	1.63 - 2.01		1.63		2.01	13	22	220							
		600 - 1200	267	2.77		1.63		2.01	13	22	220							
		1350 - 1650	267	2.77		1.63		Double 2.01	13	22	220							

✳ See Note 13.

13. All profiles of Spiral Rib Pipe (19 mm x 19 mm ribs at 191 mm pitch and 19 mm x 25 mm ribs at 292 mm pitch in both steel and aluminum and 19 mm x 25 mm ribs at 216 mm pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 68 mm x 13 mm annual corrugations with a minimum of two full corrugations at each end.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

NOTES

1. All ferrous metal coupling band connection hardware shall be galvanized or electro-plated in accordance with the Standard Specifications.
2. For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
3. Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
4. Use 32 mm gage line dimension on attached angle leg for rivets and spot welds.
5. Band thickness shall not be less than:
   a. 3 standard thicknesses lighter than the thickness of the pipe for corrugated steel pipe.
   b. 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 1.5 mm for corrugated aluminum pipe.
6. Dimensions, thicknesses and strengths shown are minimum.
7. For pipe arches use same width band as for round pipe of equal periphery.
8. Fillet welds of equivalent strength may be substituted for spot welds or rivets.
9. Spot welds shall develop minimum required strength of strap.
10. Pipe with rerolled ends having at least two 68 mm x 13 mm annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 68 mm x 13 mm corrugations.
11. In the case of H-305 huggerbands, two piece bands are required for diameters through 2400 mm and three piece bands are required for diameters 2550 mm through 3000 mm.
12. Two piece bands are required for pipes greater than 1050 mm diameter.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CORRUGATED METAL PIPE COUPLING DETAILS No. 6 POSITIVE JOINT

NO SCALE

RSP D97F DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97F
DATED July 1, 2004 - PAGE 188 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP D97F

2004 REVISED Std PLAN RSP D97F

05-19-08

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	13	31

Caltrans Metric

LICENSED LANDSCAPE ARCHITECT

March 7, 2008
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT Gregory A. Balzer 2516 Signature 02-28-2009 Renewal Date 02-21-08 Date STATE OF CALIFORNIA

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To accompany plans dated 5-17-10

2004 REVISED Std PLAN RSP H2

EXISTING	PROPOSED	ITEM DESCRIPTION
		WATER METER (WM)
		BACKFLOW PREVENTER ASSEMBLY (BPA)
		BACKFLOW PREVENTER ASSEMBLY IN ENCLOSURE (BPAE)
		BACKFLOW PREVENTER ENCLOSURE (BPE)
		BOOSTER PUMP (BP)
		TRUCK LOADING STANDPIPE (TLS)
fs	FS	FLOW SENSOR (FS)
		MASTER IRRIGATION CONTROLLER (MIC)
		AUXILIARY IRRIGATION CONTROLLER (AIC)
		IRRIGATION CONTROLLER (IC)/ IRRIGATION CONTROLLER (IC) (BATTERY)
		IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
		CONTROL AND NEUTRAL CONDUCTORS (CNC)
scc	SCC	SPRINKLER CONTROL CONDUIT (SCC)
		CONDUIT (COND)
		IRRIGATION SLEEVE
dip	DIP	DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (MAIN)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (LATERAL)
		PLASTIC PIPE (IRRIGATION LINE)
		REMOTE CONTROL VALVE (RCV) REMOTE CONTROL VALVE (MASTER) (RCVM)
		MANUAL CONTROL VALVE (MCV)
		VALVE ASSEMBLY UNIT (VAU)
		WYE STRAINER (WS)
		FILTER ASSEMBLY UNIT (FAU)
		GATE VALVE (GV)
		BALL VALVE (BV)

EXISTING	PROPOSED	ITEM DESCRIPTION
		QUICK COUPLING VALVE (QCV)
		CAM COUPLING ASSEMBLY (CCA)
		PRESSURE REDUCING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		NOZZLE LINE W/TURNING UNION
		IRRIGATION SYSTEM
		IRRIGATION SYSTEM TO BE REMOVED
		CHAIN LINK GATE
		QUICK COUPLING VALVE W/SPRINKLER PROTECTOR
3	3	SPRINKLER W/SPRINKLER PROTECTOR
		CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING

VALVE CODE

- RCV SIZE (mm)
- IRRIGATION CONTROLLER
- CONTROLLER STATION
- VALVE IN PARALLEL (IF APPLICABLE)
- L/min
- QUANTITY OF SPRINKLERS (WHEN SHOWN)

* 63.5-A-2b-151.4-60

- MCV SIZE (mm)
- VALVE NUMBER
- L/min
- QUANTITY OF TYPE SPRINKLERS (WHEN SHOWN)

* 50.8-3-113.5-50

* VALVE CODES FOR EXISTING VALVES ARE SHOWN IN A DASHED ENCLOSURE.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PLANTING AND IRRIGATION SYMBOLS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP H2 DATED MARCH 7, 2008 SUPERSEDES STANDARD PLAN H2 DATED JULY 1, 2004 - PAGE 202 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP H2

2-20-08

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	14	31

Caltrans Metric

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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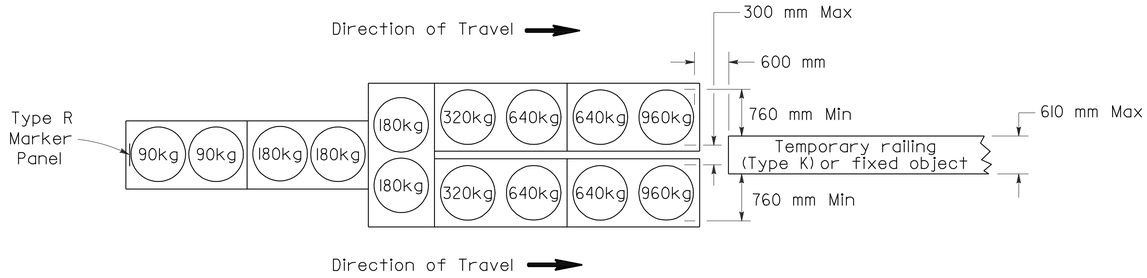
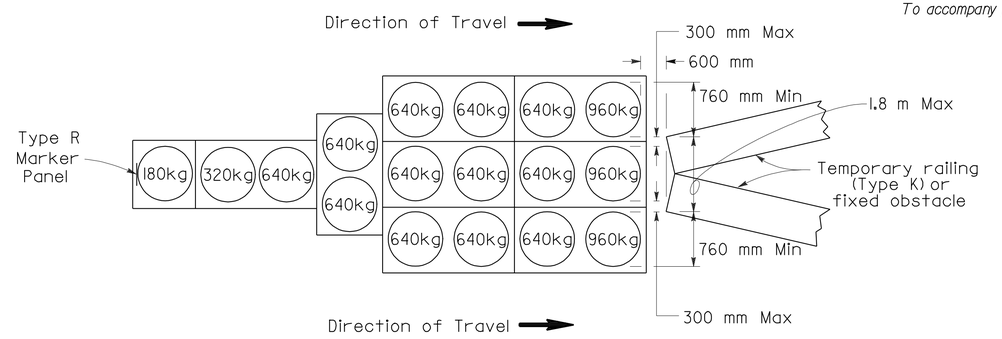
To accompany plans dated 5-17-10



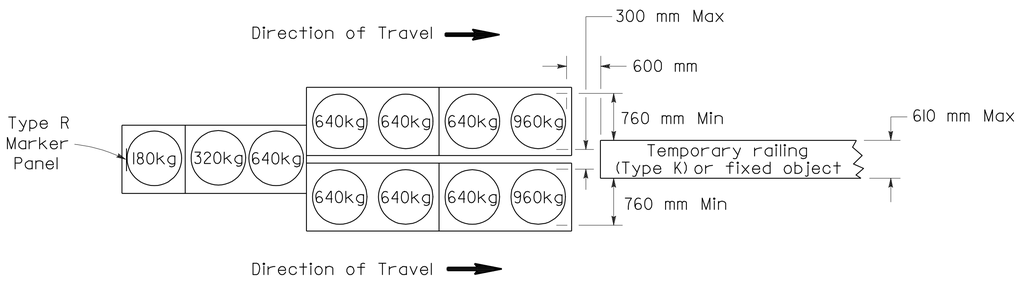
ARRAY 'TU14'

Approach speed 70 km/h or more



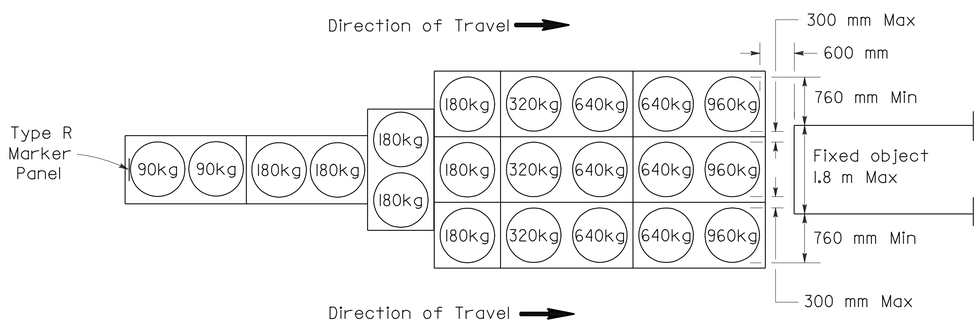
ARRAY 'TU17'

Approach speed less than 70 km/h



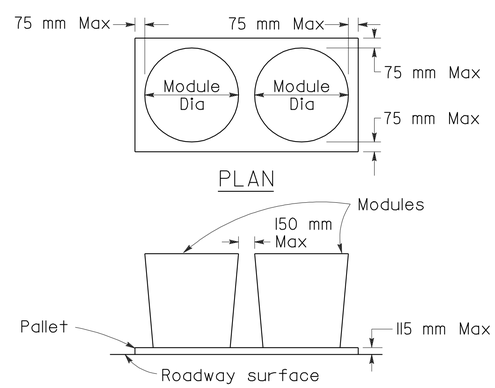
ARRAY 'TU11'

Approach speed less than 70 km/h



ARRAY 'TU21'

Approach speed 70 km/h or more



CRASH CUSHION PALLET DETAIL

See Note 7

NOTES

1. (XXX) Indicates sand filled module location and mass of sand in kilograms for each module. Module spacing is based on the greater diameter of the module.
2. All sand masses are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the top of Type R marker panel 25 mm below the module lid.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of Pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (UNIDIRECTIONAL)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP T1A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1A
DATED July 1, 2004 - PAGE 211 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP T1A

2004 REVISED Std PLAN RSP T1A

5-16-08

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	15	31

Caltrans Metric

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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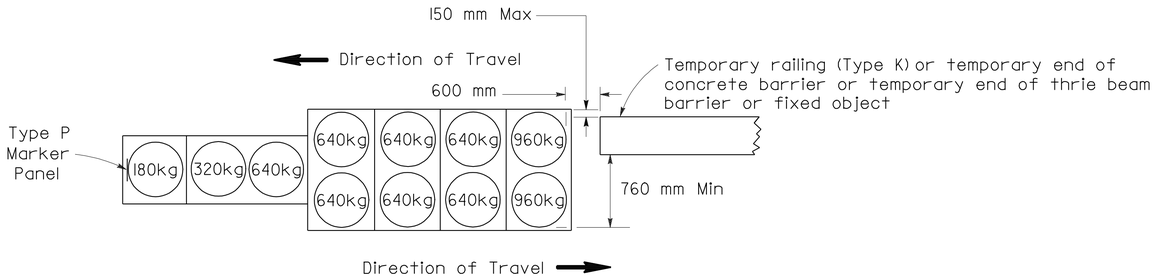
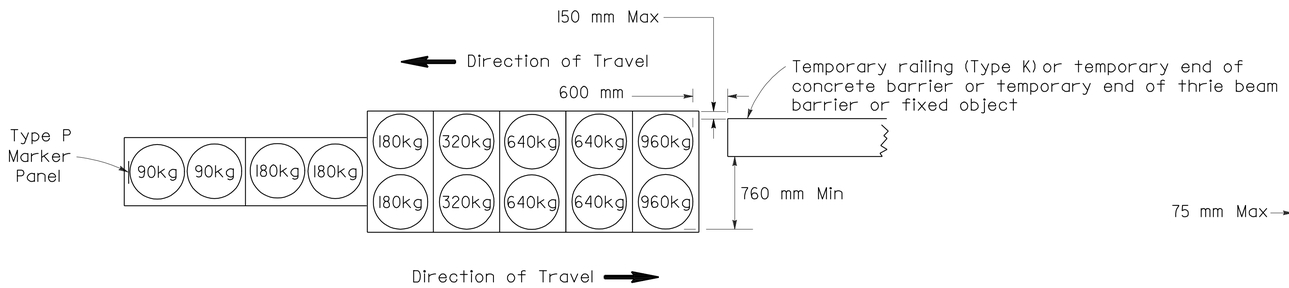
To accompany plans dated 5-17-10



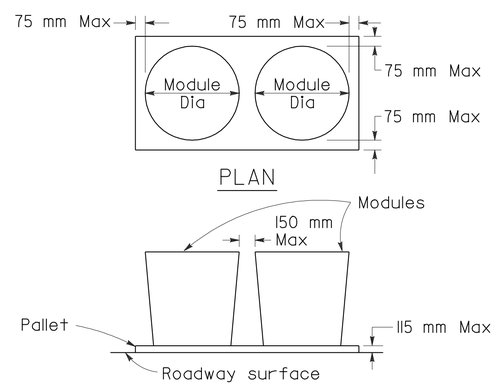
ARRAY 'TBI1'

Approach speed less than 70 km/h



ARRAY 'TBI4'

Approach speed 70 km/h or more



CRASH CUSHION PALLET DETAIL

See Note 7

NOTES

1. (XXX) Indicates sand filled module location and mass of sand in kilograms for each module. Module spacing is based on the greater diameter of the module.
2. All sand masses are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the Type P marker panel so that the bottom of the panel rests upon the pallet.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of Pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (BIDIRECTIONAL)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP T1B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1B DATED July 1, 2004 - PAGE 212 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP T1B

