Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	401	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — PAUL MATOS No. 18757 Exp.6/30/11 ELECTRICAL — STATE OF CALIFORNIA

NOTES: (FOR SHEETS E-1 TO E-24)

1 120/208 V, 1ø, 3-WIRE, TYPE III-AF SUB PANEL SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

CTID No. 10390990000620T

AMPERES	VOLTS	POLES	NAME PLATE	METER	PHOTOELECTRIC CONTROL TYPE
70	208	2	MAIN BREAKER	-	-
40	208	2	CMS	-	-
30	120	1	334C (CMS)	-	-
30	120	1	334C (CCTV)	-	-
30	120	1	334C (TMS)	-	-
30	120	1	334C (FIBER)	-	-
-	-	6	SPACE	-	-

2 120/240 V, 1ø, 3-WIRE, TYPE III-AF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

CTID No. 10390990001660T

AMPERES	VOLTS	POLES	NAME PLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	-
30	120	1	334C (TMS)	YES	-
30	120	1	SPARE	YES	-
-	-	6	SPACE	-	-

3 120/240 V, 1ø, 3-WIRE, TYPE III-AF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

CTID No. 10390990002220T

AMPERES	VOLTS	POLES	NAME PLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	-
30	120	1	334C (TMS)	YES	-
30	120	1	SPARE	YES	-
-	-	6	SPACE	-	-

4 120/240 V, 1ø, 3-WIRE, TYPE III-AF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

CTID No. 10390990004280T

AMPERES	VOLTS	POLES	NAME PLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	-
30	120	1	334C (TMS)	YES	-
30	120	1	334C (CCTV)	YES	-
20	120	1	WMS	YES	-
30	120	1	SPARE	YES	-
-	-	6	SPACE	-	-

5 120/240 V, 1ø, 3-WIRE, TYPE III-CF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

CTID No. 10390990003380T

AMPERES	VOLTS	POLES	NAME PLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	-
20	240	2	334C (TMS CKT 1)	YES	-
20	240	2	334C (TMS CKT 2)	YES	-
30	120	1	SPARE	YES	-
-	-	6	SPACE	-	-

CTID No. 10390990003380L

AMPERES	VOLTS	POLES	NAME PLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	-
20	240	2	STREET LIGHTING	YES	V
15	120	1	LIGHTING CONTROL	YES	V
20	240	2	HIGHWAY LIGHTING CKT 1	YES	III
20	240	2	HIGHWAY LIGHTING CKT 2	YES	III
20	240	2	SIGN LIGHTING	YES	-
20	240	2	SPARE	YES	-
-	-	6	SPACE	-	-

6 Exist 120/240 V, 1ø, 3-WIRE, TYPE III-AF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

CTID No. 10390990004620T

AMPERES	VOLTS	POLES	NAME PLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	-
30	120	1	334C (FIBER)	YES	-
30	120	1	334C (TMS)*	YES	-
30	120	1	SPARE	YES	-
-	-	6	SPACE	-	-

* ADD CIRCUIT BREAKER AND NAME PLATE

7 120/240 V, 1ø, 3-WIRE, TYPE III-AF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

CTID No. 10390990003380G

AMPERES	VOLTS	POLES	NAME PLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	-
30	240	2	WELL	YES	-
30	120	1	SPARE	YES	-
-	-	6	SPACE	-	-

8 PULL BOX PER PG&E REQUIREMENTS.

9 MODEL 334 CABINET WITH CCTV EQUIPMENT.

10 STATE-FURNISHED MODEL 170 CONTROLLER ASSEMBLY FOR CMS SYSTEM.

11 CCTV CAMERA TO BE MOUNTED ON TOP OF CMS STRUCTURE WITH TYPE CCTV 10 POLE EXTENSION, REFER TO STANDARD PLAN ES-16B AND ON SHEET SES-8.

12 STATE-FURNISHED MODEL 2070 CONTROLLER ASSEMBLY FOR TMS SYSTEM.

13 WEATHER MONITORING STATION, SEE DETAILS ON SHEET SES-5.

14 SEE DETAIL D ON SHEET E-36 FOR LOOP DETECTOR DESIGNATION.

15 MODEL 334 CABINET MODIFIED WITH FIBER OPTIC EQUIPMENT, SEE DETAILS ON SHEET E-31.

16 SPLICE VAULT, SEE DETAILS ON SHEET E-32 AND E-33.

17 TYPE 40 CCTV STANDARD, REFER TO STANDARD PLAN ES-16A AND ON SHEET SES-8.

18 SEE DETAIL A ON SHEET E-36 FOR CONDUIT INSTALLATION DETAIL.

19 THE CONTRACTOR SHALL COORDINATE WITH PG&E FOR DISCONNECTING EXISTING SERVICE. RC EXISTING TYPE H SERVICE RISER.

20 COMMUNICATION PULL BOX, SEE DETAILS ON SHEET E-32 AND E-34.

21 SEE DETAIL B ON SHEET E-36 FOR CONDUIT INSTALLATION DETAIL.

22 MVDS ON TYPE 40 VDS STANDARD. VDS STANDARD SHALL BE INSTALLED A MINIMUM OF 30 FEET FROM EDGE OF TRAVELED WAY. SEE DETAILS ON SHEETS SES-6, SES-7, E-36 AND E-37.

23 120/240 V, 1ø, 3-WIRE, TYPE III-AF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

CTID No. 10390990002820T

AMPERES	VOLTS	POLES	NAME PLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	-
30	120	1	334C (TMS)	YES	-
30	120	1	SPARE	YES	-
-	-	6	SPACE	-	-

24 INSTALL 1.5 kVA, 120/240 V SUBMERSIBLE STEP DOWN TRANSFORMER IN PULL BOX FOR MODEL 334 CABINET.

25 TO Exist PANEL BOARD C, SEE EE-4 SHEETS.

26. ALL TYPE 15 ELECTROLIERS SHALL HAVE A SLIP BASE PLATE.

27. ALL FIBER OPTIC CONDUIT SHALL BE INSTALLED AS SHOWN ON DETAIL B, SHEET E-34, UNLESS OTHERWISE NOTED.

LEGEND:

PROPOSED	EXISTING	
V	(V)	SPLICE VAULT
W		WMS

ABBREVIATIONS:

MVDS	MICROWAVE VEHICLE DETECTION SYSTEM
PG&E	PACIFIC GAS AND ELECTRIC
CTID	CALTRANS IDENTIFICATION
HDPE	HIGH DENSITY POLYETHELENE
WMS	WEATHER MONITORING STATION
AT&T	AMERICAN TELEPHONE AND TELEGRAPH
VDS	VEHICLE DETECTION SYSTEM
PV	PHOTOVOLTAIC

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

FIBER OPTIC SYSTEM
ELECTRIC SERVICE (IRRIGATION)
TRAFFIC MONITORING STATION
CHANGEABLE MESSAGE SIGN SYSTEM
CLOSED CIRCUIT TELEVISION SYSTEM
WEATHER MONITORING STATION
MICROWAVE VEHICLE DETECTION SYSTEM

NO SCALE

E-1

REVISED BY | DATE REVISED
PAUL MATOS | RAJPREET SINGH
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

LAST REVISION | DATE PLOTTED => 15-NOV-2010 | TIME PLOTTED => 13:46
04-26-10

BORDER LAST REVISED 4/11/2008 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => trmikesl | DGN FILE => a41580ua001.dgn | CU 06391 | EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	402	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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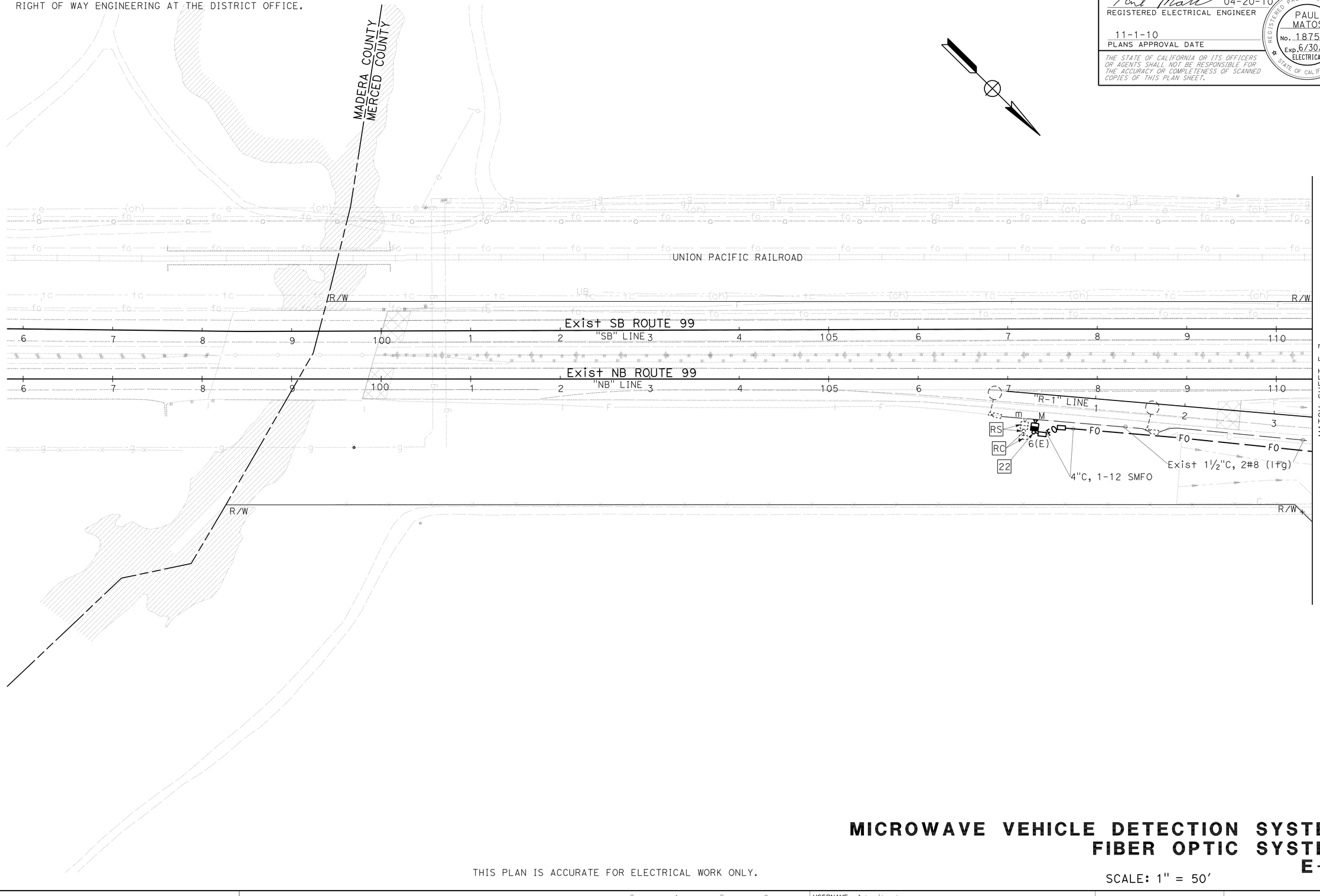

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

MICROWAVE VEHICLE DETECTION SYSTEM
FIBER OPTIC SYSTEM
E-2

SCALE: 1" = 50'

PAUL MATOS — CALCULATED-DESIGNED BY
RAJPREET SINGH — CHECKED BY
REVISED BY — DATE REVISED
FUNCTIONAL SUPERVISOR
ALI BAKHDOUD
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

LAST REVISION DATE PLOTTED => 15-NOV-2010
TIME PLOTTED => 13:46
04-20-10

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trmikesl
DGN FILE => a41580ua002.dgn
CU 06391
EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	403	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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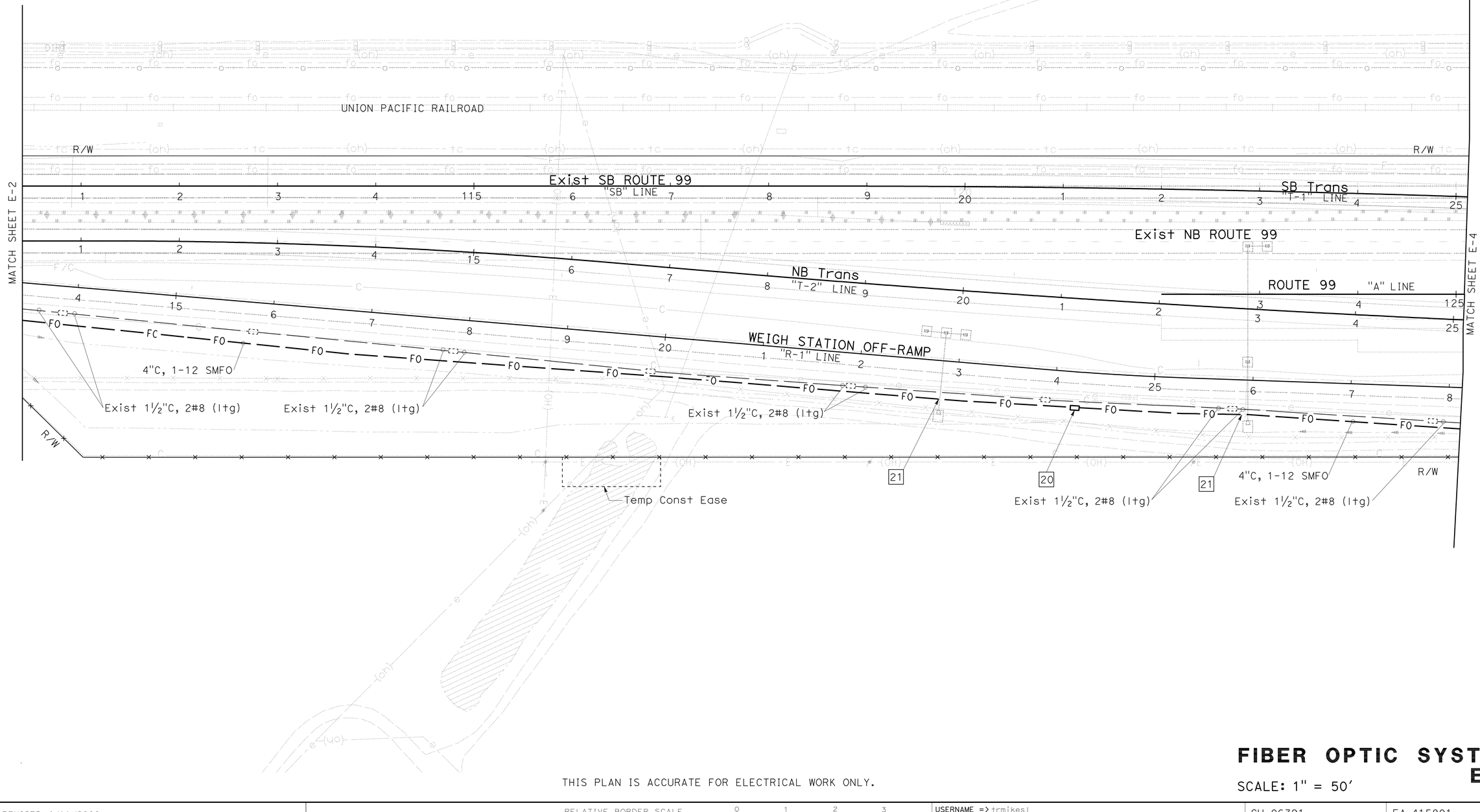

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

FIBER OPTIC SYSTEM
E-3

SCALE: 1" = 50'

CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
REVISED BY
DATE REVISED
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

LAST REVISION DATE PLOTTED => 15-NOV-2010
TIME PLOTTED => 13:46
04-20-10

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trmikesl
DGN FILE => a41580ua003.dgn
CU 06391
EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	404	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — PAUL MATOS — No. 18757 — Exp. 6/30/11 — ELECTRICAL — STATE OF CALIFORNIA

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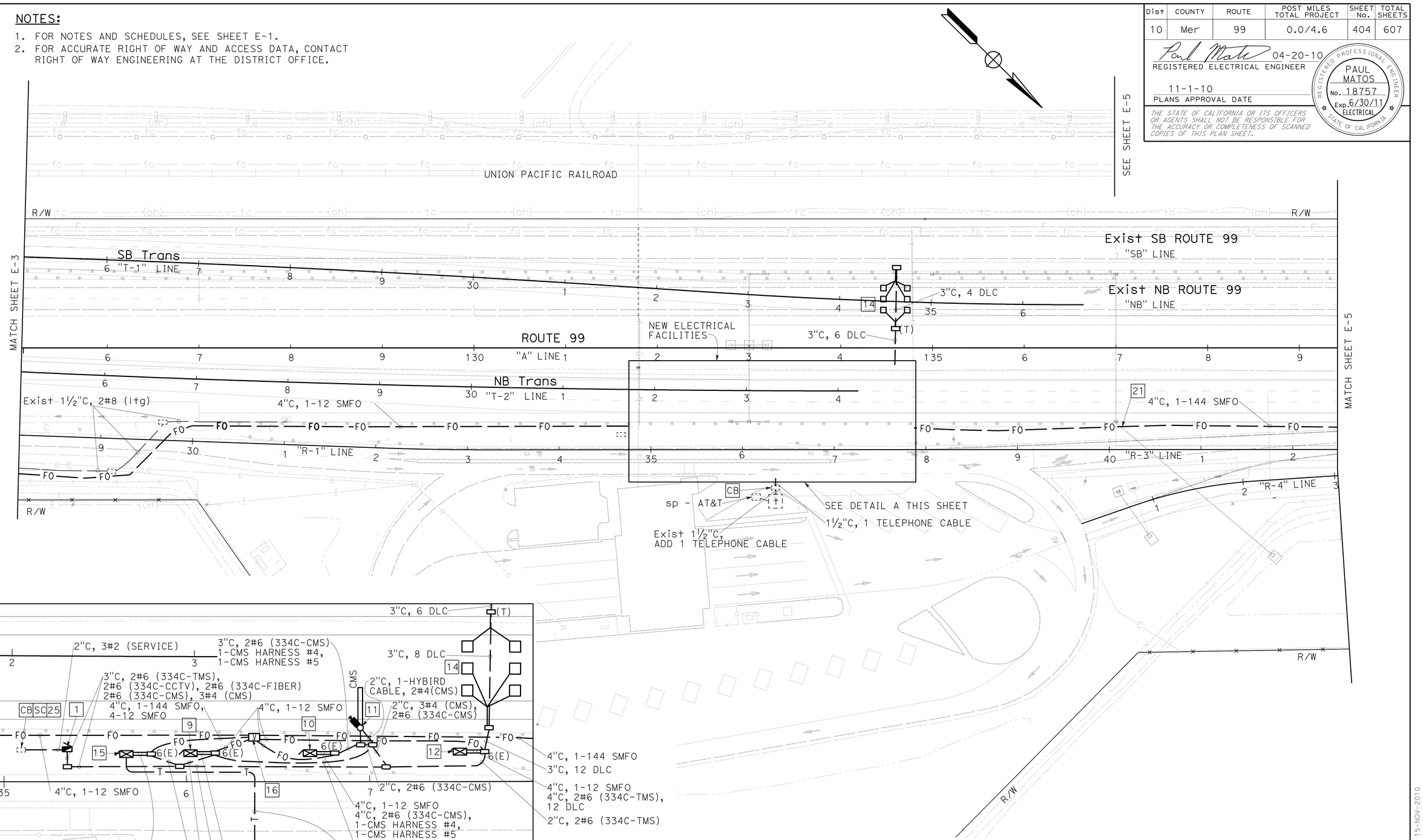

DETAIL A
NO SCALE

CHANGEABLE MESSAGE SIGN SYSTEM
TRAFFIC MONITORING STATION (LOCATION 1)
CLOSED CIRCUIT TELEVISION SYSTEM (LOCATION 1)
FIBER OPTIC SYSTEM
E-4

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: RAJPREET SINGH
CHECKED BY: PAUL MATOS

REVISED BY	DATE REVISED

LAST REVISION DATE PLOTTED => 15-NOV-2010
04-20-10 TIME PLOTTED => 13:46

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trmikesl
DGN FILE => a41580ua004.dgn

CU 06391

EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	405	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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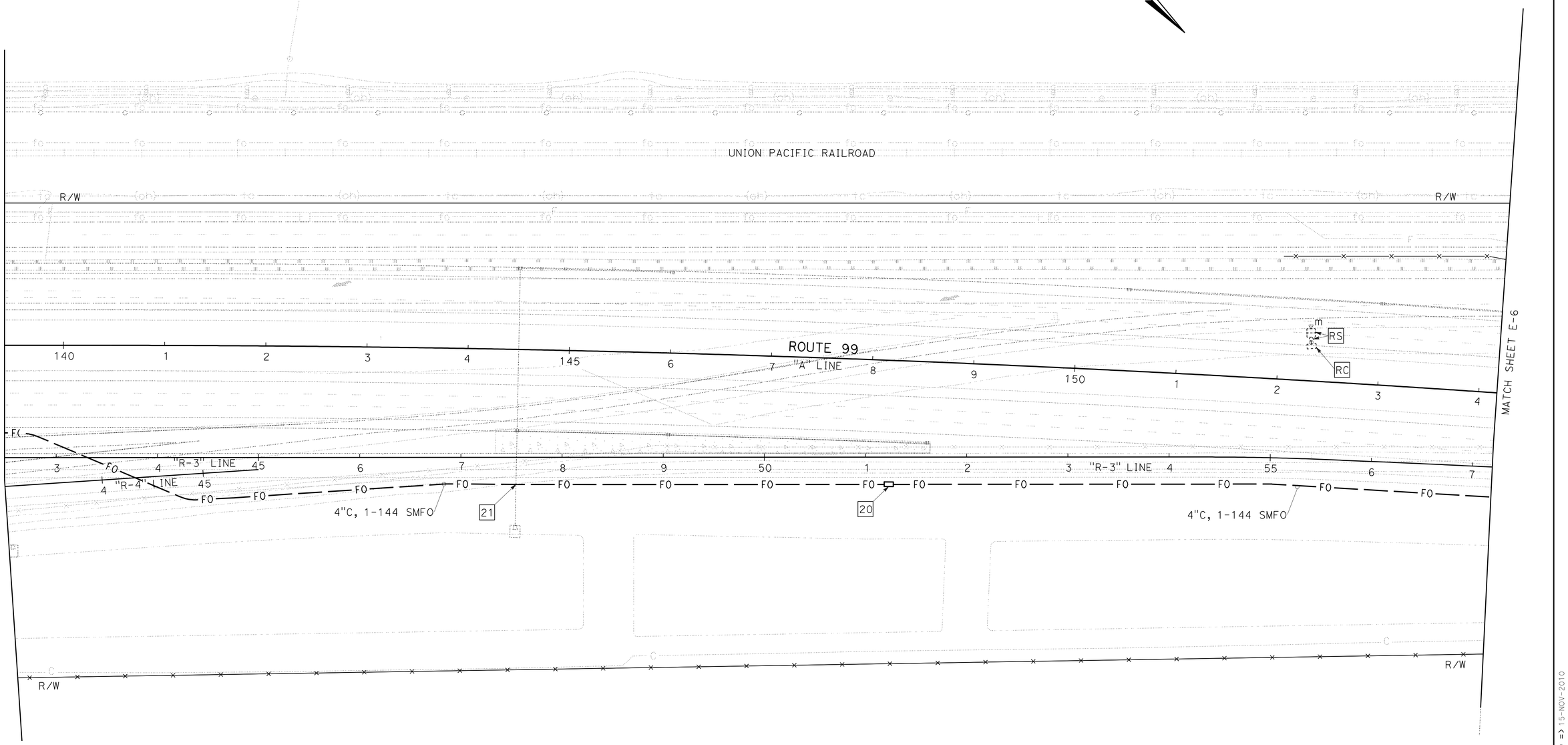

MICROWAVE VEHICLE DETECTION SYSTEM
FIBER OPTIC SYSTEM
E-5

SCALE: 1" = 50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: RAJPREET SINGH
CHECKED BY: PAUL MATOS

REVISED BY	DATE REVISED

LAST REVISION | DATE PLOTTED => 15-NOV-2010
04-20-10 | TIME PLOTTED => 13:46

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trmikesl
DGN FILE => a41580ua005.dgn

CU 06391

EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	406	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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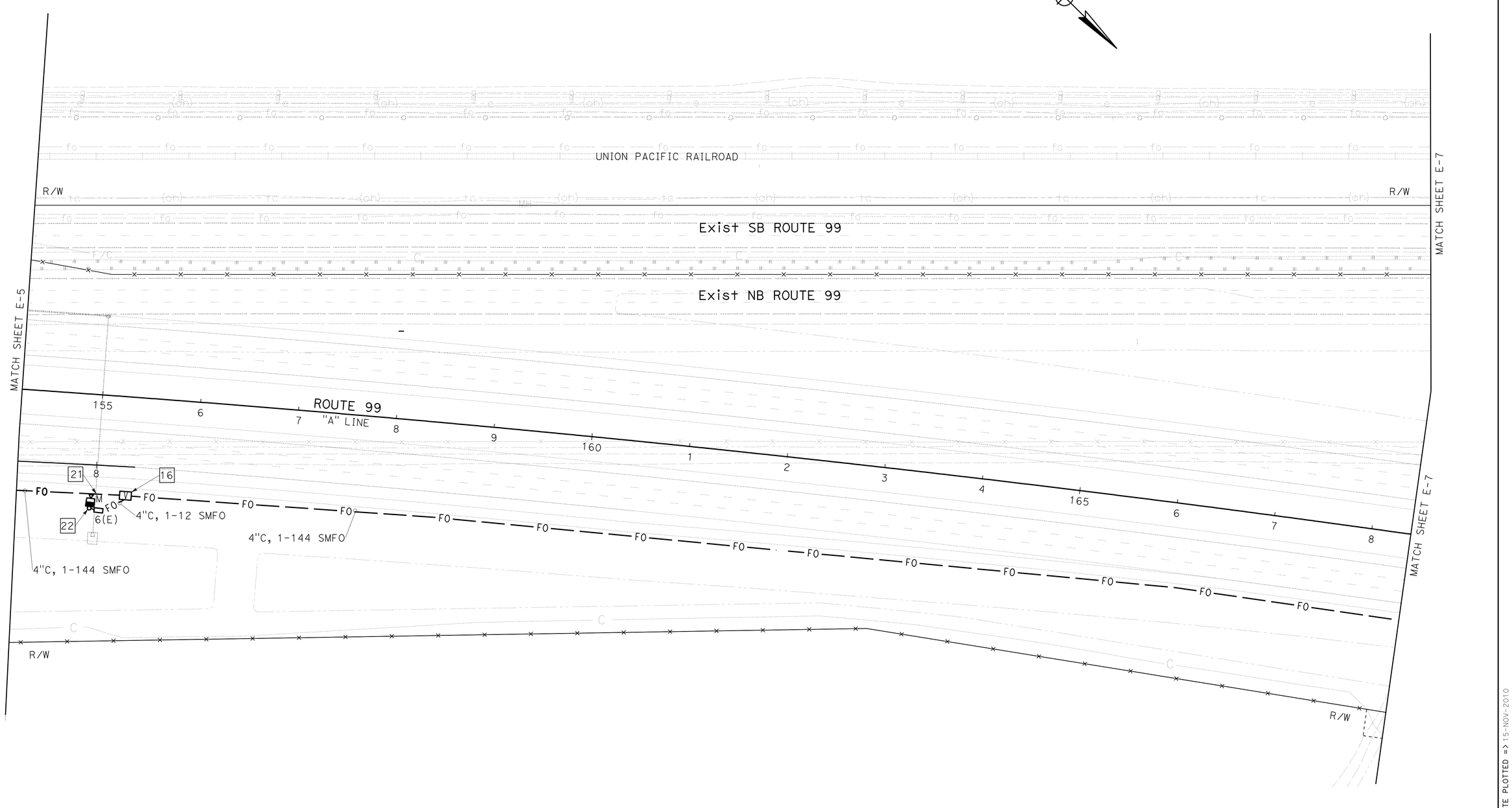

MICROWAVE VEHICLE DETECTION SYSTEM
FIBER OPTIC SYTEM
E-6

SCALE: 1" = 50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: RAJPREET SINGH
CHECKED BY: PAUL MATOS
REVISED BY
DATE REVISED

LAST REVISION | DATE PLOTTED => 15-NOV-2010 | TIME PLOTTED => 13:46
04-20-10

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trmikesl
DGN FILE => a41580ua006.dgn

CU 06391

EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	407	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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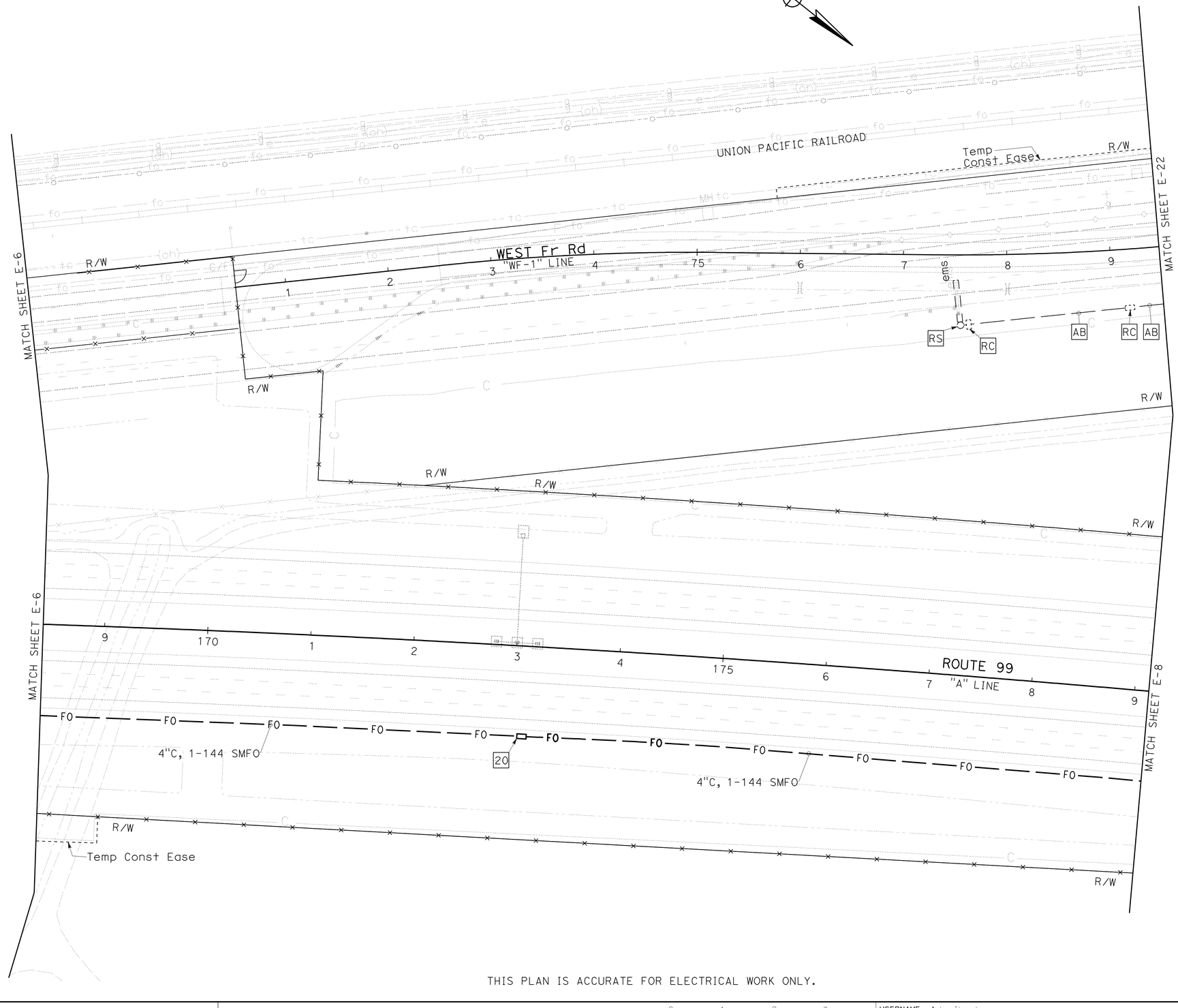