2004 REVISED Std PLAN RSP T1B

5-16-08

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	16	31

Caltrans Metric

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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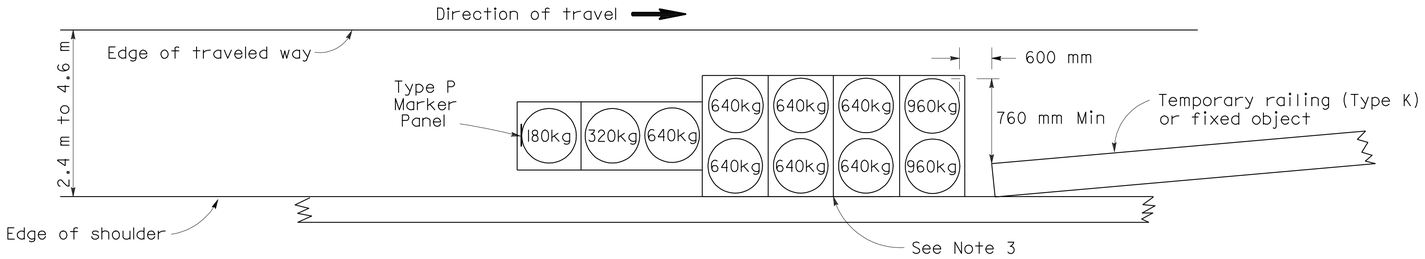
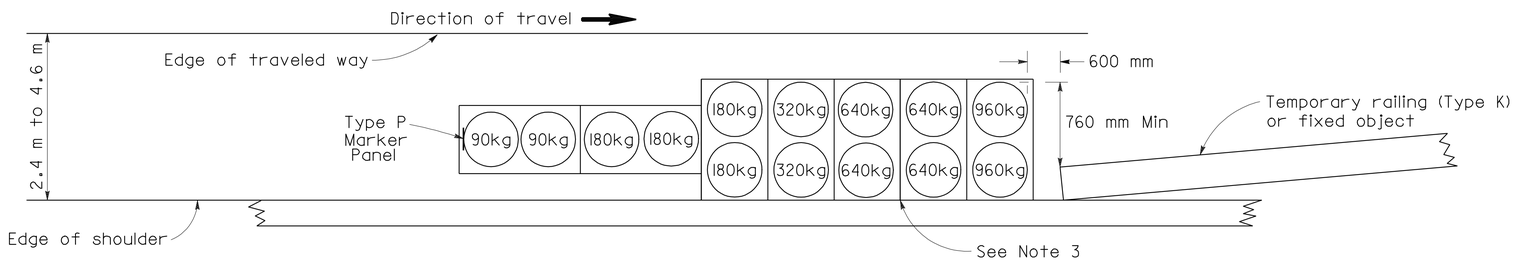
To accompany plans dated 5-17-10



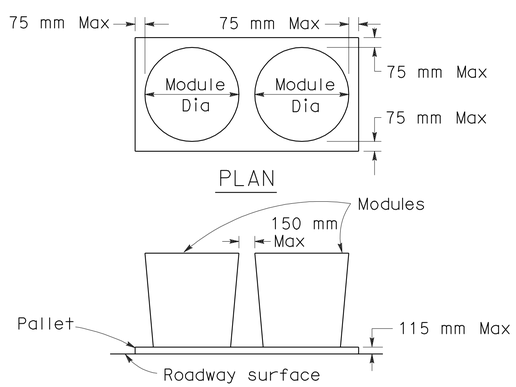
ARRAY 'TSI1'

Approach speed less than 70 km/h
See Note 9



ARRAY 'TSI4'

Approach speed 70 km/h or more
See Note 9



CRASH CUSHION PALLET DETAIL

See Note 11

NOTES

1. (XXX) Indicates sand filled module location and mass of sand in kilograms for each module. Module spacing is based on the greater diameter of the module.
2. All sand masses are nominal.
3. The temporary crash cushion arrays shown on this plan shall be used only in locations where there will be traffic on one side of the temporary crash cushion array.
4. If the fixed object or approach end of the temporary railing is less than 4.60 meters from the edge of traveled way, a temporary crash cushion is required.
5. Temporary crash cushion arrays shall not encroach on the traveled way.
6. Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
7. Place the Type P marker panel so that the bottom of the panel rest upon the pallet and faces traffic.
8. Refer to Standard Plan A73B for marker details.
9. For shoulder widths less than 2.4 m, appropriate approved crash cushion protection, other than sand filled modules, shall be provided at fixed objects and at approach ends of temporary railing. The specific type of crash cushion shall be as shown on the project plans or as specified in the Special Provisions, or if not shown on the project plans or specified in the Special Provisions, shall be as approved by the Engineer.
10. Approach speeds indicated conform to NCHRP 350 Report criteria.
11. Use of Pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (SHOULDER INSTALLATIONS)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED July 1, 2004 - PAGE 213 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP T2

2004 REVISED Std PLAN RSP T2

5-16-08

To accompany plans dated 5-17-10

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	17	31

REGISTERED CIVIL ENGINEER

November 17, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Greg W. Edwards No. C36386 Exp. 6-30-08 CIVIL — STATE OF CALIFORNIA

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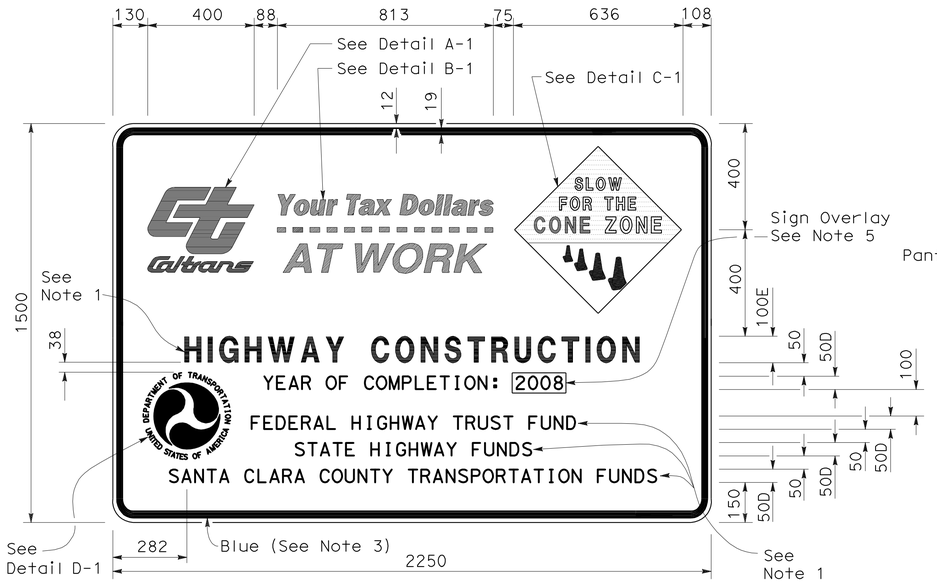
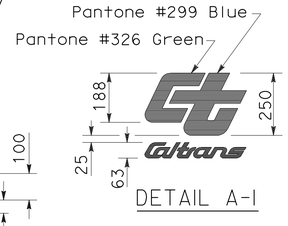
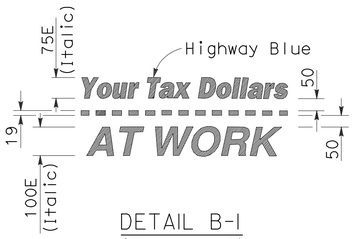


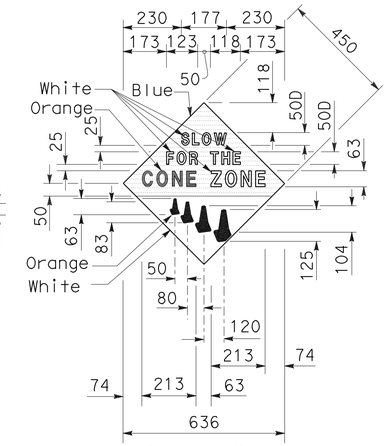
TYPE 1



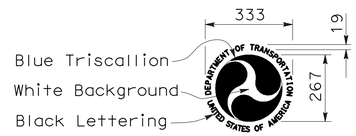
DETAIL A-1



DETAIL B-1
(See Note 3)



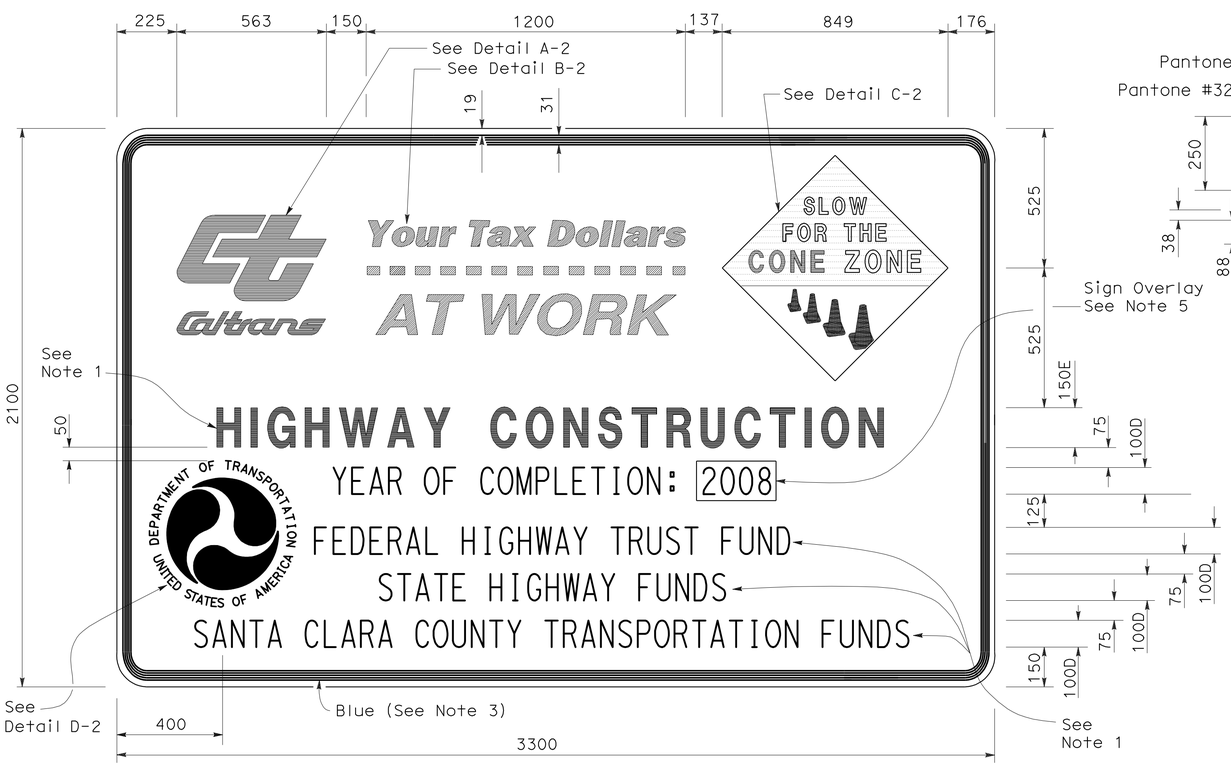
DETAIL C-1
(See Note 4)



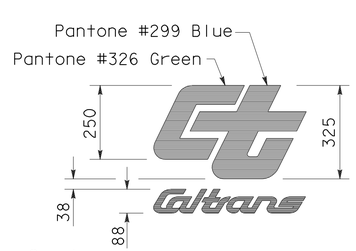
DETAIL D-1
(See Note 6)

NOTES:

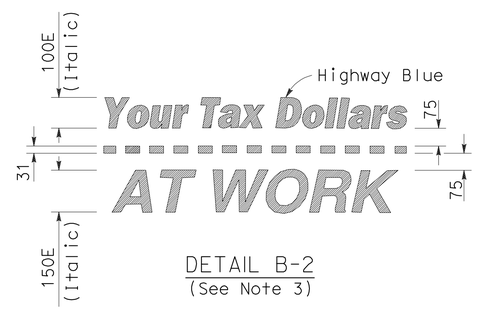
1. The sign messages shown for type of project and fund types are examples only. See the Special Provisions for the applicable type of project and fund type messages to be used.
2. Except as otherwise shown, the legend of sign shall be black on a white background (non-reflective).
3. The border of the signs and details "B-1" and "B-2" shall be blue (non-reflective).
4. The diamond in details "C-1" and "C-2" shall be blue for the background of message, " SLOW FOR THE CONE ZONE", and white background for the orange cones. The color and type of font for the "SLOW FOR THE CONE ZONE" message shall be: "SLOW" white D; "FOR THE" white D; "CONE" orange Arial font; "ZONE" white Arial font.
5. Year of completion of project construction shown on the overlay is an example only. See the Special Provisions.
6. Use when the Project involves Federal Highway Trust Fund.