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

MODIFY LIGHTING FIBER OPTIC SYSTEM E-7

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 15-NOV-2010
TIME PLOTTED => 13:47
04-20-10

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trmikesl
DGN FILE => a41580ua007.dgn

CU 06391

EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	408	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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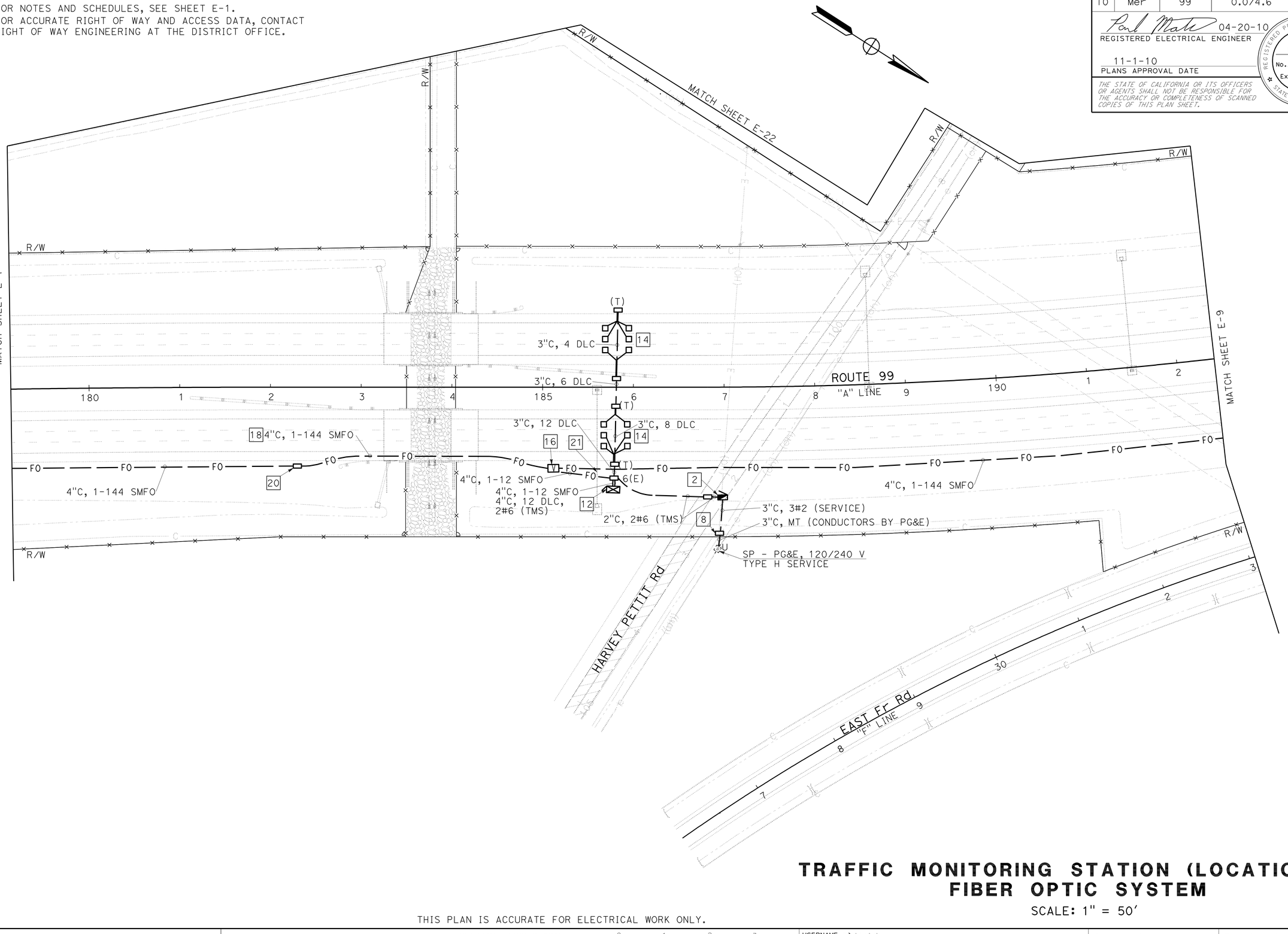

TRAFFIC MONITORING STATION (LOCATION 2)
FIBER OPTIC SYSTEM

SCALE: 1" = 50'

E-8

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

CALCULATED-DESIGNED BY	FUNCTIONAL SUPERVISOR	REVISED BY
PAUL MATOS	ALI BAKHDOUD	
CHECKED BY		DATE REVISED
RAJPREET SINGH		

LAST REVISION | DATE PLOTTED => 04-NOV-2010
04-20-10 | TIME PLOTTED => 14:06

BORDER LAST REVISED 4/11/2008 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => trstrk | DGN FILE => a41580ua008.dgn | CU 06391 | EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	409	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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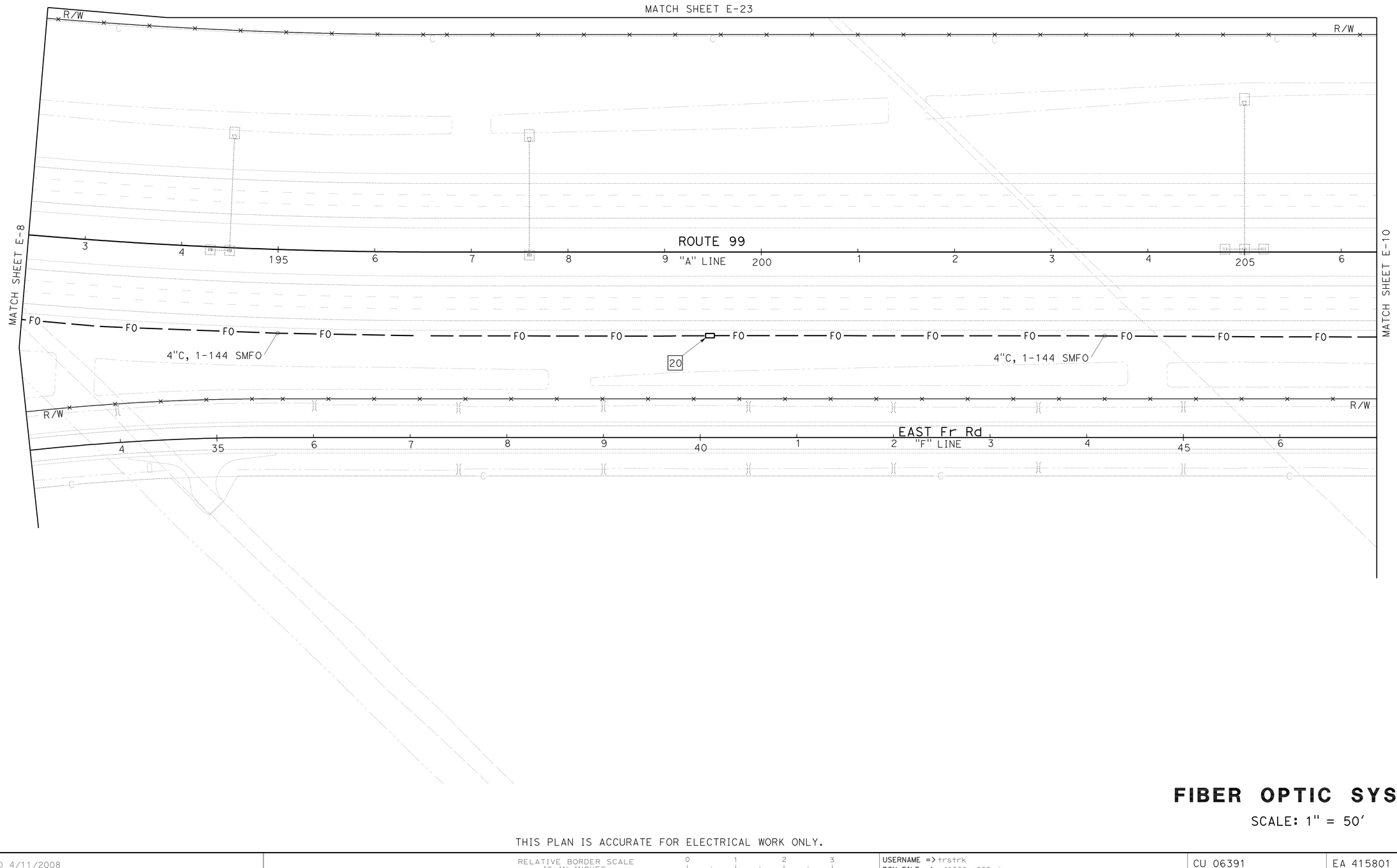

FIBER OPTIC SYSTEM

SCALE: 1" = 50'

E-9

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD

CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH

REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 04-NOV-2010
04-20-10 | TIME PLOTTED => 14:07

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trstrk
DGN FILE => d41580ua009.dgn

CU 06391

EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	410	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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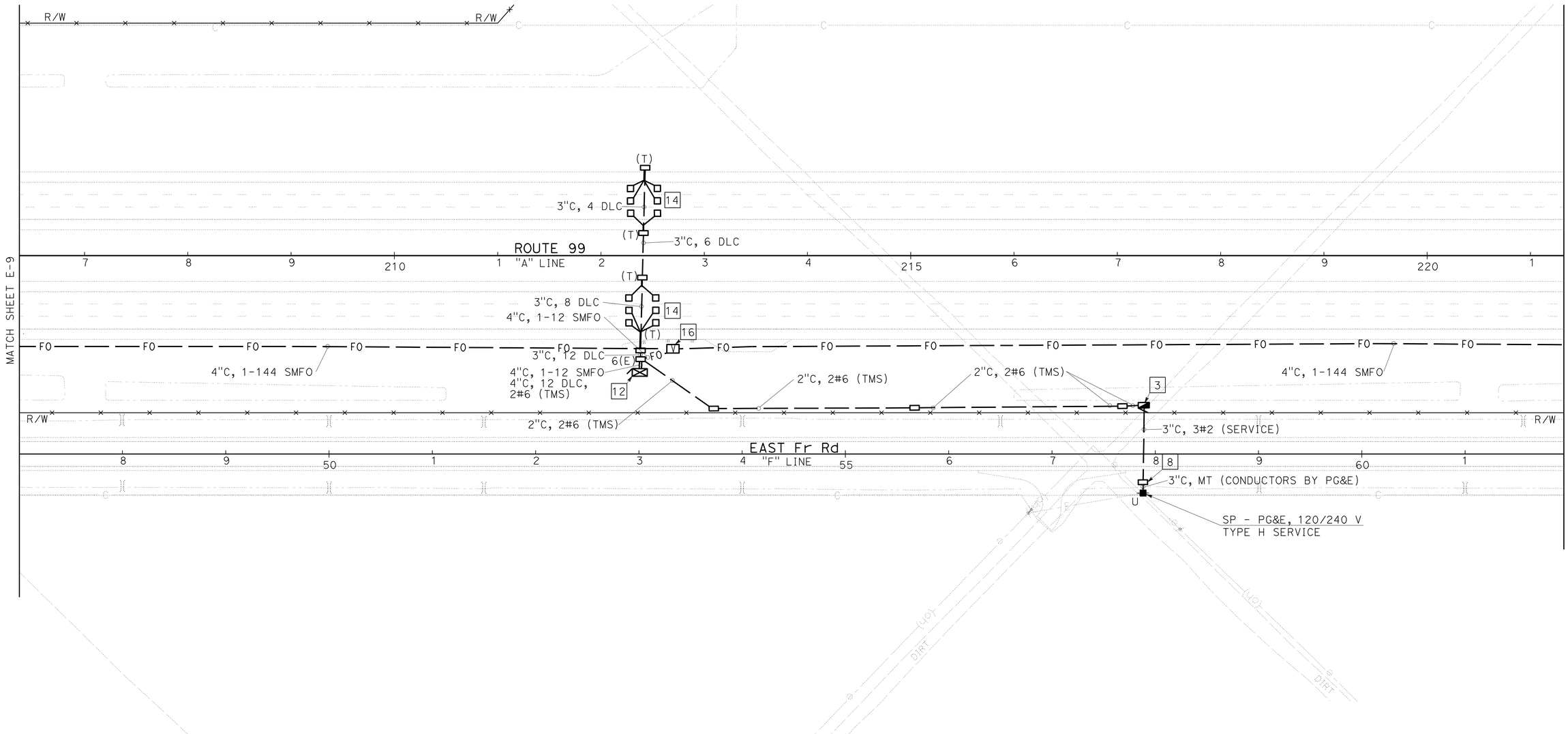


TRAFFIC MONITORING STATION (LOCATION 3) FIBER OPTIC SYSTEM

SCALE: 1" = 50'

E-10

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

LAST REVISION: DATE PLOTTED => 04-NOV-2010
04-20-10 TIME PLOTTED => 14:00

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trstrk
DGN FILE => d41580ua010.dgn

CU 06391

EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

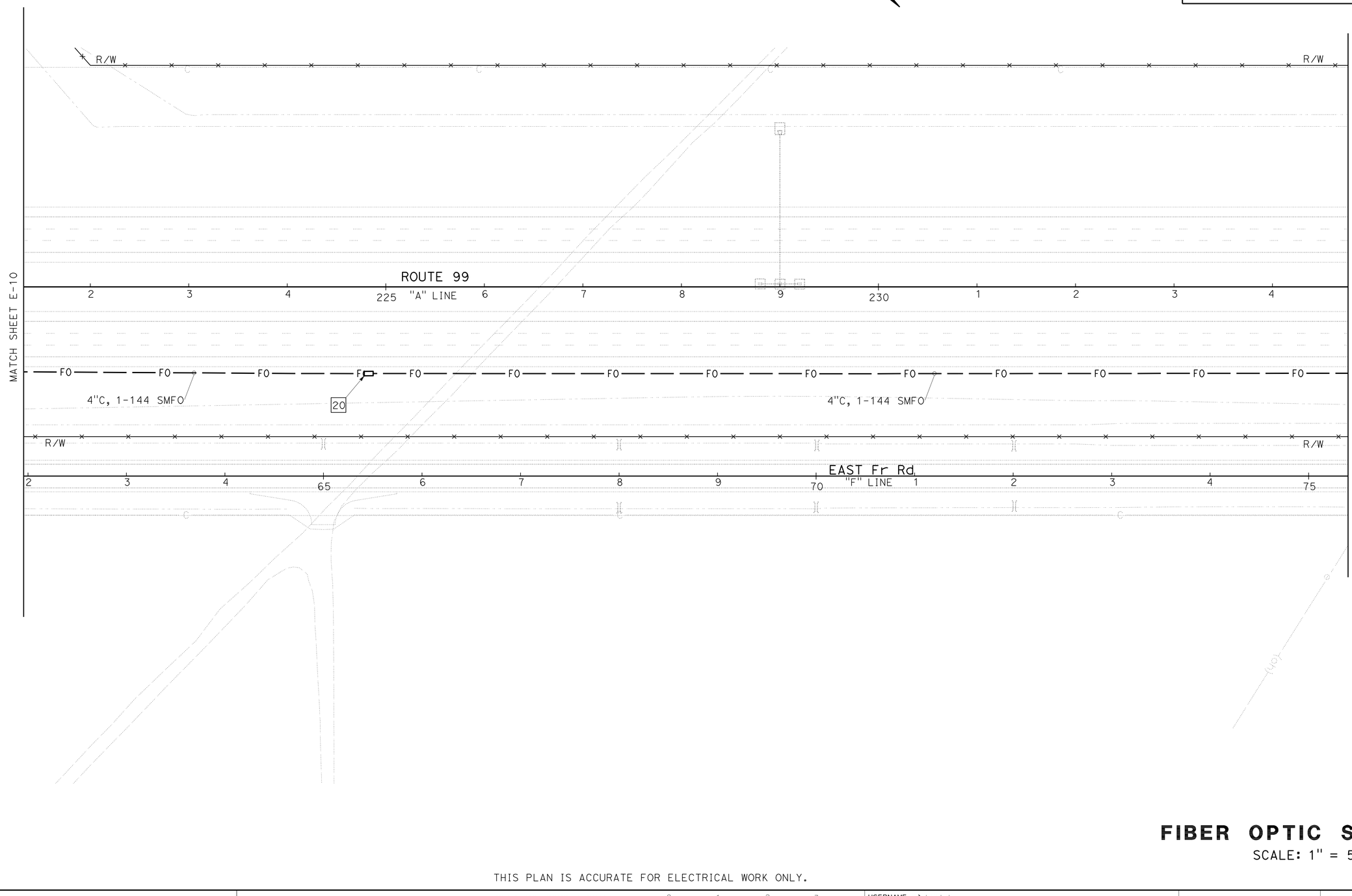
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	411	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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.



FIBER OPTIC SYSTEM

SCALE: 1" = 50'

E-11

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
REVISED BY
DATE REVISED
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

LAST REVISION DATE PLOTTED => 04-NOV-2010
04-20-10 TIME PLOTTED => 14:00

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trstrk
DGN FILE => a41580ua011.dgn

CU 06391

EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

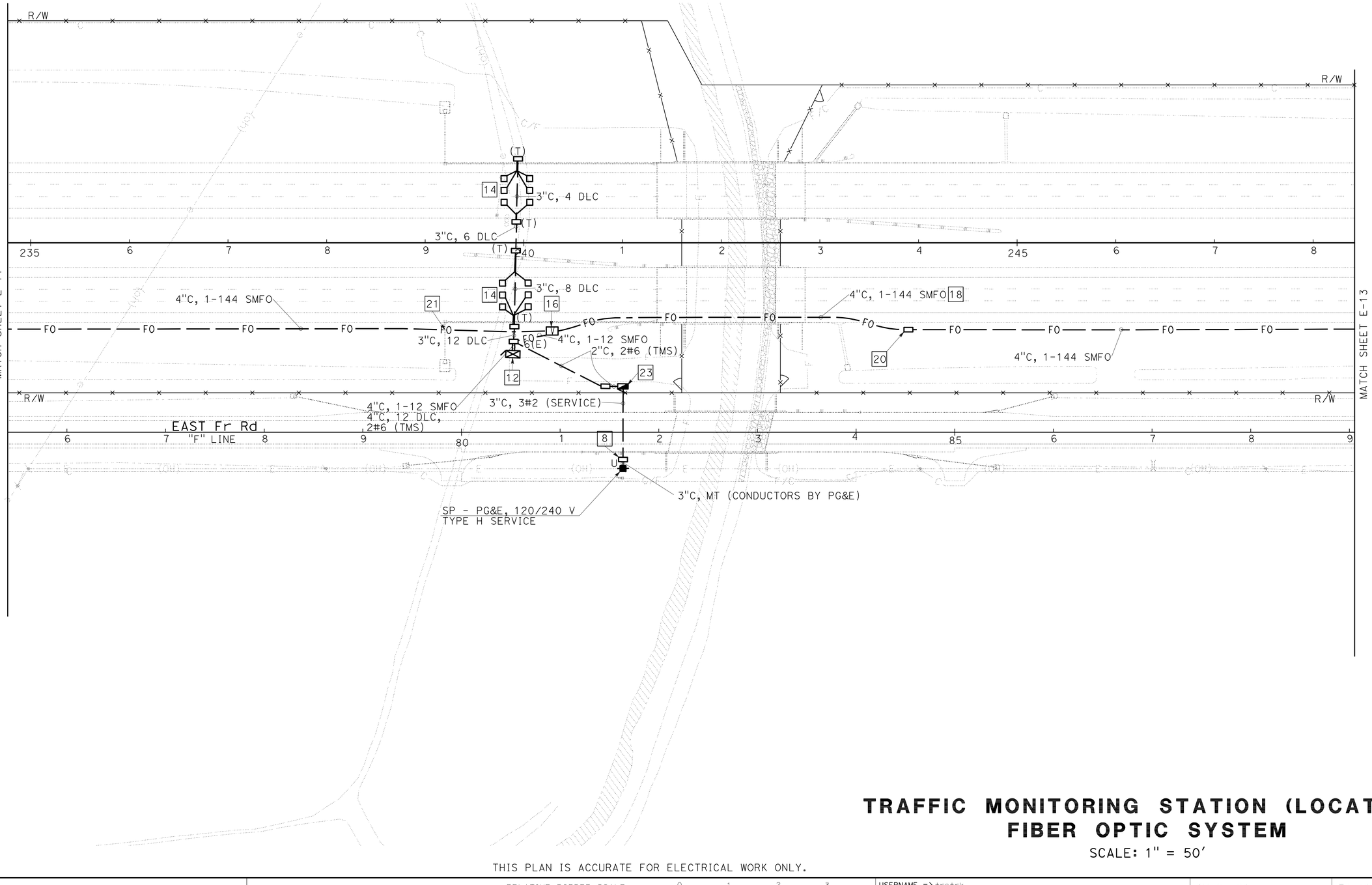
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	412	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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.



TRAFFIC MONITORING STATION (LOCATION 4)
FIBER OPTIC SYSTEM

SCALE: 1" = 50'

E-12

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

REVISED BY | DATE REVISED
PAUL MATOS | RAJPREET SINGH
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR | ALI BAKHDOUD
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

LAST REVISION | DATE PLOTTED => 04-NOV-2010
04-20-10 | TIME PLOTTED => 14:00

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trstrk
DGN FILE => a41580ua012.dgn
CU 06391
EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

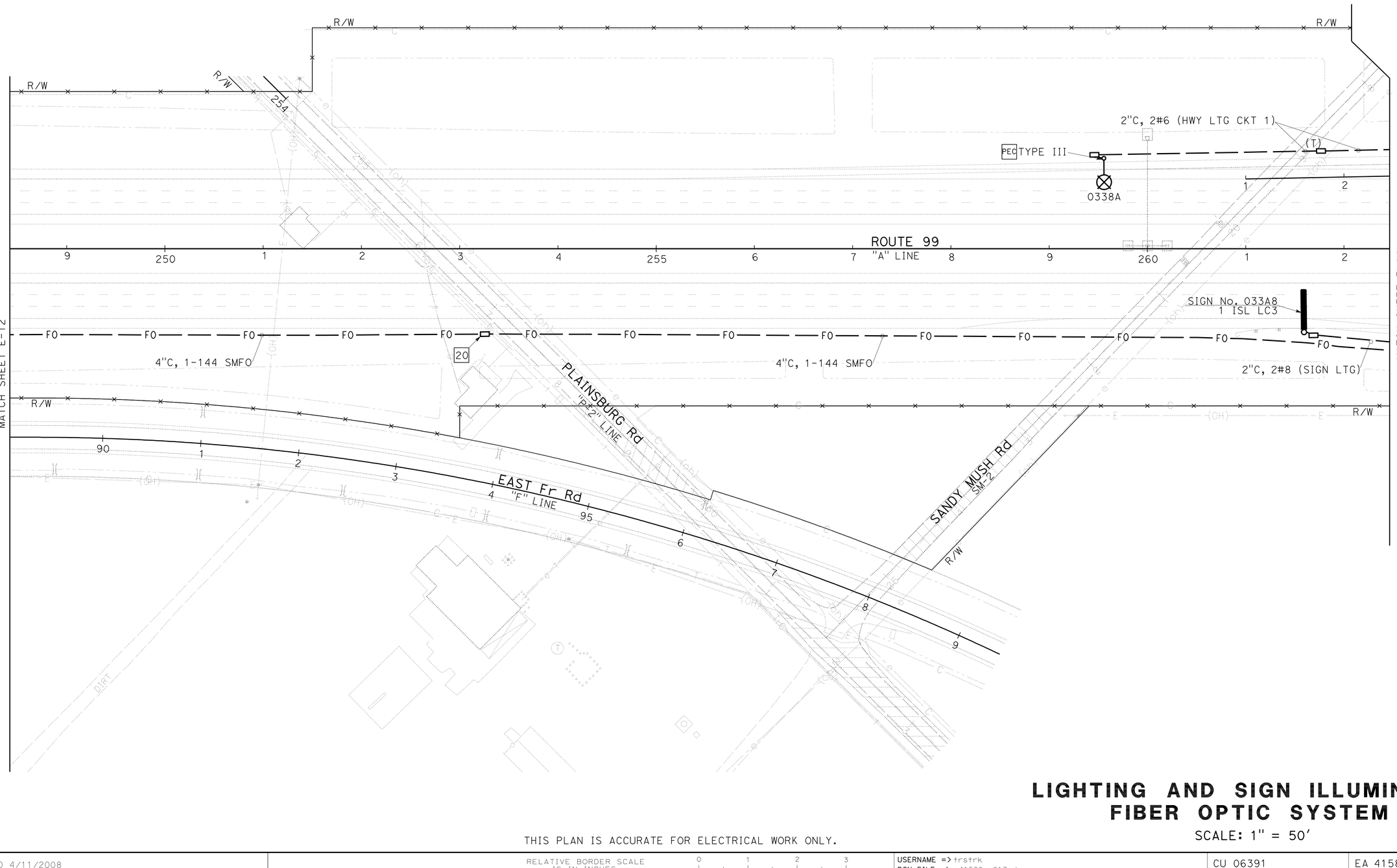
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	413	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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.



LIGHTING AND SIGN ILLUMINATION
FIBER OPTIC SYSTEM

SCALE: 1" = 50'

E-13

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

REVISED BY	DATE REVISED
PAUL MATOS	RAJPREET SINGH
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	
ALI BAKHDOUD	

LAST REVISION 04-20-10
DATE PLOTTED => 04-NOV-2010
TIME PLOTTED => 14:10

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trstrk
DGN FILE => a41580ua013.dgn

CU 06391

EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

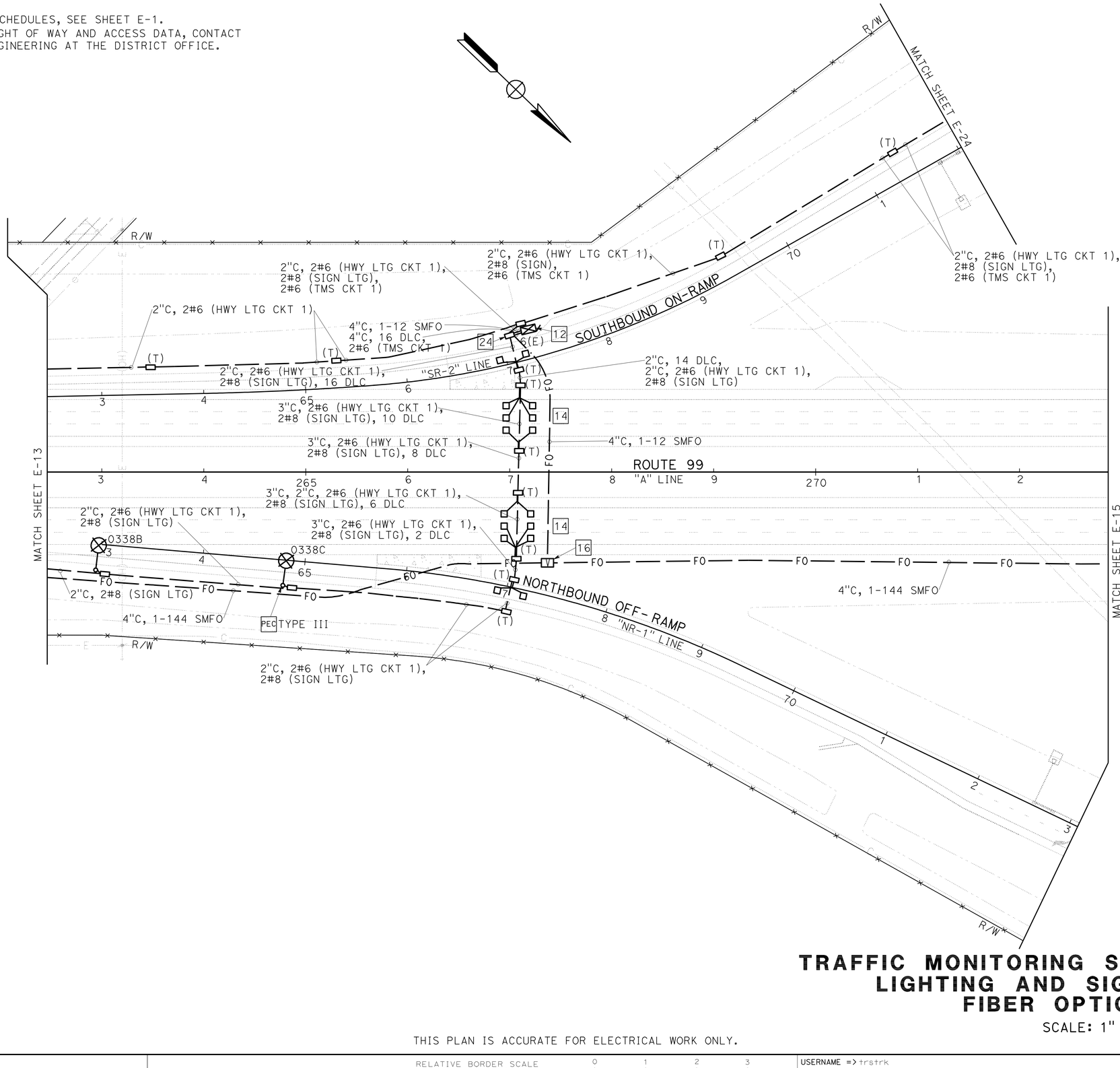
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	414	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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.