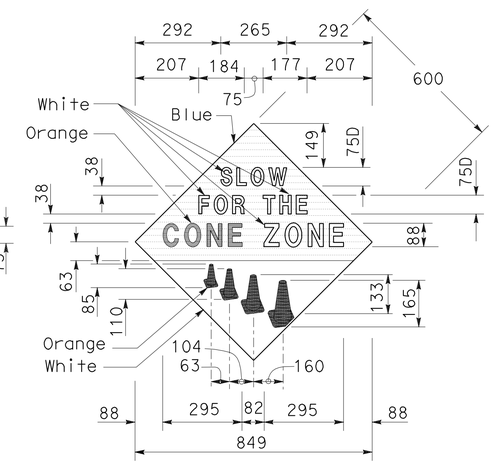
TYPE 2



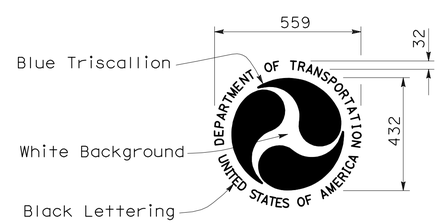
DETAIL A-2



DETAIL B-2
(See Note 3)



DETAIL C-2
(See Note 4)



DETAIL D-2
(See Note 6)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PROJECT FUNDING IDENTIFICATION SIGNS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP T7 DATED NOVEMBER 17, 2006 SUPERSEDES RSP T7 DATED APRIL 28, 2005 AND STANDARD PLAN T7 DATED JULY 1, 2004-PAGE 217 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP T7

2004 REVISED Std PLAN RSP T7

9-7-06

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	18	31

REGISTERED CIVIL ENGINEER

April 28, 2005
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER G.W. Edwards No. C36386 Exp. 6-30-06 CIVIL STATE OF CALIFORNIA

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Caltrans Metric

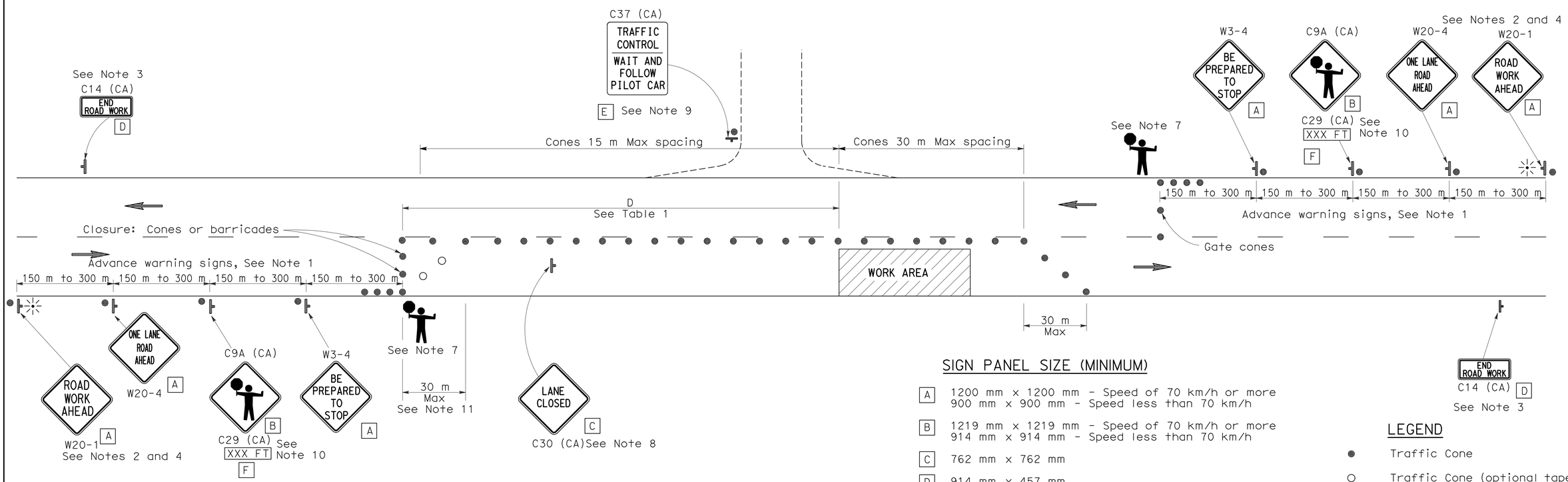
To accompany plans dated 5-17-10

NOTES

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on orange background.

California code are designated by (CA). Otherwise, Federal codes are shown.

TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL



SIGN PANEL SIZE (MINIMUM)

- A — 1200 mm x 1200 mm - Speed of 70 km/h or more; 900 mm x 900 mm - Speed less than 70 km/h
- B — 1219 mm x 1219 mm - Speed of 70 km/h or more; 914 mm x 914 mm - Speed less than 70 km/h
- C — 762 mm x 762 mm
- D — 914 mm x 457 mm
- E — 914 mm x 1067 mm
- F — 914 mm x 229 mm

LEGEND

- Traffic Cone
- Traffic Cone (optional taper)
- Temporary Sign
- Direction of Travel
- Portable Flashing Beacon
- Flagger

NOTES

1. Where approach speeds are low, advance warning signs may be placed at 90 m spacing, and closer in urban areas.
2. Each advance warning sign in each direction of travel shall be equipped with at least two flags for daytime closure. Each flag shall be at least 400 mm x 400 mm in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
3. A C14 (CA) "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
4. If the W20-1 sign would follow within 600 m of a stationary W20-1 or C11 (CA) "ROAD WORK NEXT_____ MILES", use a C16 (CA) sign for the first advance warning sign.
5. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
6. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
7. Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging-station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 6 m in diameter. Place a minimum of four cones at 15 m intervals in advance of flagger station as shown.
8. Place C30 (CA) "LANE CLOSED" sign at 150 to 300 m intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
9. When a pilot car is used, place a C37 (CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign at all intersections within traffic control area. Signs shall be clean and visible at all times.
10. An optional C29 (CA) sign may be placed below the C9A (CA) sign.
11. Traffic cones or barricades may be placed on the optional taper as shown, barricades shall be Type I, II, or III.

TABLE I

Approach Speed	Minimum D	Downgrade Minimum D *
km/h	m	m
30	60	72
40	60	72
50	60	72
60	90	108
70	90	108
80	150	180
90	150	180
100	150	180
110	170	204

* Use on substained downgrade steeper than -3 percent and longer than 1.6 km.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON TWO LANE CONVENTIONAL HIGHWAYS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP T13 DATED APRIL 28, 2005 SUPERSEDES STANDARD PLAN T13 DATED JULY 1, 2004-PAGE 222 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP T13

2004 REVISED Std PLAN RSP T13

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	19	31

T J Powell 8-28-09
REGISTERED CIVIL ENGINEER

5-17-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER TIMOTHY J. POWELL No. C 61037 Exp. 12-31-10 CIVIL STATE OF CALIFORNIA

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www.dot.ca.gov

NOTES:
(APPLY TO ALL SHEETS)

and/or — Indicates existing.

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STANDARD PLANS DATED JULY 1999

SHEET NO.	TITLE
A10A	ACRONYMS AND ABBREVIATIONS (A-L)
A10B	ACRONYMS AND ABBREVIATIONS (M-Z)

CURVE DATA

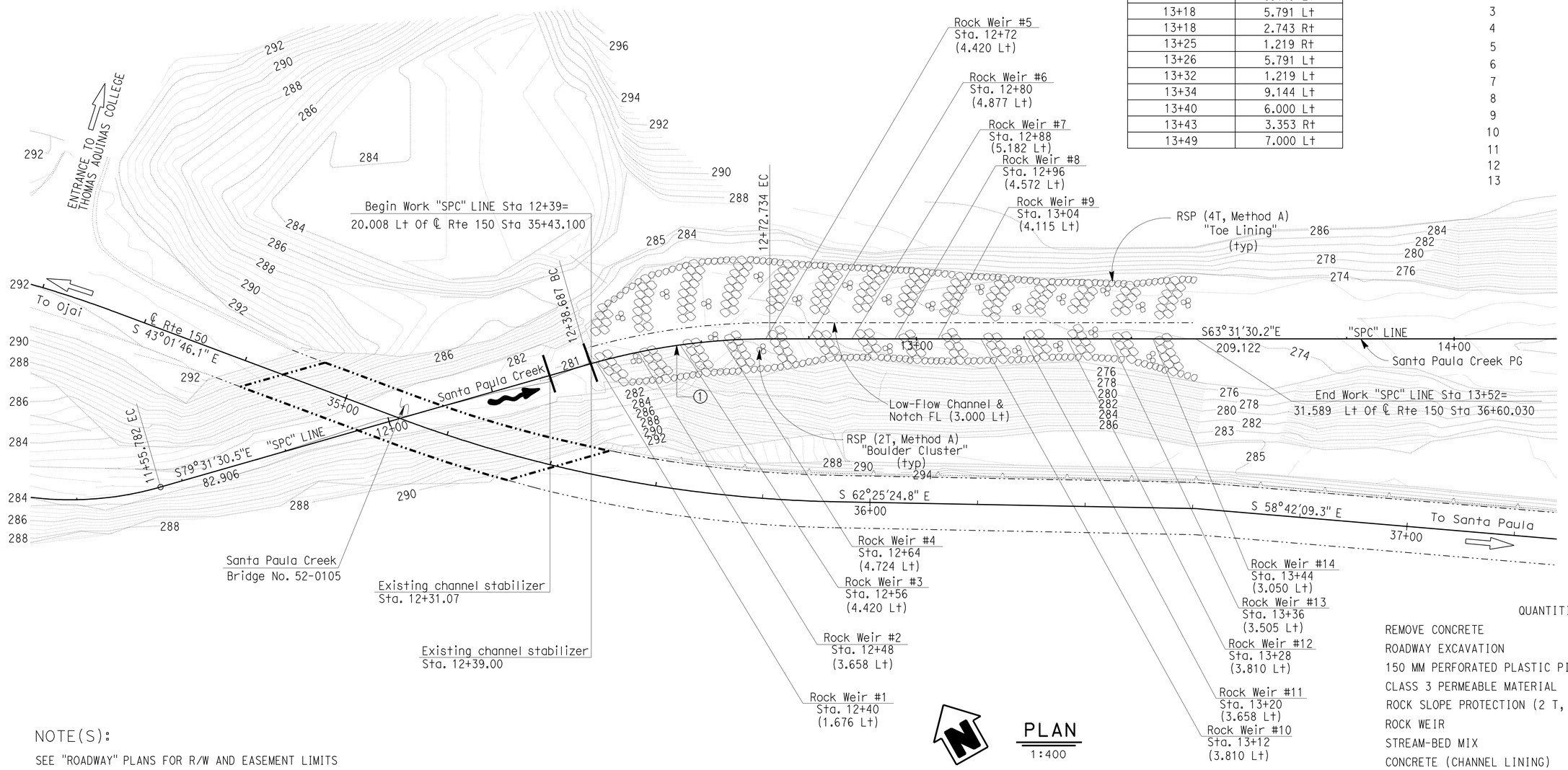
CURVE NO.	RADIUS	DELTA	TANGENT	LENGTH
1	121.920	16°00'00"	17.135	34.043

"BOULDER CLUSTER" LOCATIONS

STATION	OFFSET
12+46	7.000 Lt
12+47	0.610 Rt
12+53	10.363 Lt
12+61	6.706 Lt
12+62	0.000
12+70	11.582 Lt
12+71	2.438 Rt
12+77	7.315 Lt
12+86	10.000 Lt
12+94	7.620 Lt
12+94	1.829 Rt
13+03	6.000 Lt
13+11	9.449 Lt
13+18	5.791 Lt
13+18	2.743 Rt
13+25	1.219 Rt
13+26	5.791 Lt
13+32	1.219 Lt
13+34	9.144 Lt
13+40	6.000 Lt
13+43	3.353 Rt
13+49	7.000 Lt

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN
2	DRAINAGE PROFILE #1
3	DRAINAGE PROFILE #2
4	DRAINAGE PROFILE #3
5	DRAINAGE PROFILE #4
6	DRAINAGE PROFILE #5
7	DRAINAGE DETAILS #1
8	DRAINAGE DETAILS #2
9	DRAINAGE DETAILS #3
10	STAGE CONSTRUCTION #1
11	STAGE CONSTRUCTION #2
12	STAGE CONSTRUCTION #3
13	STAGE CONSTRUCTION #4



NOTE(S):

SEE "ROADWAY" PLANS FOR R/W AND EASEMENT LIMITS

QUANTITIES

REMOVE CONCRETE	2	m^3
ROADWAY EXCAVATION	7385	m^3
150 MM PERFORATED PLASTIC PIPE UNDERDRAIN	212	m
CLASS 3 PERMEABLE MATERIAL	3158	m^3
ROCK SLOPE PROTECTION (2 T, METHOD A)	3361	m^3
ROCK WEIR	1918	TONN
STREAM-BED MIX	1343	m^3
CONCRETE (CHANNEL LINING)	195	m^3

Caltrans Metric

Michael J. Lee 8-28-09
DESIGN ENGINEER

STRUCTURE MAINTENANCE DESIGN
GENERAL PLAN & DETAIL SHEET
(METRIC) (REV. (8/2/05)

	BY	CHECKED
DESIGN	Bruce D. Swanger	Tim Powell
DETAILS	Bruce D. Swanger	Tim Powell
QUANTITIES	Bruce D. Swanger	Tim Powell
LAYOUT	N. Kelley	Bruce D. Swanger
SPECIFICATIONS	David Klein	PLANS AND SPECS COMPARED David Klein

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. 52-0105
KILOMETER POST 46.00

SANTA PAULA CREEK ROCK WEIR SYSTEM
GENERAL PLAN

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 07260
EA 4L5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 5-12-06 5-17-06 5-18-06 4-20-09 5-08-09 5-15-09 8-24-09

SHEET 1 OF 13

FILE => 07-415701_01gp.dgn

USERNAME => s135318 DATE PLOTTED => 17-MAY-2010 TIME PLOTTED => 10:14

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	20	31

REGISTERED CIVIL ENGINEER 6-16-09

5-17-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BRUCE D. SWANGER No. C 61257 Exp. 06-30-11 CIVIL STATE OF CALIFORNIA