TRAFFIC MONITORING STATION (LOCATION 5)
LIGHTING AND SIGN ILLUMINATION
FIBER OPTIC SYSTEM

SCALE: 1" = 50'

E-14

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: RAJPREET SINGH
CHECKED BY: PAUL MATOS
REVISED BY / DATE REVISED:

LAST REVISION DATE PLOTTED => 04-NOV-2010
TIME PLOTTED => 14:13
04-20-10

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trstrk
DGN FILE => a41580ua014.dgn
CU 06391
EA 415801

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	415	607

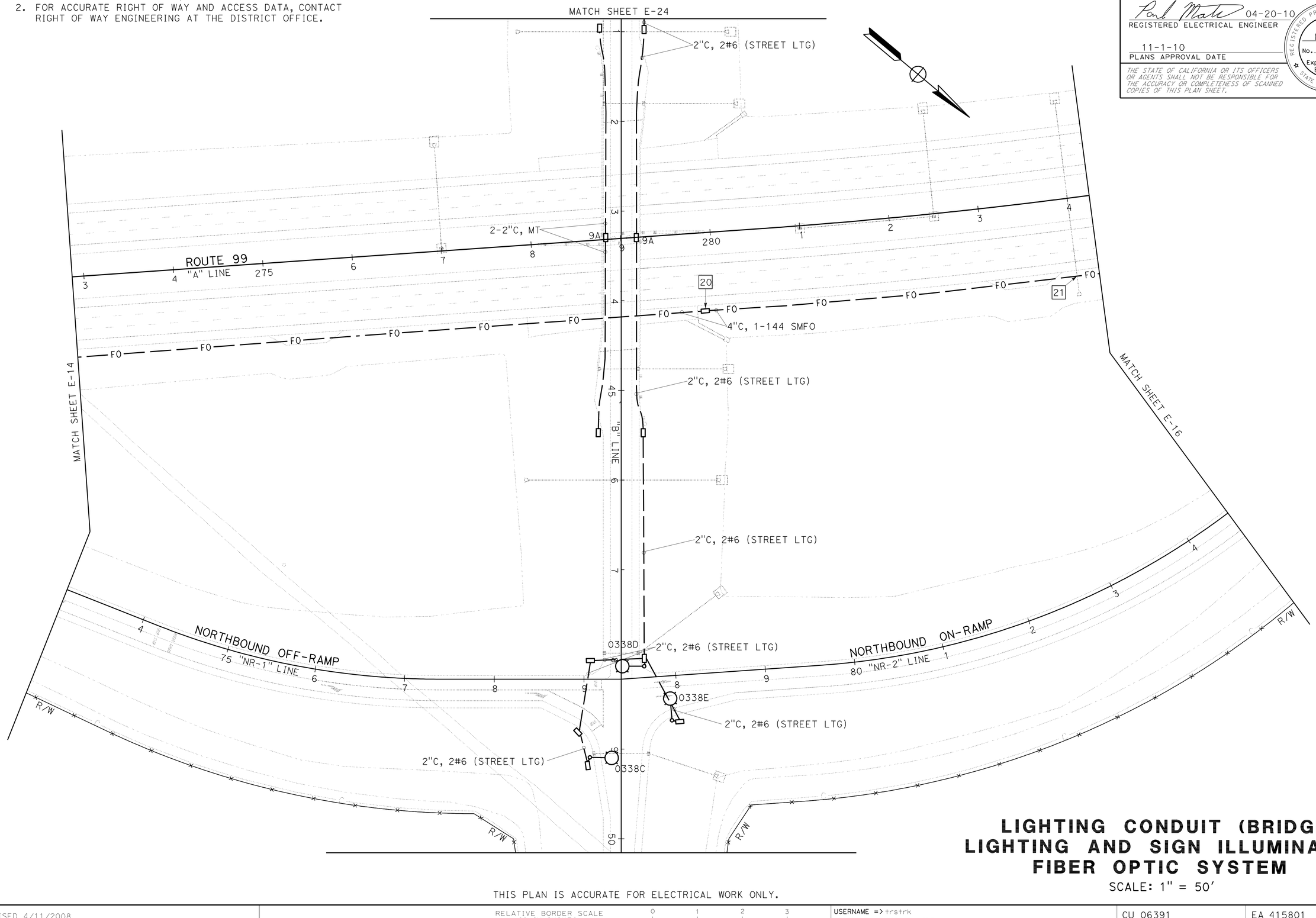
Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



LIGHTING CONDUIT (BRIDGE)
LIGHTING AND SIGN ILLUMINATION
FIBER OPTIC SYSTEM

SCALE: 1" = 50'

E-15

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: RAJPREET SINGH
CHECKED BY: PAUL MATOS
REVISED BY
DATE REVISED

LAST REVISION 04-20-10
DATE PLOTTED => 04-NOV-2010
TIME PLOTTED => 14:01

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trstrk
DGN FILE => a41580ua015.dgn
CU 06391
EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

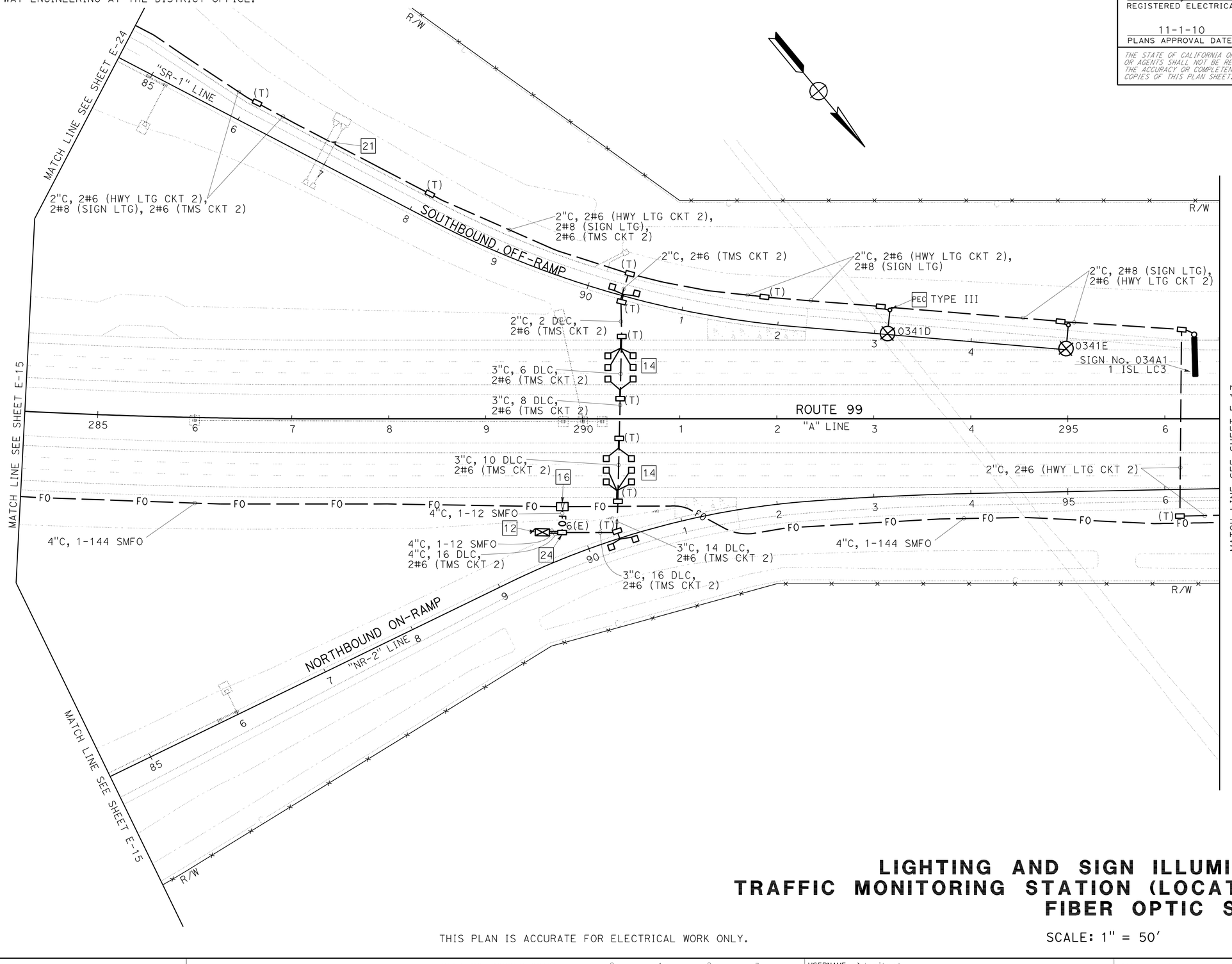
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	416	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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.



LIGHTING AND SIGN ILLUMINATION
TRAFFIC MONITORING STATION (LOCATION 6)
FIBER OPTIC SYSTEM

SCALE: 1" = 50'

E-16

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

CALCULATED-DESIGNED BY	CHECKED BY	FUNCTIONAL SUPERVISOR	REVISED BY	DATE REVISED
PAUL MATOS	RAJPREET SINGH	ALI BAKHDOUD		

LAST REVISION DATE PLOTTED => 15-NOV-2010
TIME PLOTTED => 13:47
04-20-10

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trmikesl
DGN FILE => a41580ua016.dgn

CU 06391

EA 415801

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	417	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

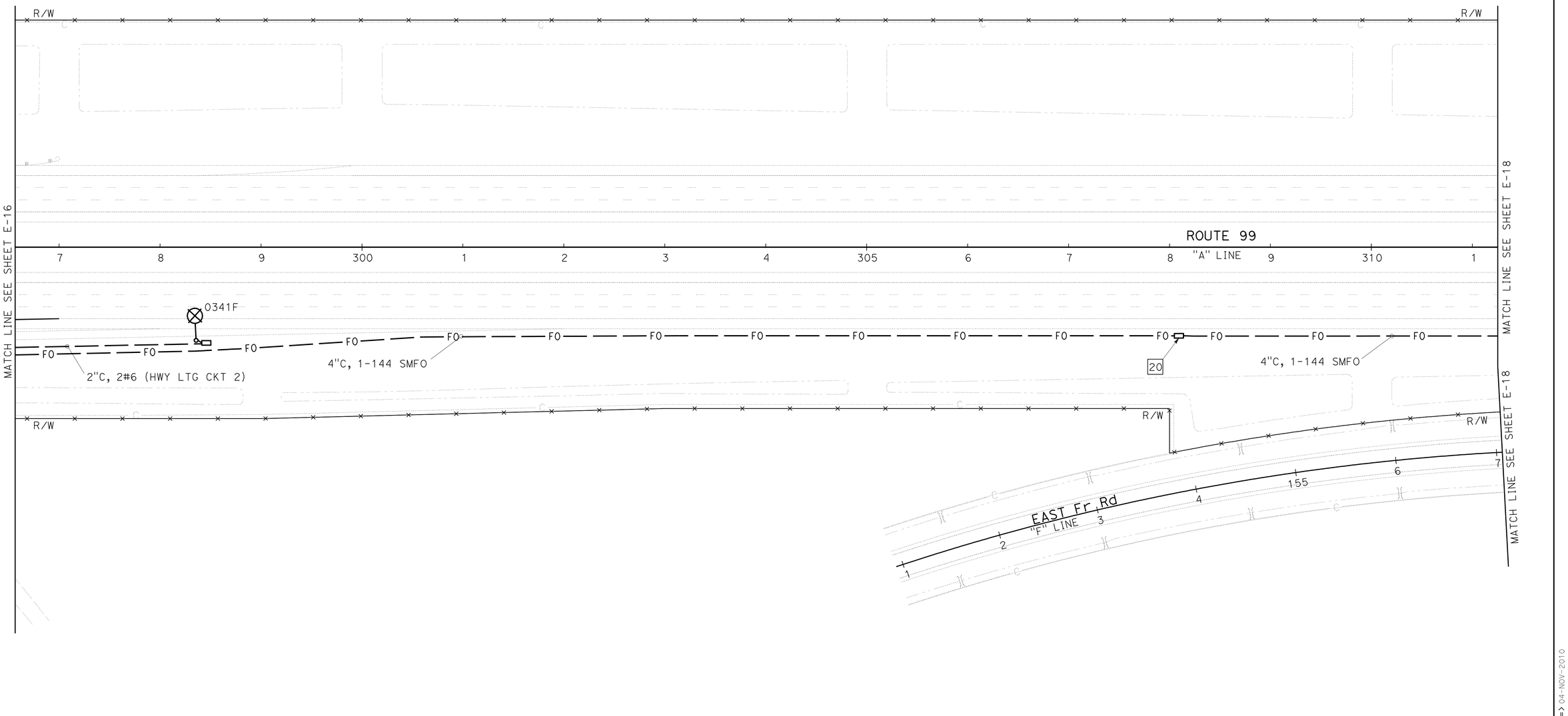
11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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.

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

LIGHTING AND SIGN ILLUMINATION FIBER OPTIC SYSTEM

SCALE: 1" = 50'

E-17

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 04-NOV-2010
04-20-10 TIME PLOTTED => 13:49

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trmartin
DGN FILE => a41580ua017.dgn
CU 06391
EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

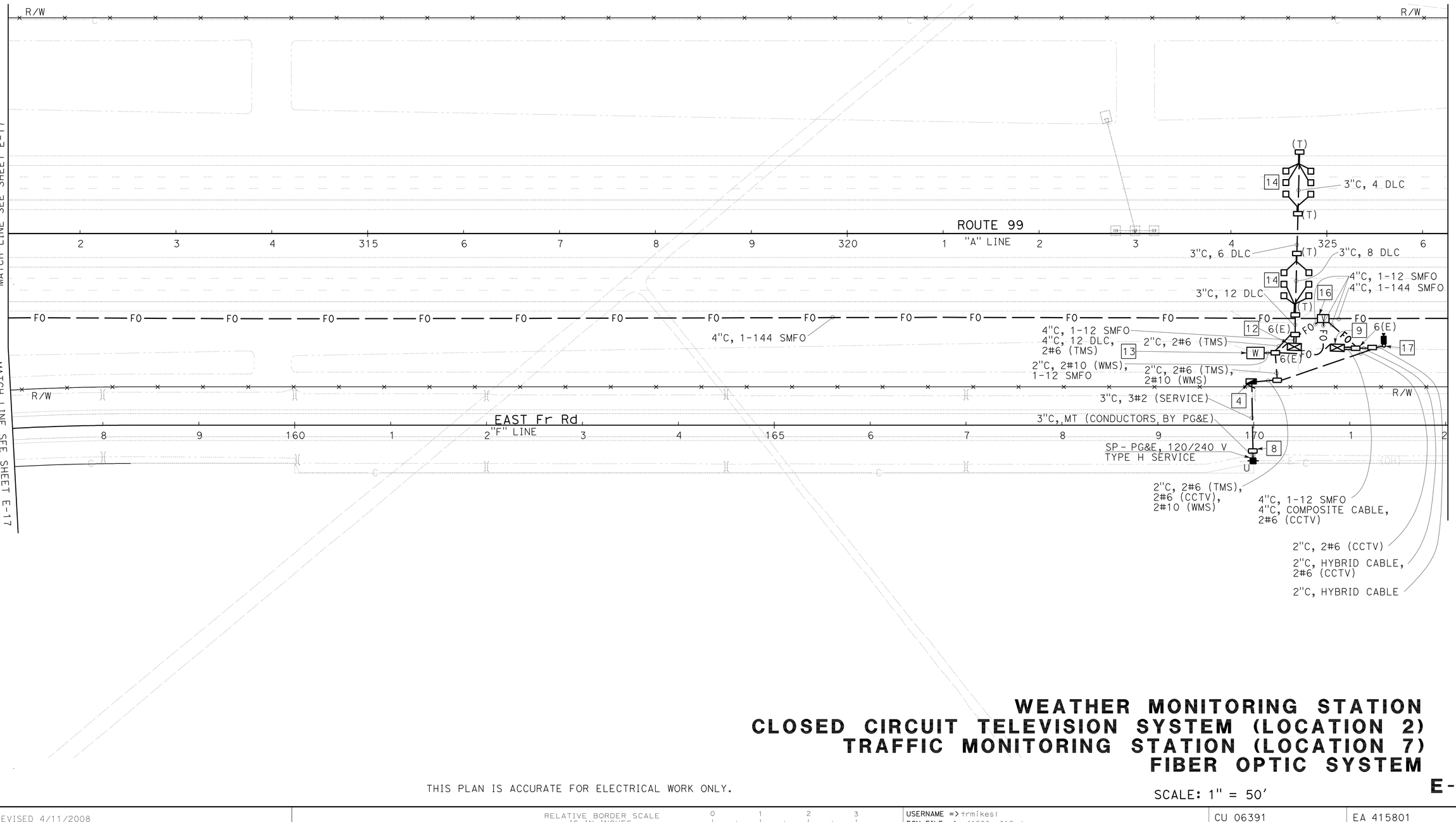
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	418	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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.