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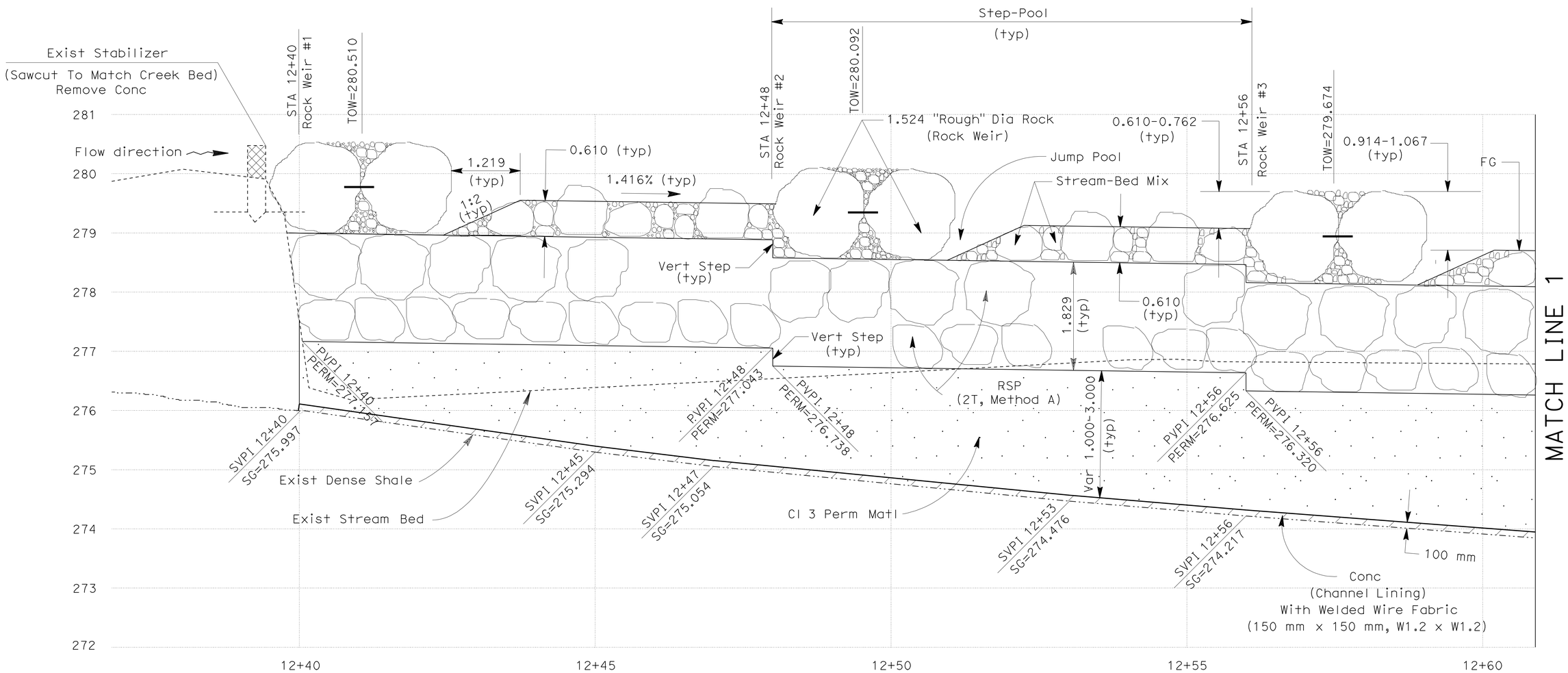
Abbreviations

SVPI	Subgrade Vertical Point of Intersection
SG	Subgrade Elevation
PVPI	CI 3 Perm Matl Vertical Point of Intersection
PERM	Top of CI 3 Perm Matl Elevation
TOW	Top of Weir Elevation



PROFILE
NO SCALE

DESIGN	BY Bruce D. Swanger	CHECKED Tim Powell	
DETAILS	BY Bruce D. Swanger	CHECKED Tim Powell	
QUANTITIES	BY Bruce D. Swanger	CHECKED Tim Powell	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. 52-0105
KILOMETER POST 46.00

SANTA PAULA CREEK ROCK WEIR SYSTEM
DRAINAGE PROFILE NO. 1

Caltrans Metric

STRUCTURE MAINTENANCE DESIGN
GENERAL PLAN & DETAIL SHEET
(METRIC) (REV. (8/2/05)

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 07260
EA 4L5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 5-18-06 5-23-06 5-25-06 4-20-09 5-08-09 5-15-09 6-16-09

SHEET 2 OF 13

FILE => 07-415701_02pro1.dgn

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REGISTERED CIVIL ENGINEER 6-16-09

5-17-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BRUCE D. SWANGER No. C 61257 Exp. 06-30-11 CIVIL STATE OF CALIFORNIA

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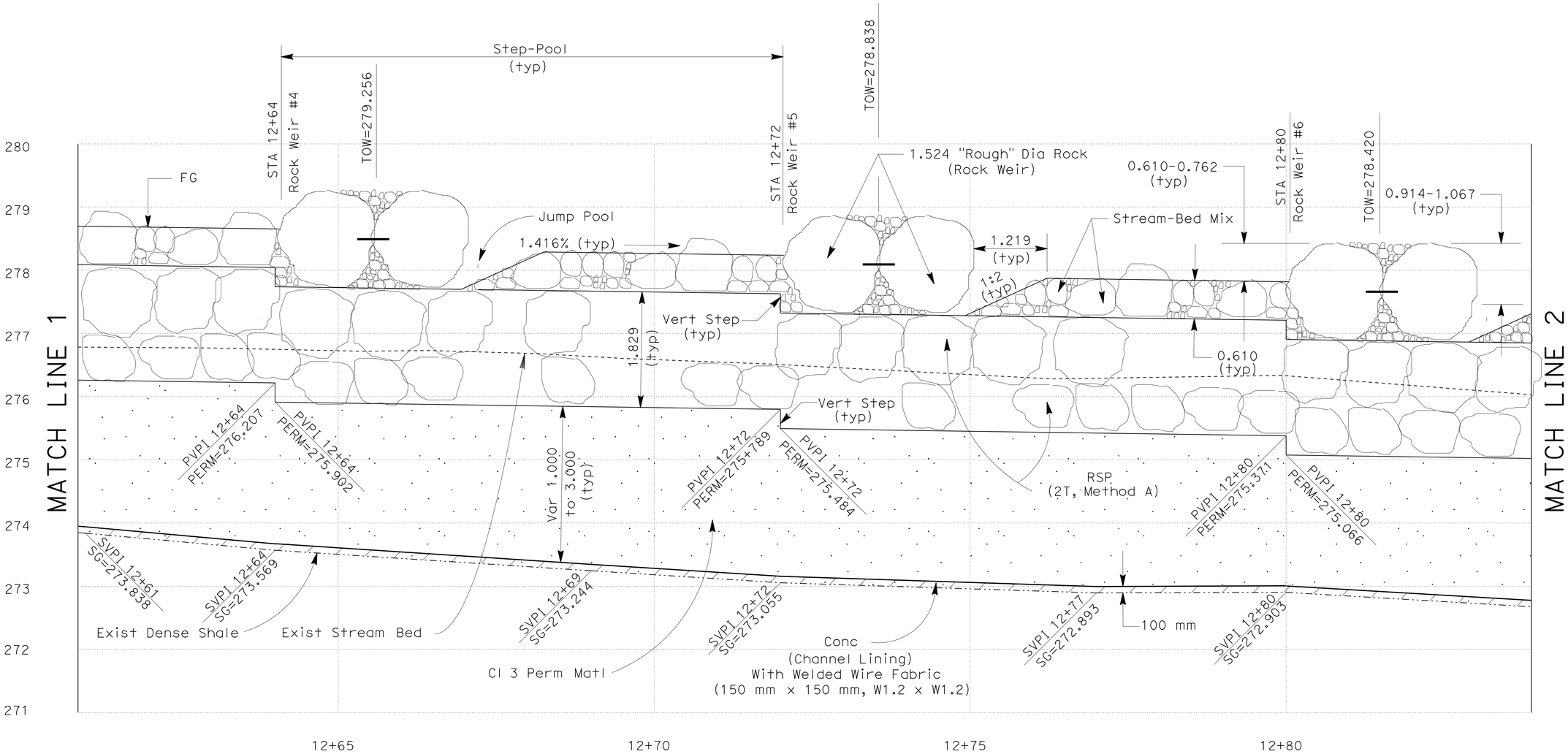

PROFILE
NO SCALE

DESIGN	BY Bruce D. Swanger	CHECKED Tim Powell	
DETAILS	BY Bruce D. Swanger	CHECKED Tim Powell	
QUANTITIES	BY Bruce D. Swanger	CHECKED Tim Powell	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. 52-0105
KILOMETER POST 46.00

SANTA PAULA CREEK ROCK WEIR SYSTEM
DRAINAGE PROFILE NO. 2

Caltrans Metric

STRUCTURE MAINTENANCE DESIGN
GENERAL PLAN & DETAIL SHEET
(METRIC) (REV. (8/2/05)

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 07260
EA 4L5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 5-18-06 5-23-06 5-25-06 4-20-09 5-08-09 5-15-09 6-16-09

SHEET 3 OF 13

FILE => 07-415701_03pro2.dgn

USERNAME => ttmikes1 DATE PLOTTED => 17-MAY-2010 TIME PLOTTED => 11:03

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REGISTERED CIVIL ENGINEER 6-16-09

5-17-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BRUCE D. SWANGER No. C 61257 Exp. 06-30-11 CIVIL STATE OF CALIFORNIA

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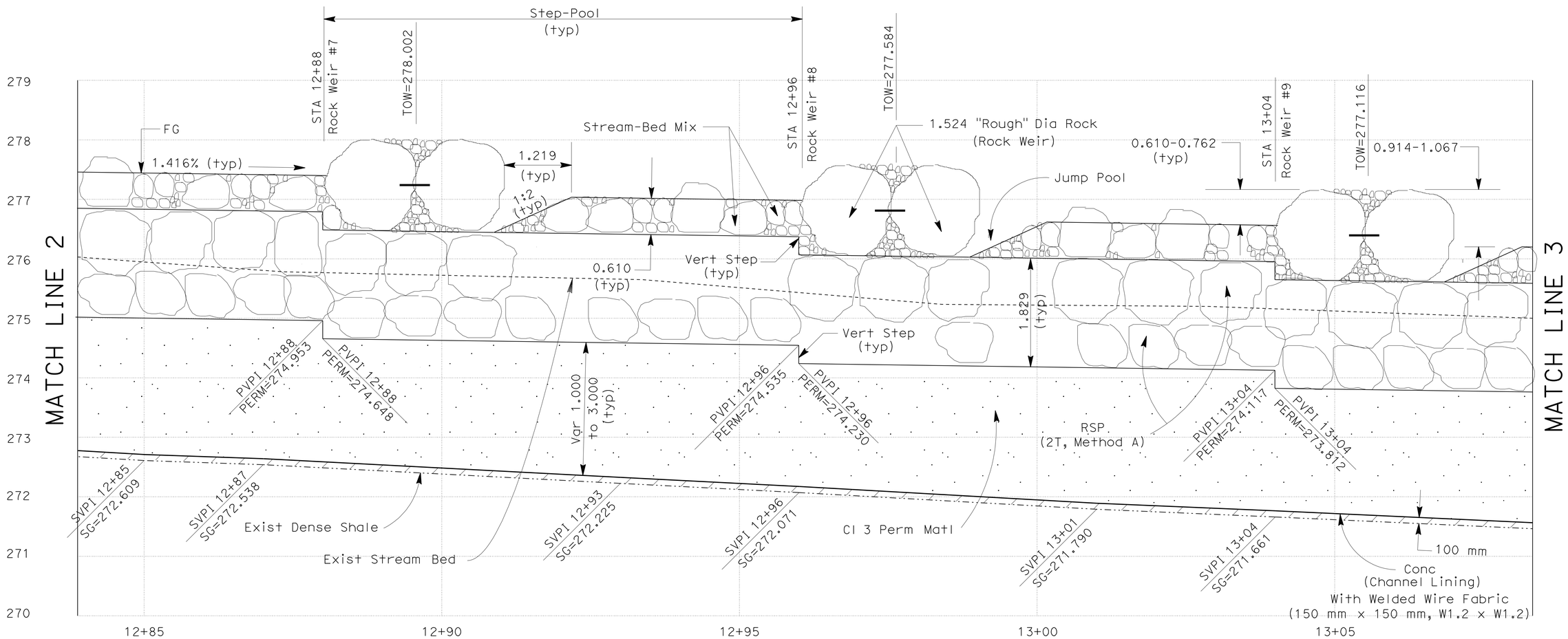

PROFILE
NO SCALE

DESIGN	BY Bruce D. Swanger	CHECKED Tim Powell	
DETAILS	BY Bruce D. Swanger	CHECKED Tim Powell	
QUANTITIES	BY Bruce D. Swanger	CHECKED Tim Powell	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. 52-0105
KILOMETER POST 46.00

SANTA PAULA CREEK ROCK WEIR SYSTEM
DRAINAGE PROFILE NO. 3

Caltrans Metric

STRUCTURE MAINTENANCE DESIGN GENERAL PLAN & DETAIL SHEET (METRIC) (REV. (8/2/05)

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 07260
EA 4L5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 5-18-06 5-23-06 5-25-06 4-20-09 5-08-09 5-15-09 6-16-09

SHEET 4 OF 13

FILE => 07-415701_04pro3.dgn

USERNAME => trmikesl DATE PLOTTED => 17-MAY-2010 TIME PLOTTED => 11:03

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	23	31

REGISTERED CIVIL ENGINEER 6-16-09

5-17-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BRUCE D. SWANGER No. C 61257 Exp. 06-30-11 CIVIL STATE OF CALIFORNIA