WEATHER MONITORING STATION
CLOSED CIRCUIT TELEVISION SYSTEM (LOCATION 2)
TRAFFIC MONITORING STATION (LOCATION 7)
FIBER OPTIC SYSTEM

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

SCALE: 1" = 50'

E-18

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
REVISED BY
DATE REVISED

LAST REVISION | DATE PLOTTED => 15-NOV-2010
04-20-10 | TIME PLOTTED => 13:47

BORDER LAST REVISED 4/11/2008 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => trmikesl | DGN FILE => a41580ua018.dgn | CU 06391 | EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

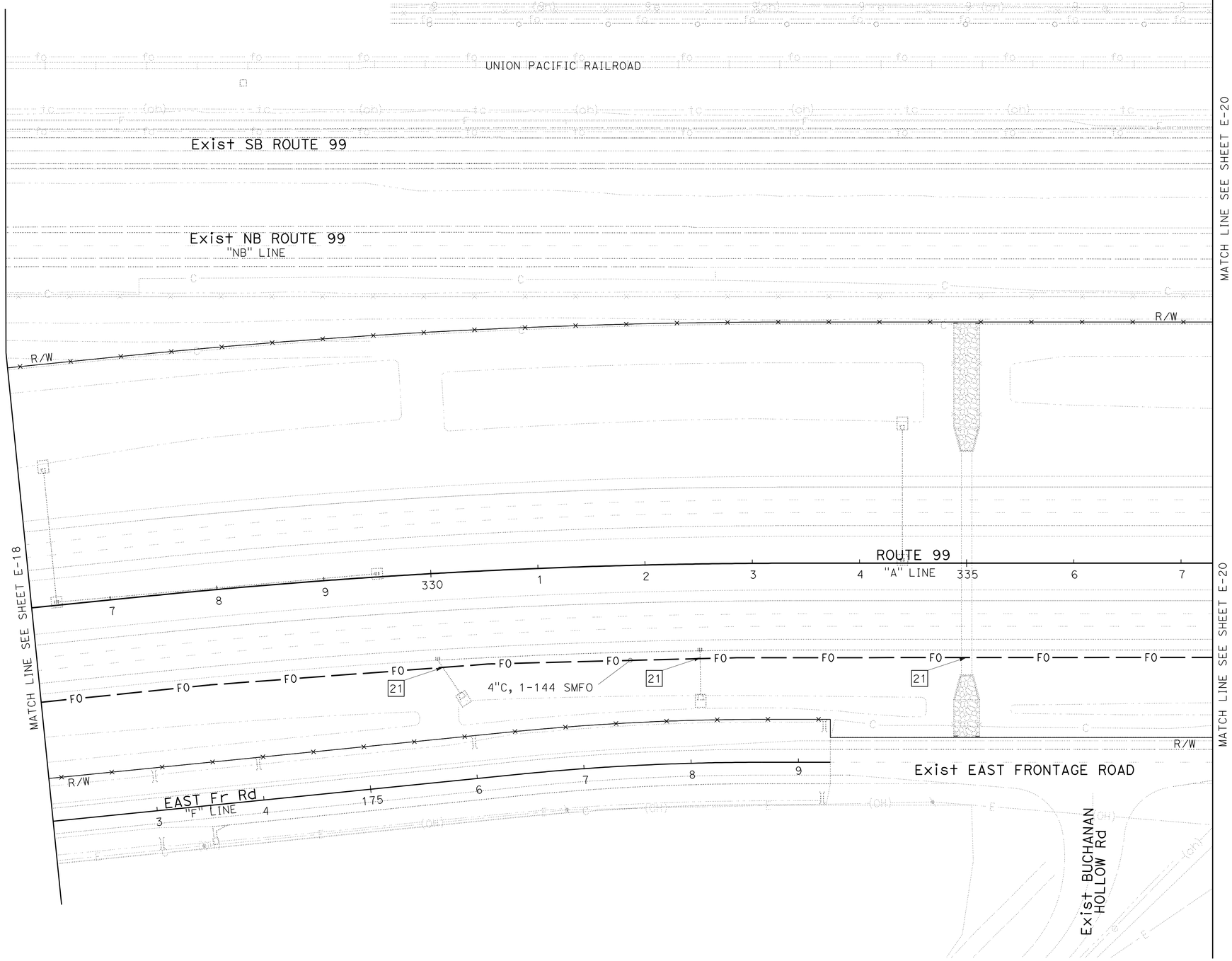
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	419	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — PAUL MATOS — No. 18757 — Exp. 6/30/11 — ELECTRICAL — STATE OF CALIFORNIA

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.



THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

FIBER OPTIC SYSTEM

SCALE: 1" = 50'

E-19

REVISED BY	PAUL MATOS
DATE REVISED	RAJPREET SINGH
CALCULATED-DESIGNED BY	
CHECKED BY	
FUNCTIONAL SUPERVISOR	ALI BAKHDOUD

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

LAST REVISION | DATE PLOTTED => 15-NOV-2010
04-20-10 | TIME PLOTTED => 13:47

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trmikesl
DGN FILE => a41580ua019.dgn

CU 06391

EA 415801

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	420	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

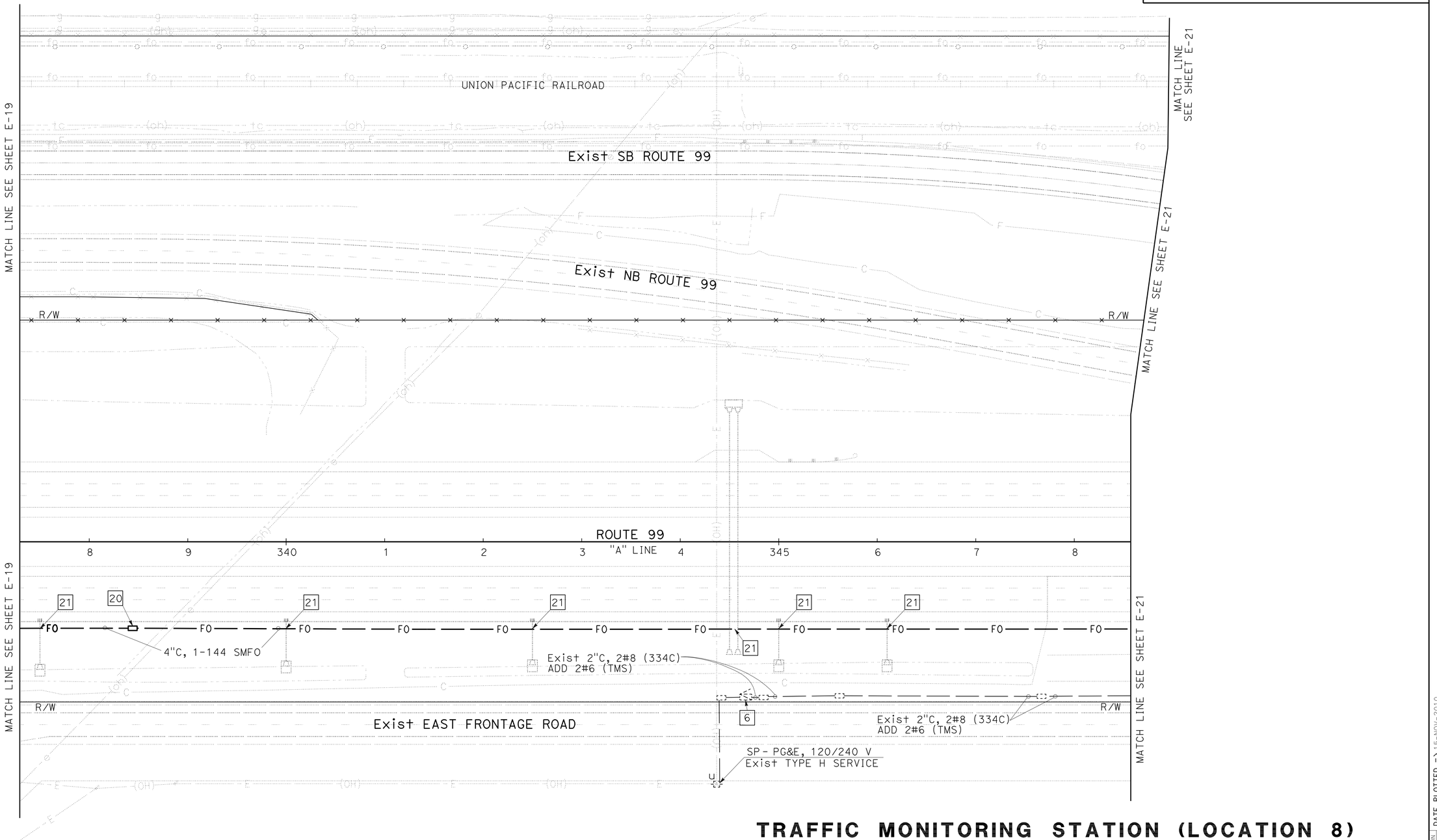
11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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.

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



TRAFFIC MONITORING STATION (LOCATION 8)
FIBER OPTIC SYSTEM

SCALE: 1" = 50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

E-20

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
REVISED BY
DATE REVISED

LAST REVISION | DATE PLOTTED => 15-NOV-2010
04-20-10 | TIME PLOTTED => 13:47

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trmikesl
DGN FILE => a41580ua020.dgn
CU 06391
EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

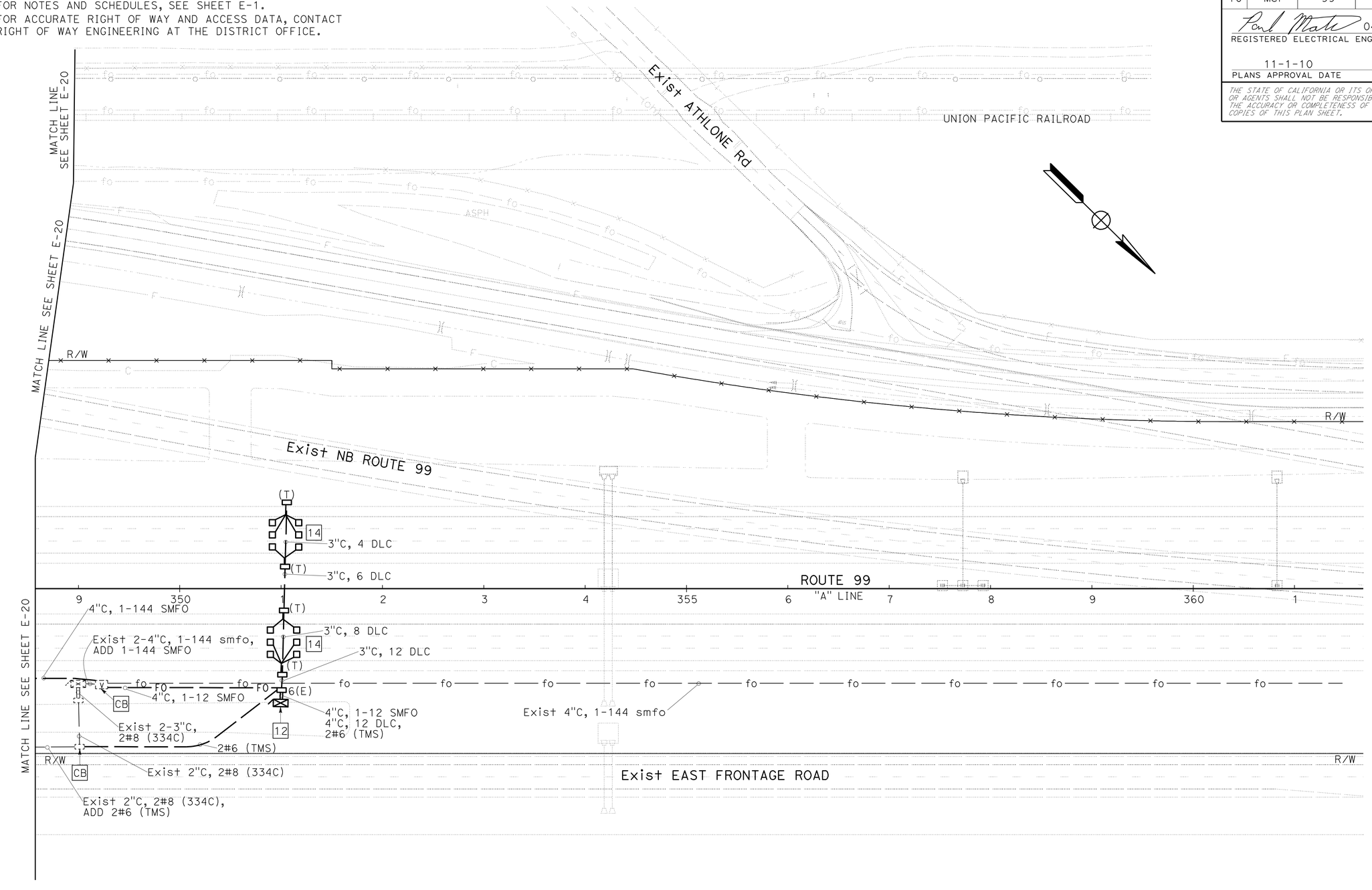
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	421	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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.



TRAFFIC MONITORING STATION (LOCATION 8)
FIBER OPTIC SYSTEM

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

SCALE: 1" = 50'

E-21

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
REVISED BY | DATE REVISED

LAST REVISION DATE PLOTTED => 15-NOV-2010
TIME PLOTTED => 13:47

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trmikesl
DGN FILE => a41580ua021.dgn
CU 06391
EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

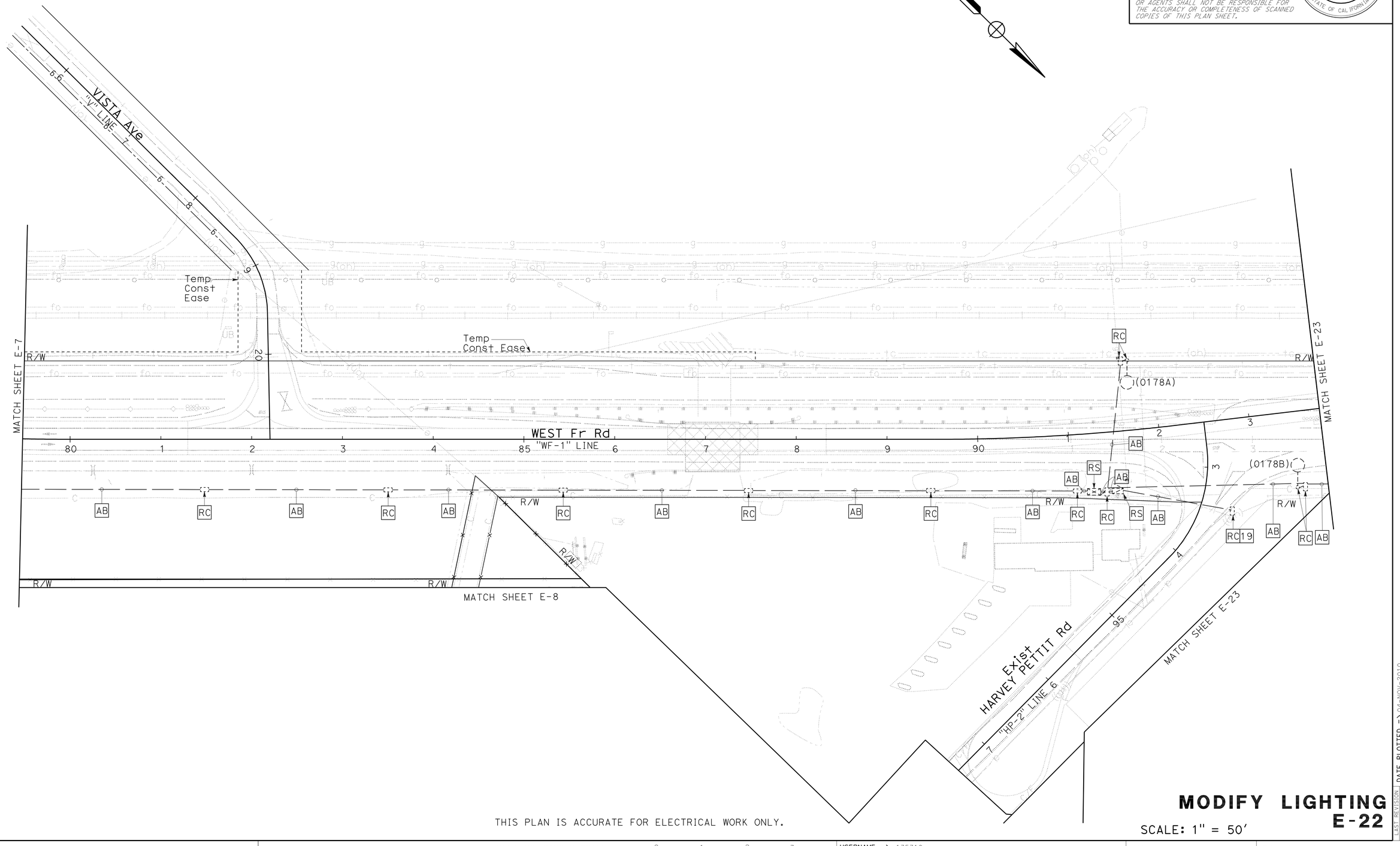
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	422	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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.



THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

MODIFY LIGHTING
E-22

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 04-NOV-2010
04-20-10 TIME PLOTTED => 15:27

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => s135318
DGN FILE => a41580ua022.dgn
CU 06391
EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

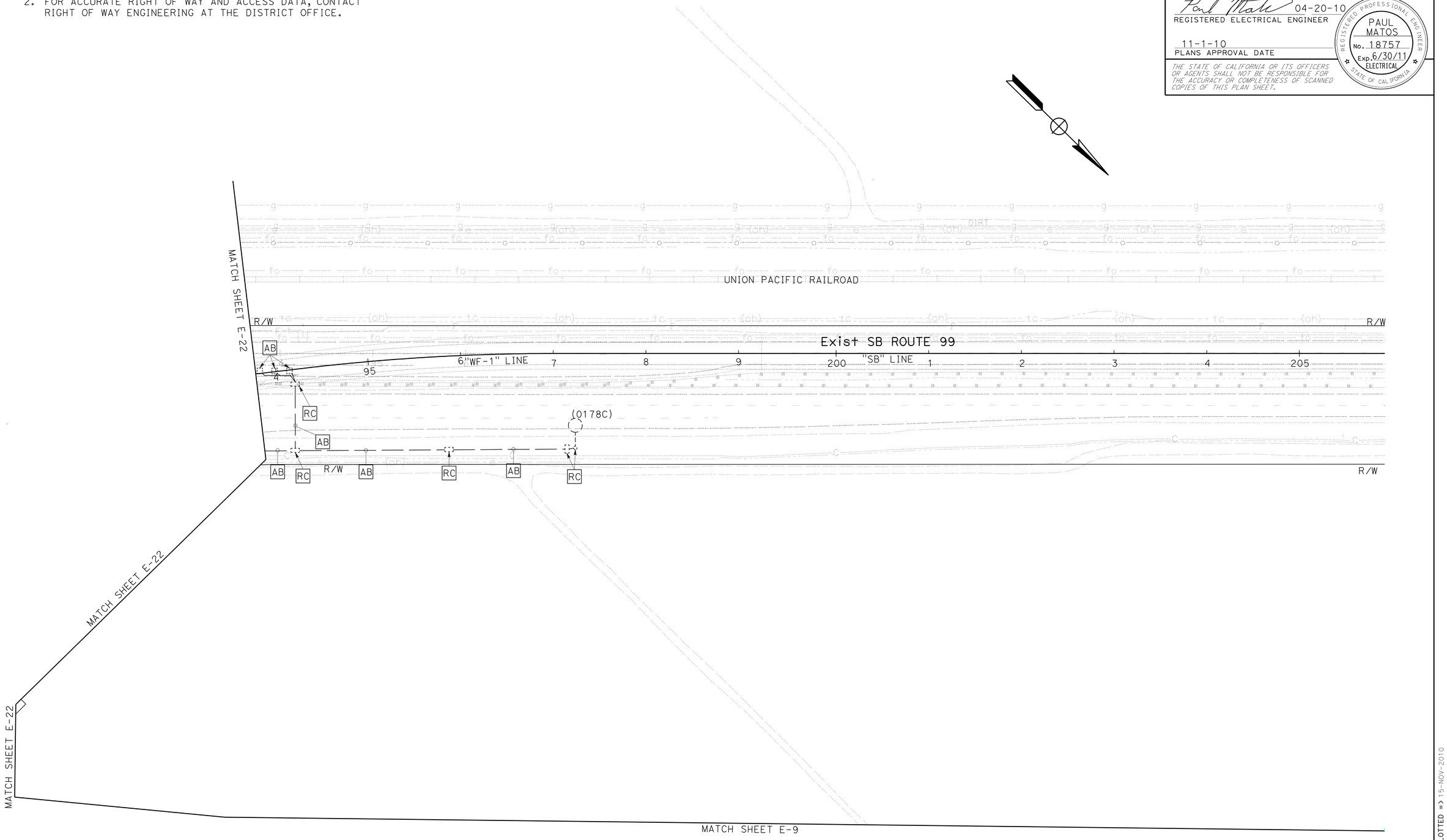
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	423	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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.



THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

MODIFY LIGHTING
E-23

SCALE: 1" = 50'

CALCULATED-DESIGNED BY	PAUL MATOS
CHECKED BY	RAJPREET SINGH
FUNCTIONAL SUPERVISOR	ALI BAKHOUD
REVISED BY	
DATE REVISED	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL DESIGN

LAST REVISION | DATE PLOTTED => 15-NOV-2010
04-20-10 | TIME PLOTTED => 13:47

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trmikesl
DGN FILE => a41580ua023.dgn

CU 06391

EA 415801

NOTES:

1. FOR NOTES AND SCHEDULES, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

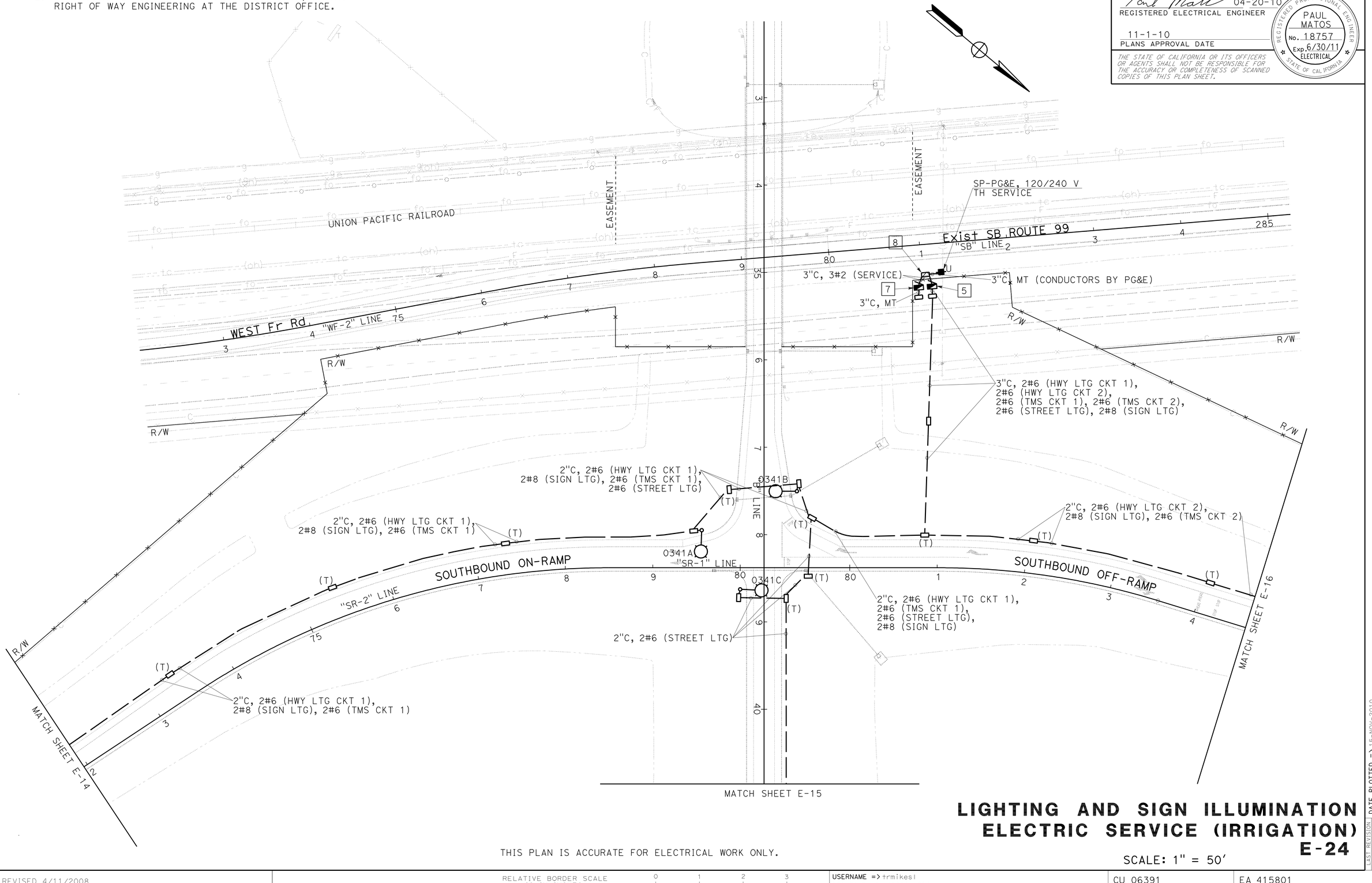
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	424	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

PAUL MATOS No. 18757 Exp.6/30/11 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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.



LIGHTING AND SIGN ILLUMINATION
ELECTRIC SERVICE (IRRIGATION)
E-24

SCALE: 1" = 50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY
CHECKED BY: RAJPREET SINGH
REVISED BY: PAUL MATOS
DATE REVISED

LAST REVISION: DATE PLOTTED => 15-NOV-2010, TIME PLOTTED => 13:47
04-20-10

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trmikesl
DGN FILE => a41580ua024.dgn
CU 06391
EA 415801

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	425	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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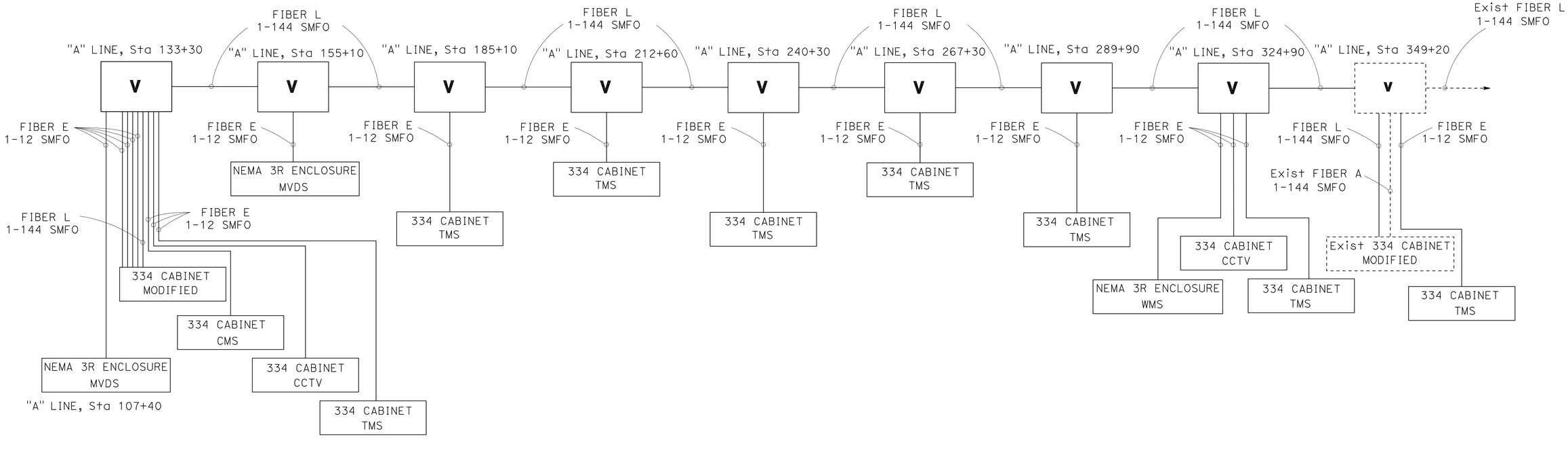
LEGEND: (FOR SHEETS E-25 THROUGH E-31)

- ° SPLICE FIBER TO FIBER
- × CUT END OF FIBER
- ▫ SC CONNECTOR ON NEW FDU OR ITU



ABBREVIATIONS: (FOR SHEETS E-25 THROUGH E-31)

DEMUX	DEMULTI PLEXER
FDU	FIBER DISTRIBUTION UNIT
FOM	(SF) FIBER OPTIC MODEM
HUB	COMMUNICATION HUB BUILDING
ITU	INTERCONNECT TERMINATION UNIT
MUX	(SF) MULTIPLEXER
SC	COMPRESSION CONNECTOR
(SF)	STATE-FURNISHED
SMFO	SINGLE MODE FIBER OPTIC CABLE
CPB	COMMUNICATION PULL BOX
CV	COMMUNICATION VAULT
TCVR	(SF) VIDEO TRANSCEIVER
TX	TRANSMIT
RX	RECEIVE
PDA	POWER DISTRIBUTION ASSEMBLY

BL	BLUE
OR	ORANGE
GR	GREEN
BR	BROWN
SL	SLATE
WT	WHITE
RD	RED
BK	BLACK
YL	YELLOW
VL	VIOLET
RS	ROSE
AQ	AQUA

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

FIBER OPTIC SYSTEM
(FIBER OPTIC BLOCK DIAGRAM)
E-25

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: RAJPREET SINGH
CHECKED BY: PAUL MATOS
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 04-NOV-2010
TIME PLOTTED => 15:26
04-20-10

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => s135318
DGN FILE => a41580ua025.dgn
CU 06391
EA 415801