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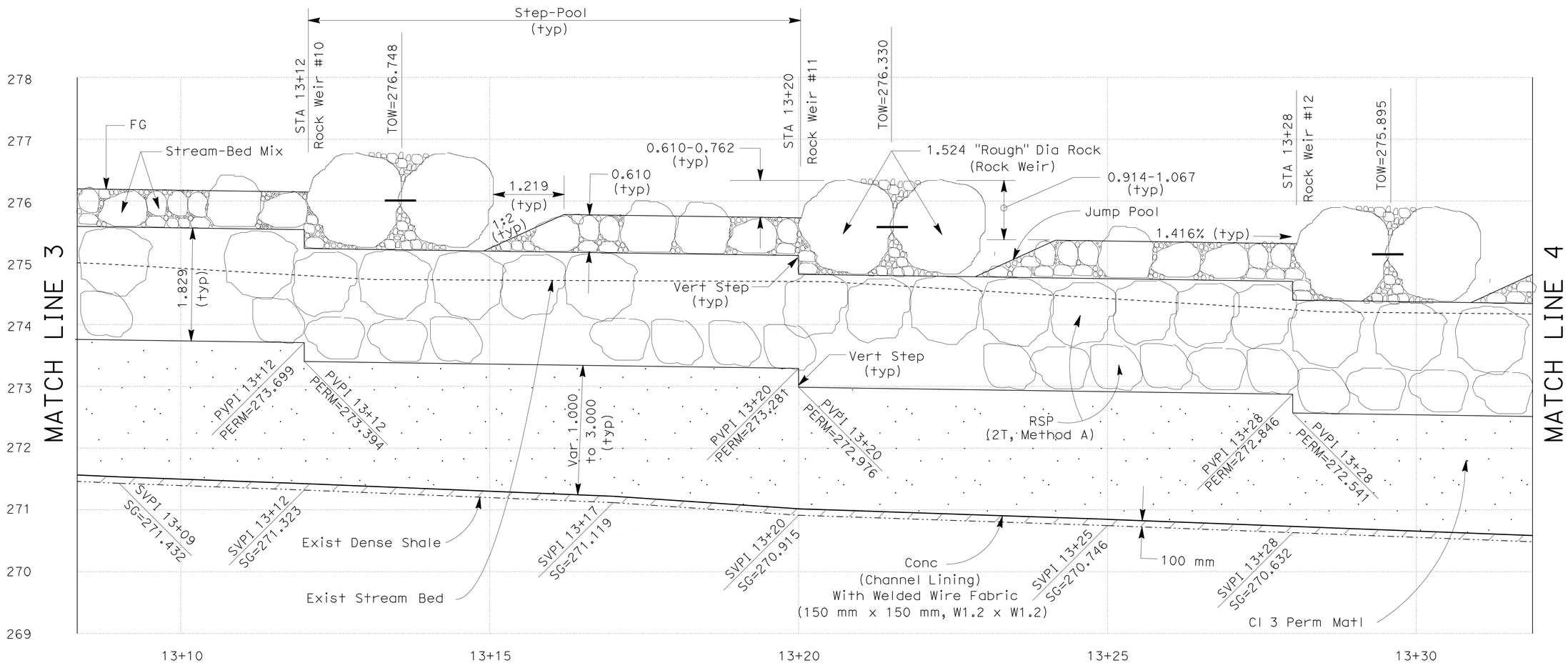

PROFILE
NO SCALE

DESIGN	BY Bruce D. Swanger	CHECKED Tim Powell	
DETAILS	BY Bruce D. Swanger	CHECKED Tim Powell	
QUANTITIES	BY Bruce D. Swanger	CHECKED Tim Powell	

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. 52-0105
KILOMETER POST 46.00

SANTA PAULA CREEK ROCK WEIR SYSTEM
DRAINAGE PROFILE NO. 4

Caltrans Metric

STRUCTURE MAINTENANCE DESIGN GENERAL PLAN & DETAIL SHEET (METRIC) (REV. 8/2/05)

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 07260
EA 4L5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 5-18-06 5-23-06 5-25-06 4-20-09 5-08-09 5-15-09 6-16-09

SHEET 5 OF 13

FILE => 07-415701_05pro4.dgn

USERNAME => trmikes1 DATE PLOTTED => 17-MAY-2010 TIME PLOTTED => 11:03

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	33,150	48.0,50.8, 46.0	24	31

REGISTERED CIVIL ENGINEER 6-16-09

5-17-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BRUCE D. SWANGER No. C 61257 Exp. 06-30-11 CIVIL STATE OF CALIFORNIA

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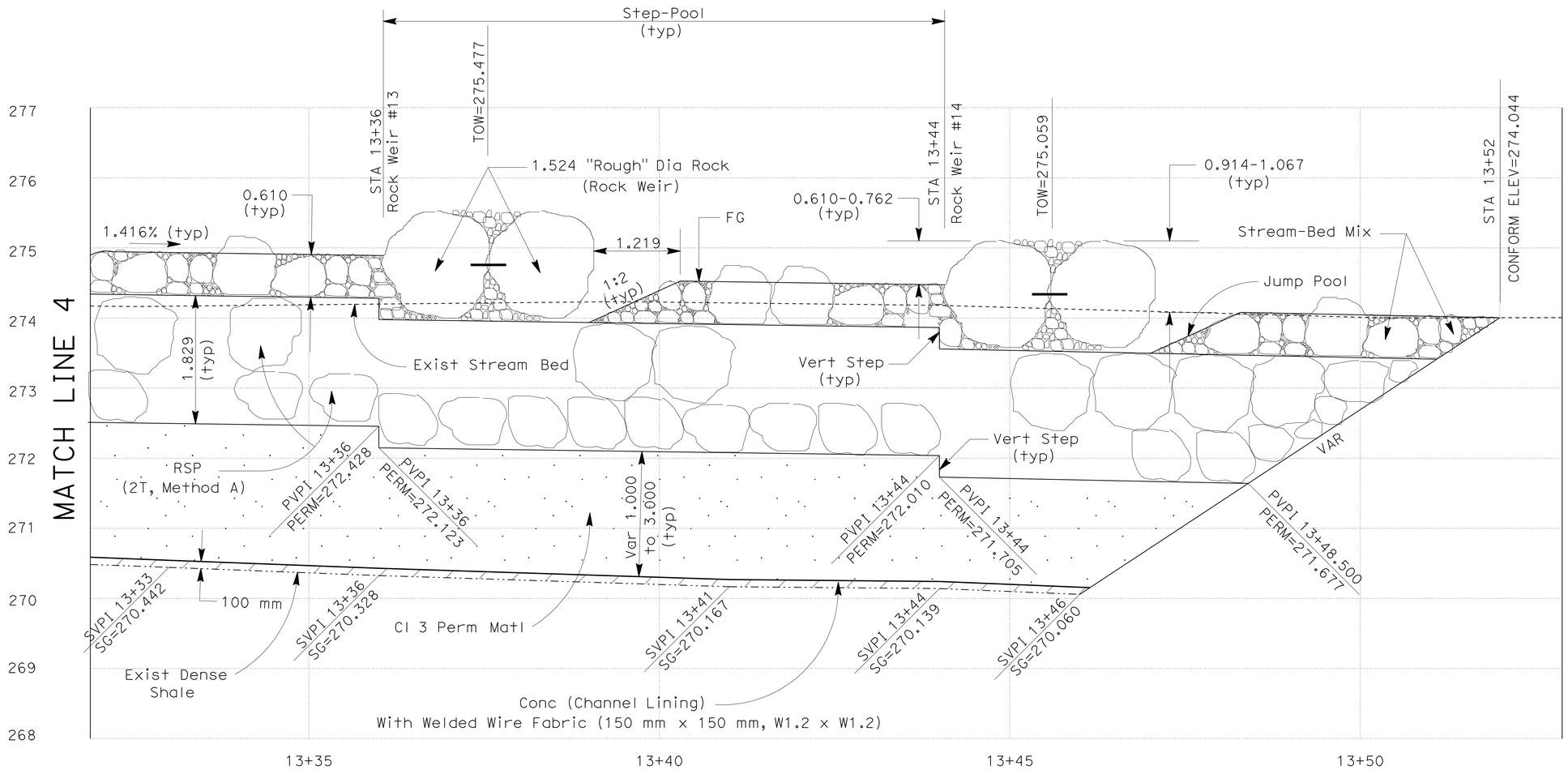

PROFILE

NO SCALE

DESIGN	BY Bruce D. Swanger	CHECKED Tim Powell	
DETAILS	BY Bruce D. Swanger	CHECKED Tim Powell	
QUANTITIES	BY Bruce D. Swanger	CHECKED Tim Powell	

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. 52-0105
KILOMETER POST 46.00

SANTA PAULA CREEK ROCK WEIR SYSTEM

DRAINAGE PROFILE NO. 5

Caltrans Metric

STRUCTURE MAINTENANCE DESIGN GENERAL PLAN & DETAIL SHEET (METRIC) (REV. (8/2/05)

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 07260
EA 4L5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 5-18-06 5-23-06 5-25-06 4-20-09 5-08-09 5-15-09 6-16-09

SHEET 6 OF 13

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REGISTERED CIVIL ENGINEER 6-16-09

5-17-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BRUCE D. SWANGER No. C 61257 Exp. 6-30-11 CIVIL STATE OF CALIFORNIA

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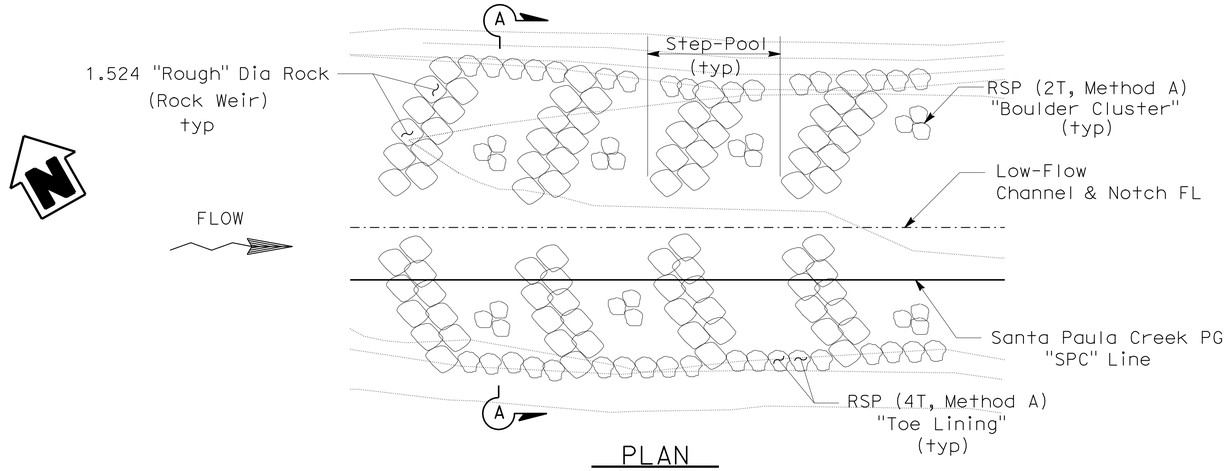


PLAN

NO SCALE

LEGEND (SECTION A-A)

RSP (2T, Method A)

Stream-Bed Mix

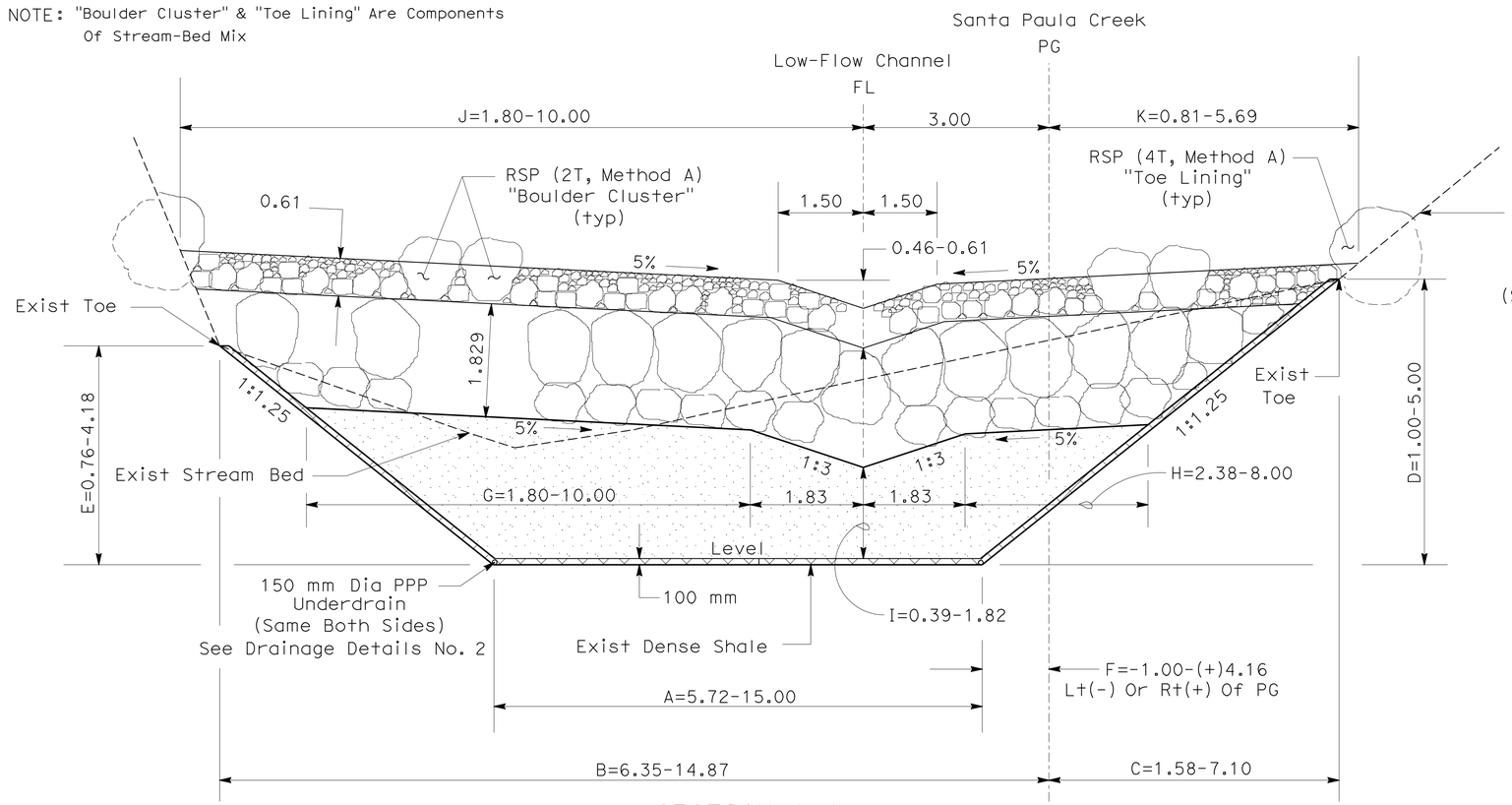
Conc (Channel Lining)
With Welded Wire Fabric
(150 mm x 150 mm, W1.2 x W1.2)

Cl 3 Perm Matl

NOTE: "Boulder Cluster" & "Toe Lining" Are Components Of Stream-Bed Mix

** At Locations With Natural Slopes, Key-Into Slope With "Toe-Lining" & Use RSP (Light,Method B) With Cobble/Gravel Mix Components Of Stream-Bed Mix As Backfill Between "Toe Lining" & Exist Natural Slope

* At Locations With Exist Conc RSP Lined Slopes, Backfill Only



SECTION A-A
(STEP-POOL TYPICAL SECTION)

NO SCALE

Cross Section Dimensions

STA	A	B	C	D	E	F	G	H	I	J	K
12+40	5.72	6.35	1.58	1.00	0.76	+0.36	1.80	3.00	0.39	1.80	1.86
12+50	15.00	13.73	7.10	2.35	2.25	+4.16	8.95	8.00	1.00	7.34	5.69
12+60	11.31	14.87	4.40	3.64	2.77	-0.10	10.00	4.00	1.58	10.00	2.89
12+70	11.64	14.00	6.63	4.00	3.28	+2.67	8.73	6.35	1.82	8.72	5.10
12+80	9.77	14.14	4.76	5.00	3.34	-0.20	8.55	4.12	1.70	8.55	2.95
12+90	7.52	13.61	3.18	3.79	3.63	+1.56	7.33	2.38	1.43	7.41	0.81
13+00	7.89	13.00	5.00	4.48	3.62	-0.62	6.82	3.47	1.56	6.82	2.30
13+10	7.71	12.21	5.60	4.73	3.35	-0.32	6.32	3.82	1.56	6.36	2.58
13+20	6.48	11.35	4.72	4.45	3.22	-0.84	5.60	3.29	1.56	5.60	2.12
13+30	6.00	11.66	4.15	4.13	3.72	-1.00	4.72	2.57	1.14	4.70	1.37
13+40	6.86	12.21	5.90	4.82	4.18	-0.13	4.58	3.39	1.10	4.58	2.22
13+52	Conform	Conform	Conform	Conform	Conform	Conform	Conform	Conform	Conform	Conform	Conform

Caltrans Metric

	BY	CHECKED
DESIGN	Bruce D. Swanger	Tim Powell
DETAILS	Bruce D. Swanger	Tim Powell
QUANTITIES	Bruce D. Swanger	Tim Powell

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. 52-0105
KILOMETER POST 46.00

SANTA PAULA CREEK ROCK WEIR SYSTEM
DRAINAGE DETAILS NO. 1

STRUCTURE MAINTENANCE DESIGN
GENERAL PLAN & DETAIL SHEET
(METRIC) (REV. (8/2/05)

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 07260
EA 4L5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 5-18-06 5-23-06 5-25-06 4-20-09 5-08-09 5-15-09 6-16-09

SHEET 7 OF 13

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REGISTERED CIVIL ENGINEER 6-16-09

5-17-10
PLANS APPROVAL DATE

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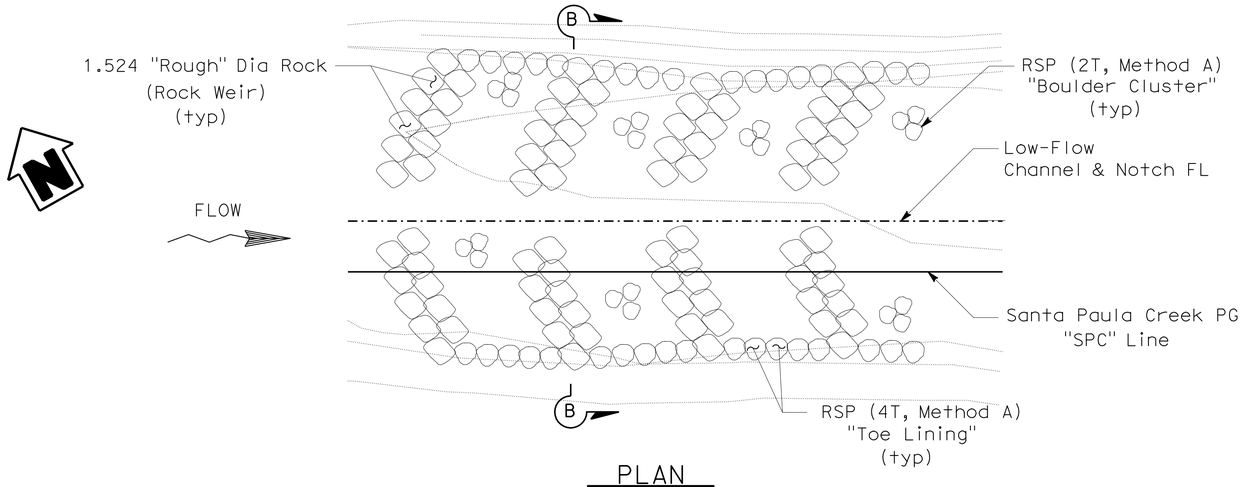


PLAN

NO SCALE

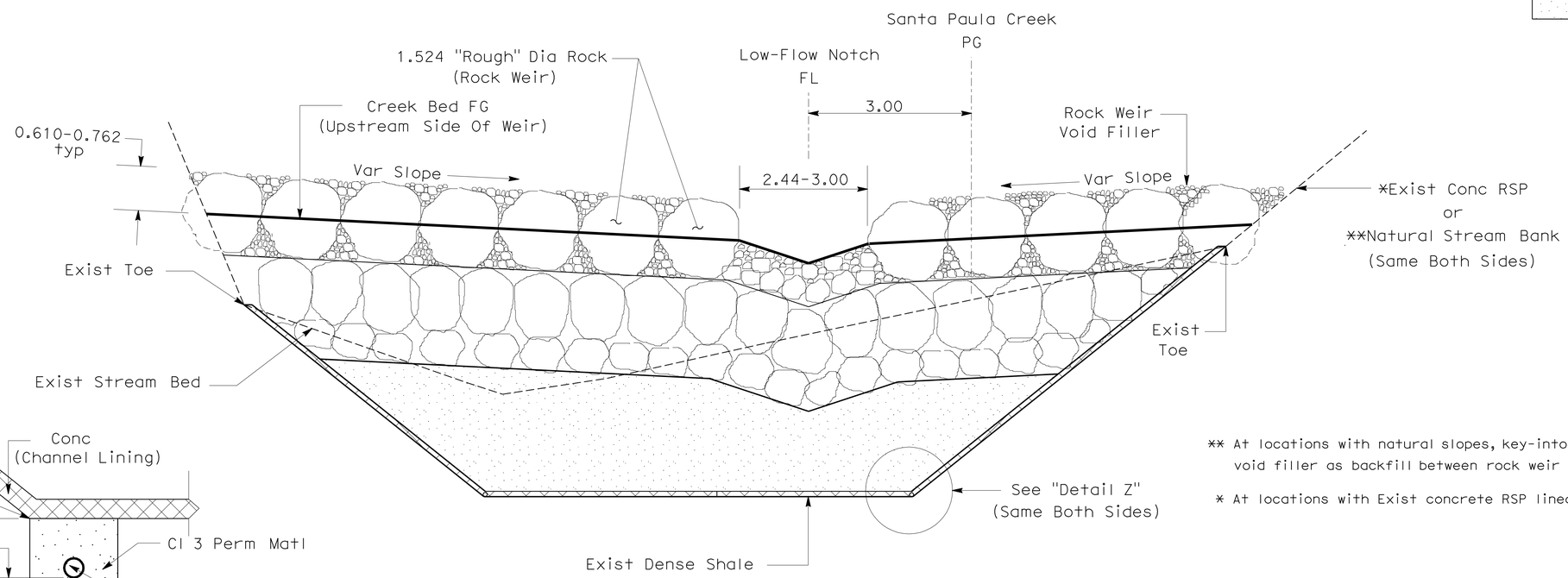
LEGEND (SECTION B-B)

RSP (2T, Method A)

Stream-Bed Mix

Conc (Channel Lining)
With Welded Wire Fabric
(150 mm x 150 mm, W1.2 x W1.2)

Cl 3 Perm Matl



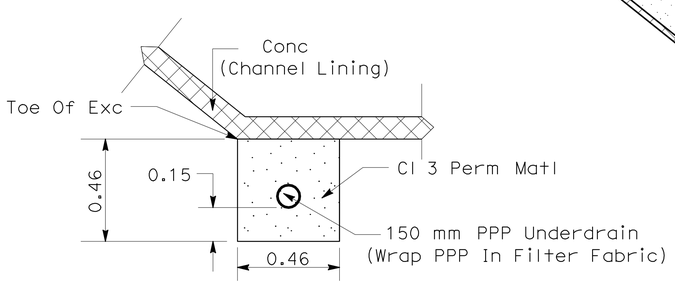
SECTION B-B
(ROCK WEIR TYPICAL SECTION)

NO SCALE

** At locations with natural slopes, key-into slope with rock weir & use rock weir void filler as backfill between rock weir & exist natural slope.

* At locations with Exist concrete RSP lined slopes, backfill only.

NOTE: See Drainage Details No. 3 for additional rock weir details.



DETAIL Z
(STA 12+40 TO STA 13+46)

NO SCALE

Caltrans Metric

DESIGN	BY Bruce D. Swanger	CHECKED Tim Powell	
DETAILS	BY Bruce D. Swanger	CHECKED Tim Powell	
QUANTITIES	BY Bruce D. Swanger	CHECKED Tim Powell	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. 52-0105
KILOMETER POST 46.00

SANTA PAULA CREEK ROCK WEIR SYSTEM
DRAINAGE DETAILS NO. 2

STRUCTURE MAINTENANCE DESIGN
GENERAL PLAN & DETAIL SHEET
(METRIC) (REV. (8/2/05)

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 07260
EA 4L5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 5-18-06 5-23-06 5-25-06 4-20-09 5-08-09 5-15-09 6-16-09

SHEET 8 OF 13

FILE => 07-415701_08drndet12.dgn

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REGISTERED CIVIL ENGINEER 6-16-09

5-17-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BRUCE D. SWANGER No. C 61257 Exp. 6-30-11 CIVIL STATE OF CALIFORNIA

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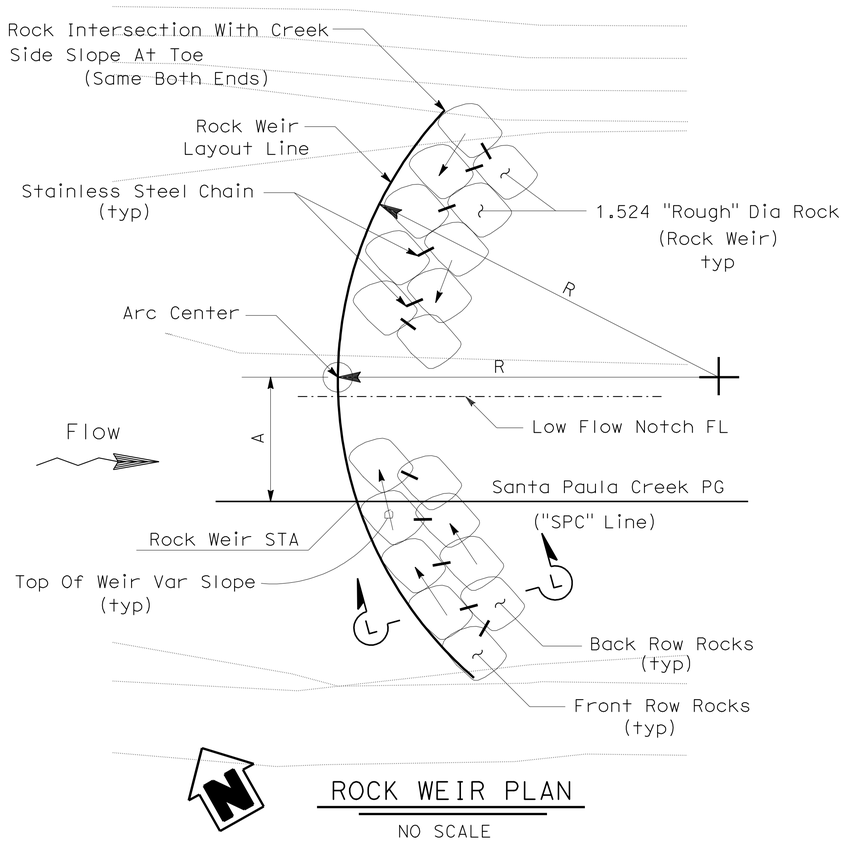
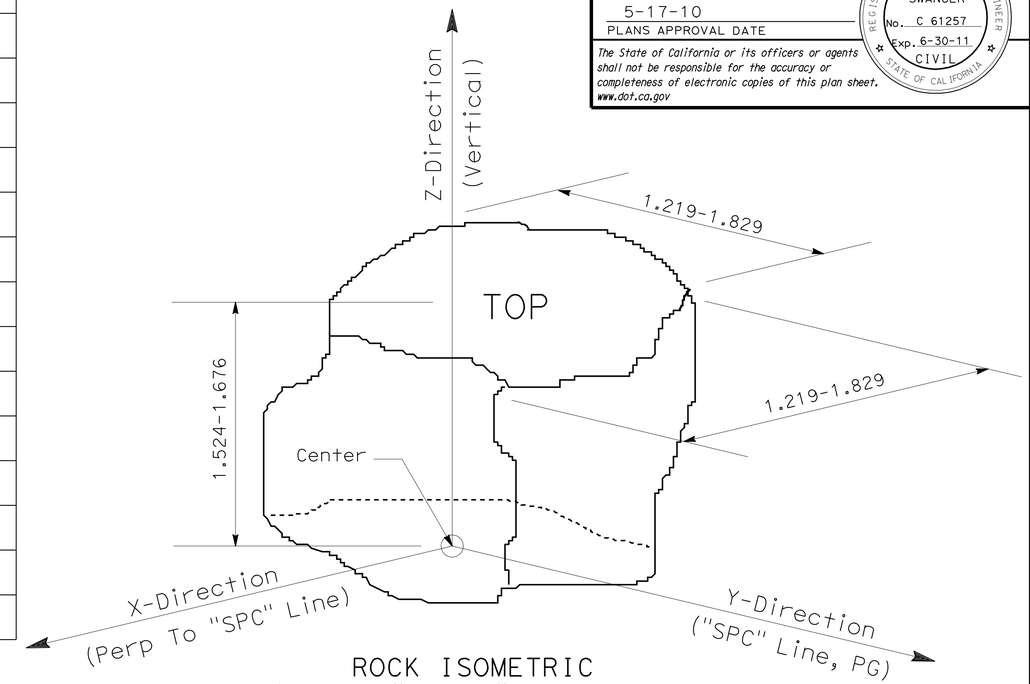


ROCK WEIR PLAN

NO SCALE

ROCK WEIR LAYOUT DIMENSIONS

ROCK WEIR #	STA	A	R
1	12+40	1.676	10.668
2	12+48	3.658	16.154
3	12+56	4.420	17.678
4	12+64	4.724	17.069
5	12+72	4.420	16.154
6	12+80	4.877	13.411
7	12+88	5.182	12.192
8	12+96	4.572	12.497
9	13+04	4.115	12.192
10	13+12	3.810	10.973
11	13+20	3.658	10.058
12	13+28	3.810	9.754
13	13+36	3.505	10.058
14	13+44	3.050	14.935



ROCK ISOMETRIC
(1.524 "Rough" Dia Rock)

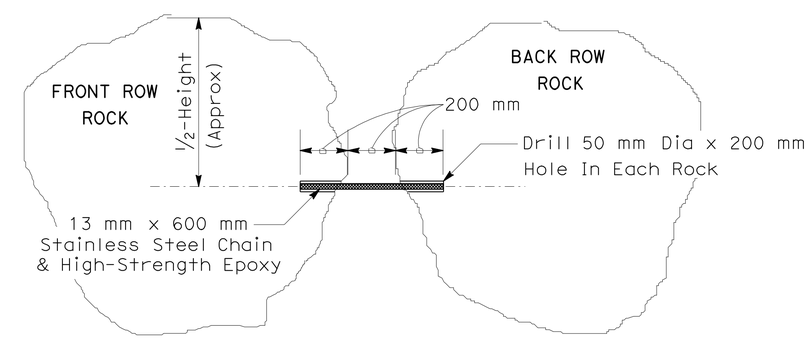
NO SCALE

ROCK WEIR PLAN NOTES:

1. Place a single layer of 1.524 "Rough" Dia rock (Rock Weir) over RSP (2T, Method A) following the rock weir layout line. Top of rock weir will naturally slope toward low-flow notch without additional effort by following rock weir layout line.
2. Stagger rows of rocks shown by placing a back row rock between two front row rocks in order to reduce voids in rock weir.
3. After both rows of rocks have been placed, rock groups chained together and in final position, place rock weir void filler between rocks and compact to fill voids.
4. The number of 1.524 "Rough" Dia rocks required to construct each weir Will vary due to differences in rock shape and size.

SECTION L-L NOTES:

1. Using chain pattern shown in "Rock Weir Plan", front row rocks shall be chained to back row rocks in groups Of 2 or 3 to form rock groups. Rock groups of 3 shall occur at the ends of a weir or at the low-flow notch where required.
2. Place chain in drill holes with no more than 25 mm of sag in each chain.
3. Once chain is in place, fill drill holes with high-strength epoxy.
4. After high-strength epoxy has set, return rock groups into final position with 3-point contact between rocks.



SECTION L-L

NO SCALE

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DESIGN	BY Bruce D. Swanger	CHECKED Tim Powell	
DETAILS	BY Bruce D. Swanger	CHECKED Tim Powell	
QUANTITIES	BY Bruce D. Swanger	CHECKED Tim Powell	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. 52-0105
KILOMETER POST 46.00

SANTA PAULA CREEK ROCK WEIR SYSTEM
DRAINAGE DETAILS NO. 3

STRUCTURE MAINTENANCE DESIGN GENERAL PLAN & DETAIL SHEET (METRIC) (REV. (8/2/05)

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 07260
EA 4L5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 5-18-06 5-23-06 5-25-06 4-20-09 5-08-09 5-15-09 6-16-09

SHEET 9 OF 13

FILE => 07-415701_09drndet3.dgn

USERNAME => trstrk DATE PLOTTED => 17-MAY-2010 TIME PLOTTED => 10:20

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	33,150	48.0,50.8 46.0	28	31

REGISTERED CIVIL ENGINEER 6-16-09

5-17-10
PLANS APPROVAL DATE

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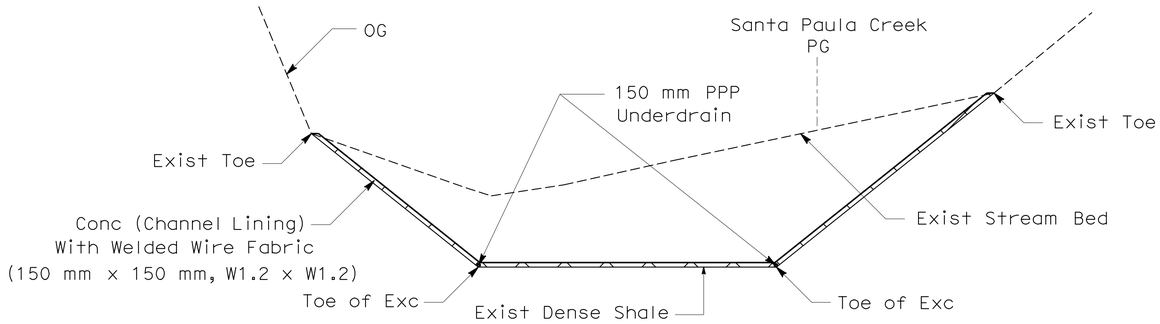


CROSS SECTION
(STA 12+40 TO STA 13+46)

NO SCALE

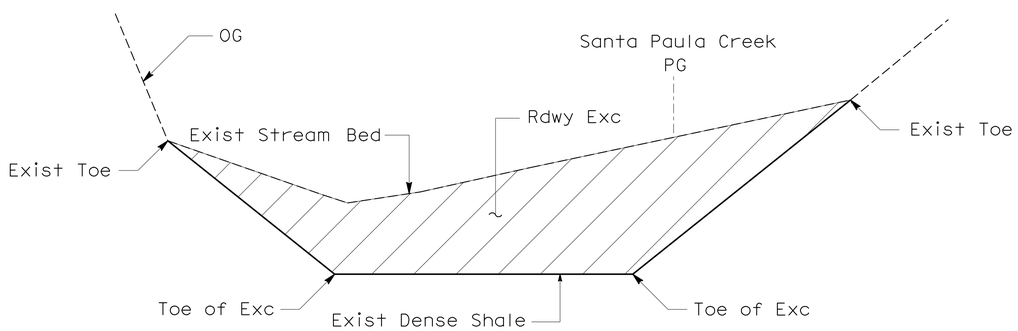
STAGE 2

ORDER OF WORK:

Step A. Construct 150 mm PPP underdrain from Sta 12+40 to Sta 13+46 per "Detail Z" on Drainage Details No. 2.

B. Place welded wire fabric (150 mm x 150 mm, w1.2 x w1.2) from Sta 12+40 to Sta 13+46.

C. Place 100 mm thick layer of Conc (Channel Lining) from Sta 12+40 to Sta 13+46 on bottom and side slopes.



CROSS SECTION
(STA 12+40 TO STA 13+52 CONFORM TO OG)

NO SCALE

STAGE 1

Perform excavation (Rdwy Exc) of existing stream bed from Sta 12+40 to Sta 13+52 (Conform) Per Drainage Profile No. 1-5 Sheets & Drainage Details No. 1. Stockpile native material for future use.

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STRUCTURE MAINTENANCE DESIGN GENERAL PLAN & DETAIL SHEET (METRIC) (REV. (8/2/05)

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

DESIGN	BY Bruce D. Swanger	CHECKED Tim Powell	
DETAILS	BY Bruce D. Swanger	CHECKED Tim Powell	
QUANTITIES	BY Bruce D. Swanger	CHECKED Tim Powell	

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SANTA PAULA CREEK ROCK WEIR SYSTEM
STAGE CONSTRUCTION NO. 1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): ~~5-18-06~~ ~~5-23-06~~ ~~5-25-06~~ ~~4-20-09~~ ~~5-08-09~~ ~~5-15-09~~ 6-16-09

SHEET 10 OF 13

FILE => 07-415701_10stage1.dgn

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	33,150	48.0,50.8 46.0	29	31

REGISTERED CIVIL ENGINEER 6-16-09

5-17-10
PLANS APPROVAL DATE

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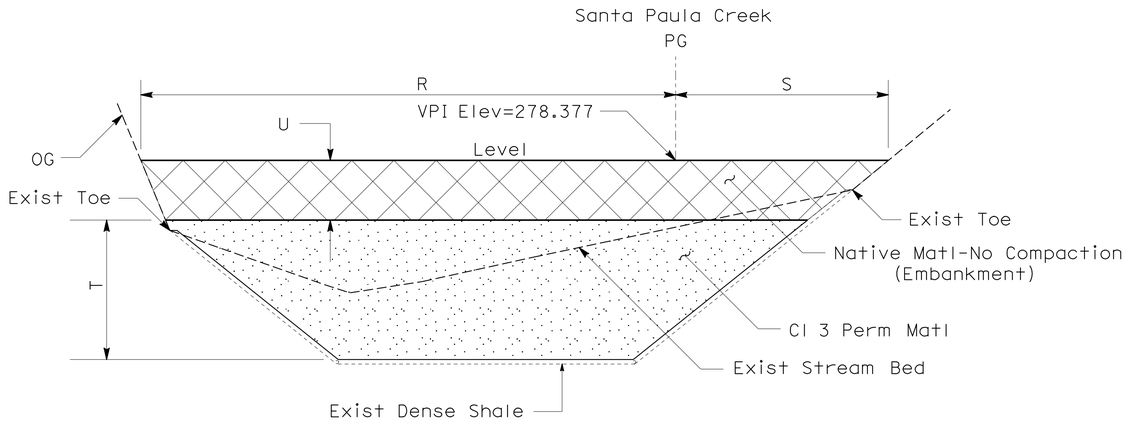


CROSS SECTION
(STA 12+40)

NO SCALE

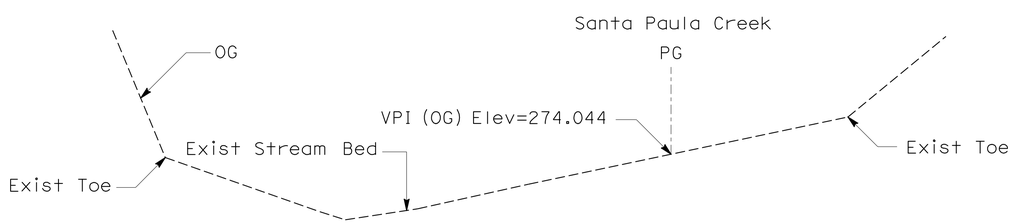
NOTES:

1. See Table M for R, S, T, U dimensions.
2. Native material (Embankment) provides a temporary platform for construction equipment to perform work in Stage 4.

TEMPORARY LONGITUDINAL SLOPE
(STA 12+40 To 13+52):
3.869%

TABLE M

Station	R	S	T	U
12+40	7.478	3.015	1.158	1.219
12+48	12.816	5.872	1.876	1.219
12+56	15.498	6.843	2.322	1.219
12+64	14.858	5.777	2.660	1.219
12+72	14.843	6.310	2.865	1.219
12+80	14.536	4.712	2.707	1.219
12+88	13.851	3.289	2.441	1.524
12+96	13.473	4.358	2.516	1.524
13+04	13.091	4.820	2.616	1.524
13+12	12.476	4.991	2.339	1.829
13+20	11.902	4.615	2.437	1.829
13+28	11.813	4.418	2.411	1.829
13+36	12.200	4.919	2.405	1.829
13+44	12.309	5.749	1.684	2.429
13+46	12.333	6.018	1.690	2.429
13+48.5	12.312	6.225	1.698	2.429
13+52	Conform	Conform	Conform	Conform



CROSS SECTION
(STA 13+52 Conform To OG)

NO SCALE

STAGE 3

ORDER OF WORK:

Step A. Place Cl 3 perm material and native material (no compaction) at 3.869% longitudinal slope and level cross slope from Sta 12+40 to Sta 13+52 (conform to OG).

B. Sawcut Exist Conc stabilizer at Sta 12+39 to match creek bed (remove Conc).

Caltrans Metric

STRUCTURE MAINTENANCE DESIGN GENERAL PLAN & DETAIL SHEET (METRIC) (REV. 8/2/05)

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

	BY	CHECKED
DESIGN	Bruce D. Swanger	Tim Powell
DETAILS	Bruce D. Swanger	Tim Powell
QUANTITIES	Bruce D. Swanger	Tim Powell

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

CU 07260
EA 4L5701

BRIDGE NO. 52-0105
KILOMETER POST 46.00

SANTA PAULA CREEK ROCK WEIR SYSTEM
STAGE CONSTRUCTION NO. 2

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 5-18-06 5-23-06 5-26-06 4-20-09 5-08-09 5-15-09 6-16-09

SHEET 11 OF 13

FILE => 07-415701_11stage2.dgn

USERNAME => trstrk DATE PLOTTED => 17-MAY-2010 TIME PLOTTED => 10:20

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	33,150	48.0,50.8 46.0	30	31

REGISTERED CIVIL ENGINEER 6-16-09

5-17-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BRUCE D. SWANGER No. C 61257 Exp. 6-30-11 CIVIL STATE OF CALIFORNIA

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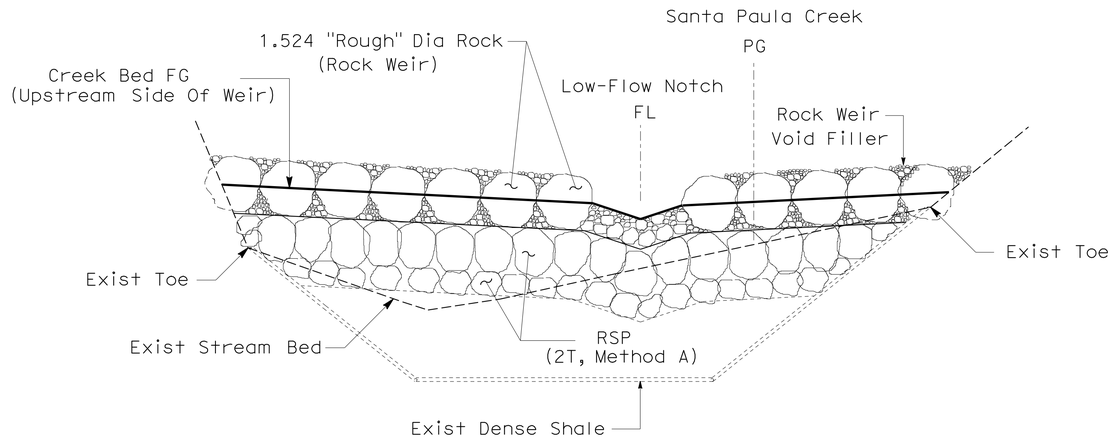
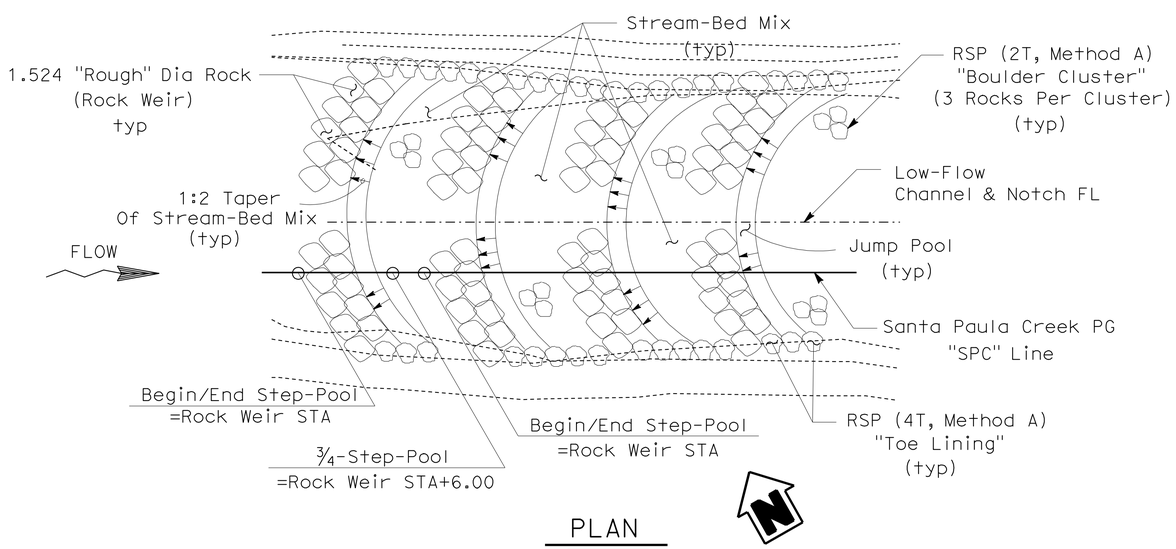
NOTE: Each rock weir/step-pool system shall be constructed in its entirety prior to construction of next rock weir/step-pool system to preserve integrity of cross slopes, grades, and vert steps.



CROSS SECTION Y
(ROCK WEIR LOCATIONS)

NO SCALE



PLAN

NO SCALE

STAGE 4

ORDER OF WORK:

Step A. Excavate Cl 3 Perm material and native material, shown in "Cross Section X", with proper cross section shape, cross slopes, vert steps, & longitudinal grade per Drainage Profile No. 1-5 and Drainage Details No. 1 Sheets from Sta 12+40 (begin Step-Pool) to Sta 12+46 (3/4 Step-Pool). Stockpile Cl 3 perm material and native material separately for future use.

B. Place 1.829 thick layer of RSP (2T, method A) over Cl 3 perm material from Sta 12+40 (begin Step-Pool) to Sta 12+46 (3/4 Step-Pool).

C. Construct rock weir @ Sta 12+40 shown in "Cross Section Y" and "Plan" in one operation:

Sub-Step 1. Place 1.524 "Rough" dia rock over RSP (2T, Method A) into final position per Drainage Detail No. 2 and 3 sheets.

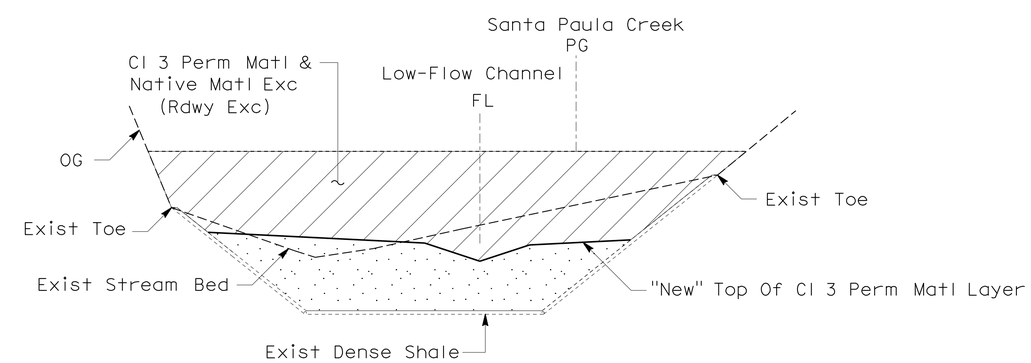
2. Move individual rocks of rock weir from final position required to allow adequate space for rock chaining.

3. Drill holes into each rock & connect front row rocks to back row rocks per Drainage Details No. 3 Sheet with chains & high-strength epoxy to form 2-Rock or 3-Rock groups. After epoxy has set, return rock groups to final position.

4. Pour native material component of rock weir void filler over rock weir & compact to fill voids in bottom of rock weir.

5. Place RSP (Light, Method B) component of rock weir void filler on top of rock weir to fill large voids.

6. Pour additional native material on top of rock weir & compact to fill small voids remaining in rock weir.



CROSS SECTION X
(STA 12+40-STA 13+52 Conform To OG)

NO SCALE

Caltrans Metric

STRUCTURE MAINTENANCE DESIGN GENERAL PLAN & DETAIL SHEET (METRIC) (REV. (8/2/05)

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

	BY		CHECKED
DESIGN	BY	Bruce D. Swanger	CHECKED Tim Powell
DETAILS	BY	Bruce D. Swanger	CHECKED Tim Powell
QUANTITIES	BY	Bruce D. Swanger	CHECKED Tim Powell

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STRUCTURE MAINTENANCE DESIGN

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EA 4L5701

BRIDGE NO. 52-0105
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SANTA PAULA CREEK ROCK WEIR SYSTEM

STAGE CONSTRUCTION NO. 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 5-18-06 5-23-06 5-25-06 4-20-09 5-08-09 5-15-09 6-16-09

SHEET 12 OF 13

FILE => 07-415701_12stage3.dgn

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	33,150	48.0,50.8 46.0	31	31

REGISTERED CIVIL ENGINEER 6-16-09

5-17-10
PLANS APPROVAL DATE

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STAGE 4 (CONTINUED)

NOTE: Each Rock Weir/Step-Pool System Shall Be Constructed In Its Entirety Prior To Construction Of Next Rock Weir/Step-Pool System To Preserve Integrity Of Cross Slopes, Grades, & Vert Steps

ORDER OF WORK:

Step D. Construct stream-bed mix from Sta 12+40 (begin step-pool) to Sta 12+46 (3/4 step-pool) with a 1:2 taper to form jump pool shown on "Plan" (Stage Construction No. 3 Sheet) and Drainage Profile No. 1-5 Sheets:

Sub-step 1. Fill voids in rsp (2T, Method A) with native material, no compaction, to a 100 mm thickness above RSP (2T, Method A) layer. See "Cross Section Z" and "Detail D".

2. Place RSP (4T, Method A) "Toe Lining" in single row and single layer as shown on "Plan" (Stage Construction No. 3 sheet).

3. Place RSP (2T, Method A) "Boulder Cluster" as shown on "Plan". (Stage Construction No. 3 Sheet) and locations from general plan sheet.

4. Place RSP (Light, Method B) in single layer over remaining exposed native material to cover the stream bed.

5. Place RSP (Light, Method B) in multiple layers (if required) between "Toe Lining" and creek slope as backfill.

6. Place 150 mm to 300 mm thick layer of cobble/gravel mix over RSP (Light, Method B) up to FG level.

7. Place cobble/gravel mix between "Toe Lining" and creek slope to fill small voids.

E. Repeat Step A from Sta 12+46 (3/4 step-pool) to Sta 12+48 (end step-pool) top of vert step.

F. Repeat Step B from Sta 12+46 (3/4 step-pool) to Sta 12+48 (end step-pool) top of vert step.

G. Repeat Step D (sub-steps 1-7) from Sta 12+46 (3/4 step-pool) to Sta 12+48 (end step-pool) top of vert step. Ignore jump pool direction.

H. Excavate 0.305 vert step @ Sta 12+48 and repeat step a from Sta 12+48 (begin step-pool) bottom of vert step to Sta 12+54 (3/4 step-pool).

NOTE: Once vert step has been excavated, equipment shall not be driven over vert step.

I. Repeat Step B from Sta 12+48 (begin step-pool) bottom of vert step to Sta 12+54 (3/4 step-pool).

J. Repeat Step C (sub-steps 1-6) @ Sta 12+48 (begin step-pool) bottom of vert step.

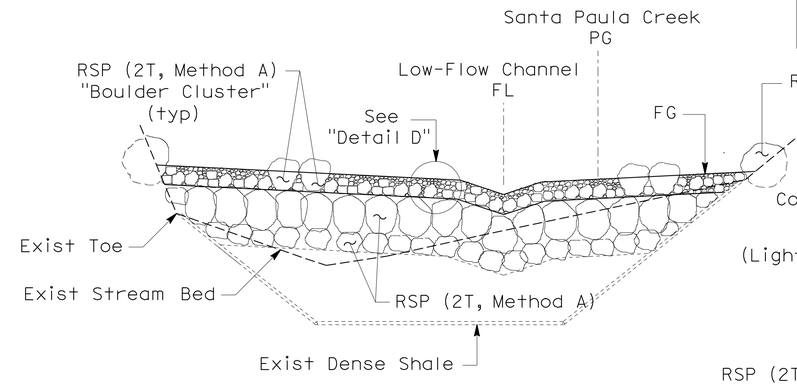
K. Repeat Step D (sub-steps 1-7) from Sta 12+48 (begin step-pool) bottom of vert step to Sta 12+54 (3/4 step-pool).

L. Repeat Step A from Sta 12+54 (3/4 step-pool) to Sta 12+56 (end step-pool) top of vert step.

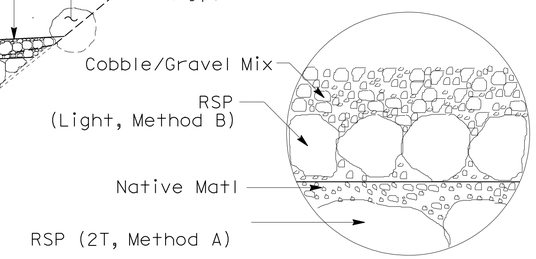
M. Repeat Step B from Sta 12+54 (3/4 step-pool) to Sta 12+56 (end step-pool) top of vert step.

N. Repeat Step D (sub-steps 1-7) from Sta 12+54 (3/4 step-pool) to Sta 12+56 (end step-pool) top of vert step. Ignore jump pool direction.

O. Repeat Steps H, I, J, K, L, M, N for each rock weir/step-pool system 12+56 to Sta 12+64, Sta 12+64 to Sta 12+72, etc. Moving in downstream direction.



CROSS SECTION Z
(STA 12+40-STA 13+52 Conform To OG)
NO SCALE



DETAIL D
NO SCALE

STAGE CONSTRUCTION (ROCK WEIR/STEP-POOL) QUANTITIES

STAGE	Rdwy Exc	Conc (Channel Lining)	Welded Wire Fabric (150 mm x 150 mm, W1.2 x W1.2) (N)	150 mm PPP Underdrain	Filter Fabric (N)	Cl 3 Perm Matl	Native Matl (Embankment) (N)	RSP (2 T, Method A)	Rock Weir	Rock Weir Void Filler (N)	Stainless Steel Chain (N)	*Stream-Bed Mix	Remove Conc
	m^3	m^3	m^2	m	m^2	m^3	m^3	m^3	Tonne	m^3	m	m^3	m^3
1	4110												
2		195	2068	212	100	41 (P)							
3						3158	2702						2
4	3275							3361	1918	378	106	1343	
TOTAL	7385	195	2068	212	100	3199	2702	3361	1918	378	106	1343	2

(N) Not A Separate Pay Item, For Information Only
(P) Paid For As 150 mm PPP Underdrain

*STREAM-BED MIX COMPOSITION

Cobble/Gravel Mix (N)	RSP (Light, Method B) (N)	Native Matl (N)	RSP (2T, Method A) "Boulder Cluster" (N)	RSP (4T, Method A) "Toe Lining" (N)
m^3	m^2	m^3	**EA	m^3
240	1175	432	66	289

**Total Number Of RSP (2T, Method A) Boulders

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STRUCTURE MAINTENANCE DESIGN GENERAL PLAN & DETAIL SHEET (METRIC) (REV. (8/2/05)

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

	BY	CHECKED
DESIGN	Bruce D. Swanger	Tim Powell
DETAILS	Bruce D. Swanger	Tim Powell
QUANTITIES	Bruce D. Swanger	Tim Powell

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SANTA PAULA CREEK ROCK WEIR SYSTEM
STAGE CONSTRUCTION NO. 4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 5-18-06 5-23-06 5-25-06 4-20-09 5-08-09 5-15-09 6-16-09

SHEET 13 OF 13

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