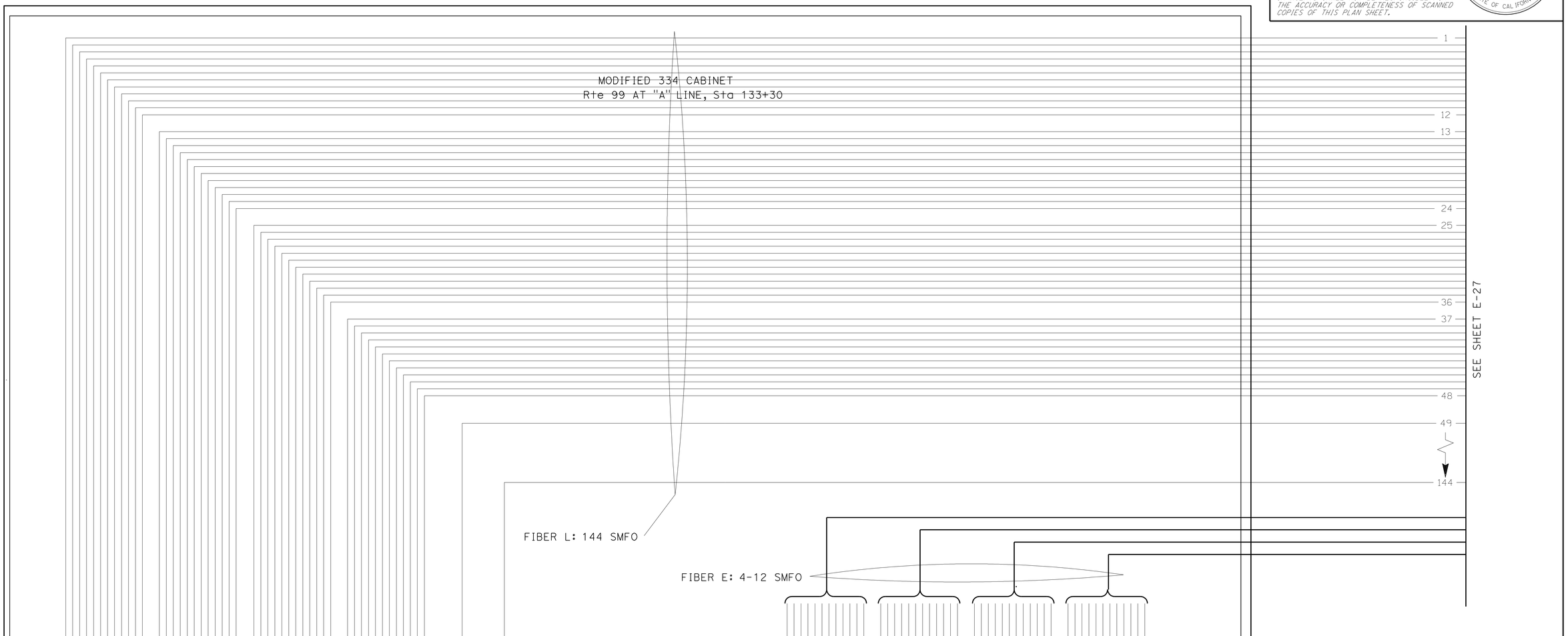
FOR NOTES SEE SHEET E-25.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	426	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA



FIBER OPTIC SYSTEM
(FIBER OPTIC BLOCK BREAKOUT)
E-26

NO SCALE

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REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY
PAUL MATOS

CHECKED BY
RAJPREET SINGH

FUNCTIONAL SUPERVISOR
ALI BAKHDOUD

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL DESIGN

LAST REVISION 04-20-10
DATE PLOTTED => 15-NOV-2010
TIME PLOTTED => 13:48

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trmikesl
DGN FILE => a41580ua026.dgn

CU 06391

EA 415801

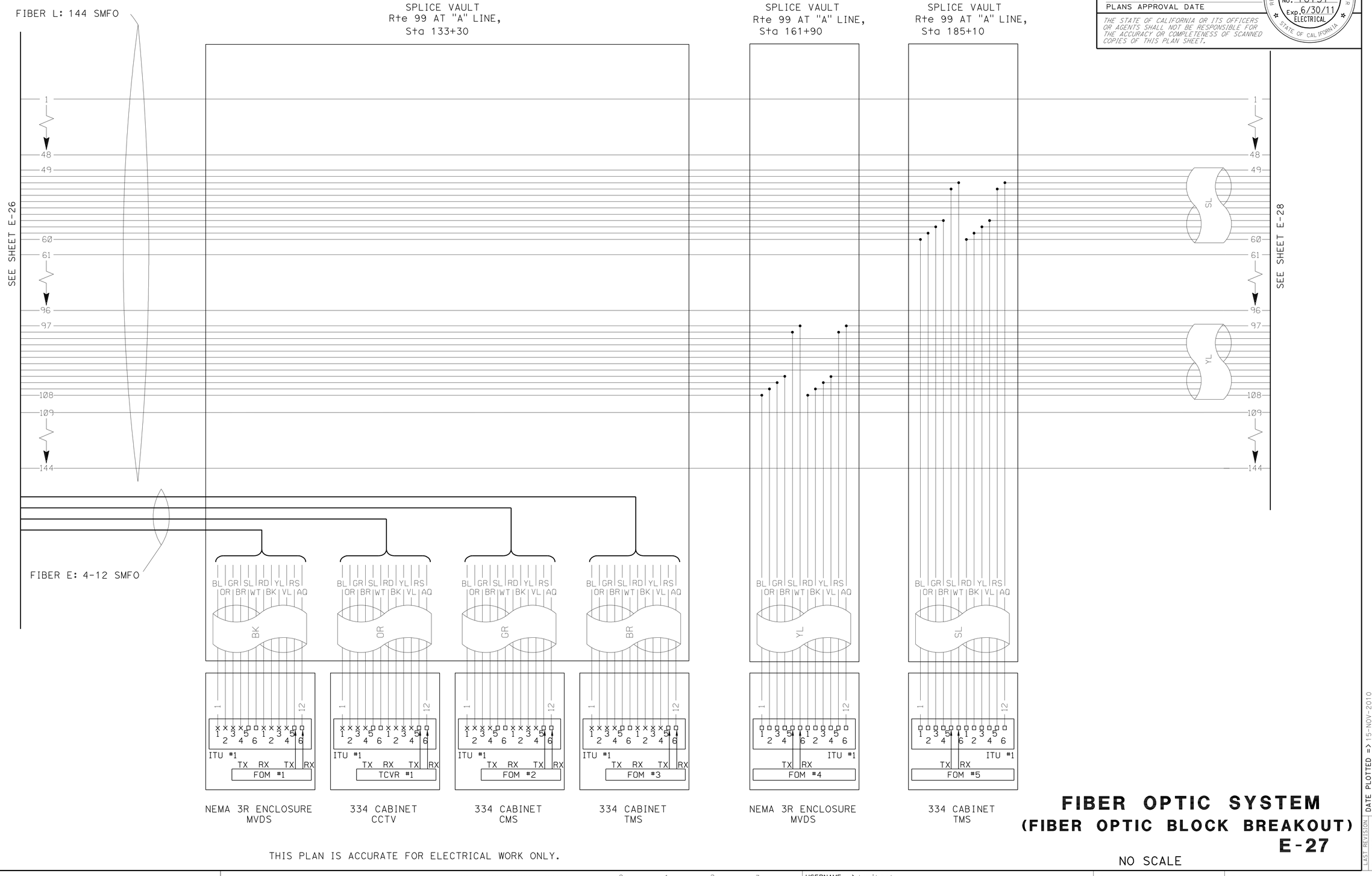
FOR NOTES SEE SHEET E-25.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	427	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA



FIBER OPTIC SYSTEM
(FIBER OPTIC BLOCK BREAKOUT)
E-27

NO SCALE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 15-NOV-2010
TIME PLOTTED => 13:48

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trmikesl
DGN FILE => a41580ua027.dgn

CU 06391

EA 415801

FOR NOTES SEE SHEET E-25.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	428	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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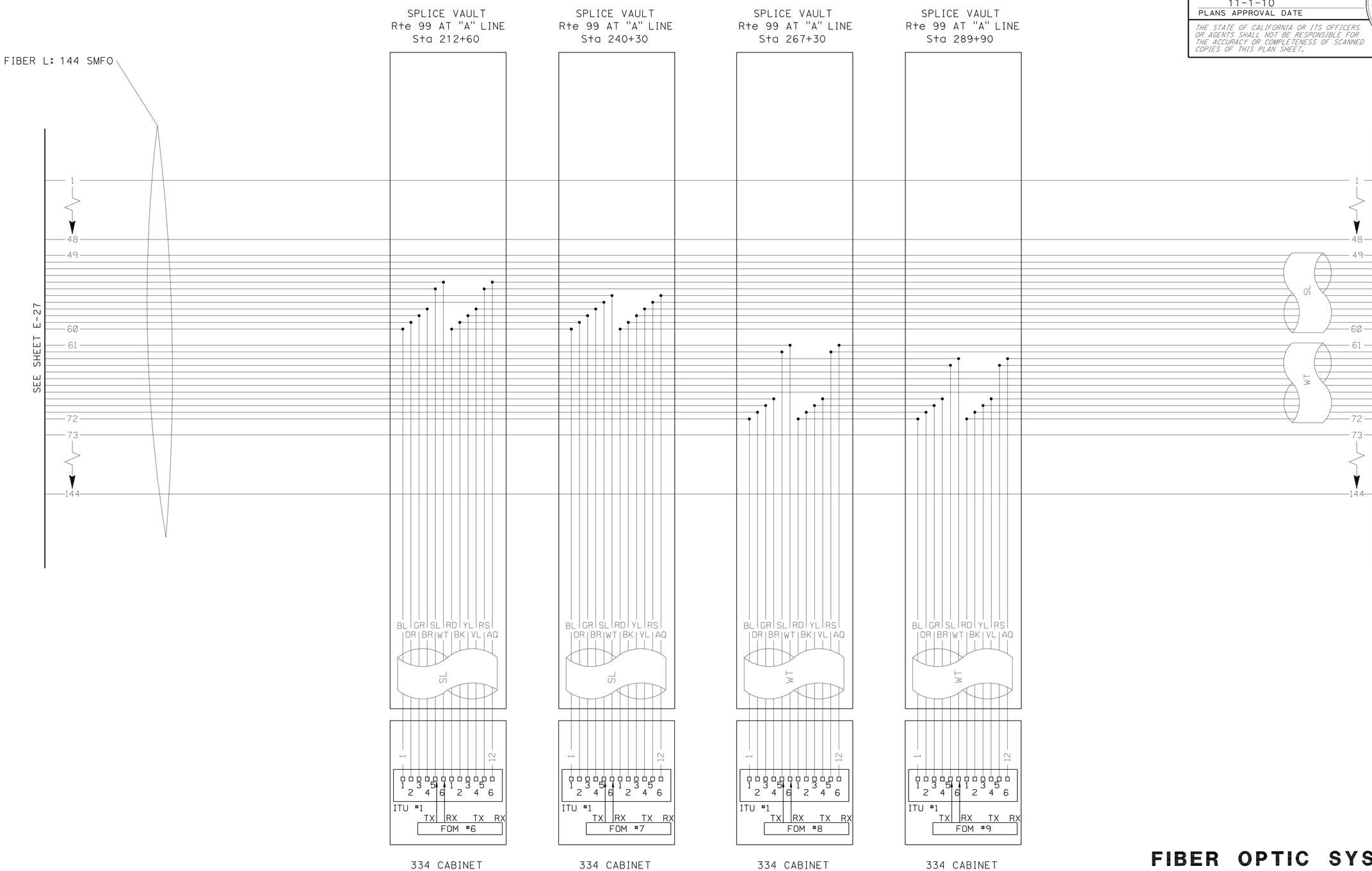


FIBER OPTIC SYSTEM
(FIBER OPTIC BLOCK BREAKOUT)
E-28

NO SCALE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

CALCULATED-DESIGNED BY	CHECKED BY	FUNCTIONAL SUPERVISOR	REVISED BY	DATE REVISED
PAUL MATOS	RAJPREET SINGH	ALI BAKHDOUD		

LAST REVISION DATE PLOTTED => 15-NOV-2010
04-20-10 TIME PLOTTED => 13:48

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trmikesl
DGN FILE => a41580ua028.dgn

CU 06391

EA 415801

FOR NOTES SEE SHEET E-25.

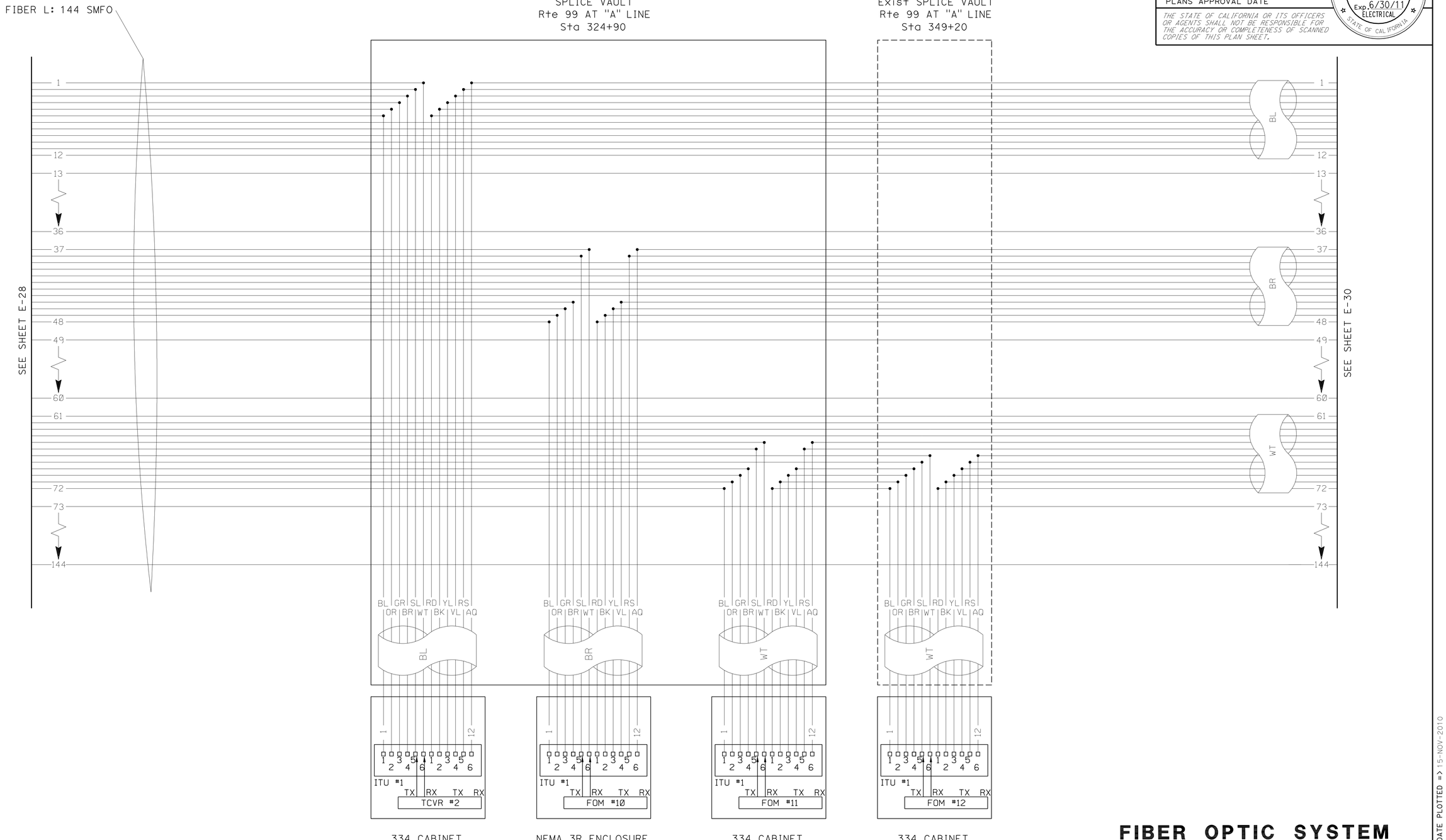
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	429	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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.



THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

FIBER OPTIC SYSTEM
(FIBER OPTIC BLOCK BREAKOUT)
E-29

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED
PAUL MATOS
RAJPREET SINGH

LAST REVISION
DATE PLOTTED => 15-NOV-2010
TIME PLOTTED => 13:48
04-20-10

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trmikesl
DGN FILE => a41580ua029.dgn

CU 06391

EA 415801

FOR NOTES SEE SHEET E-25.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	430	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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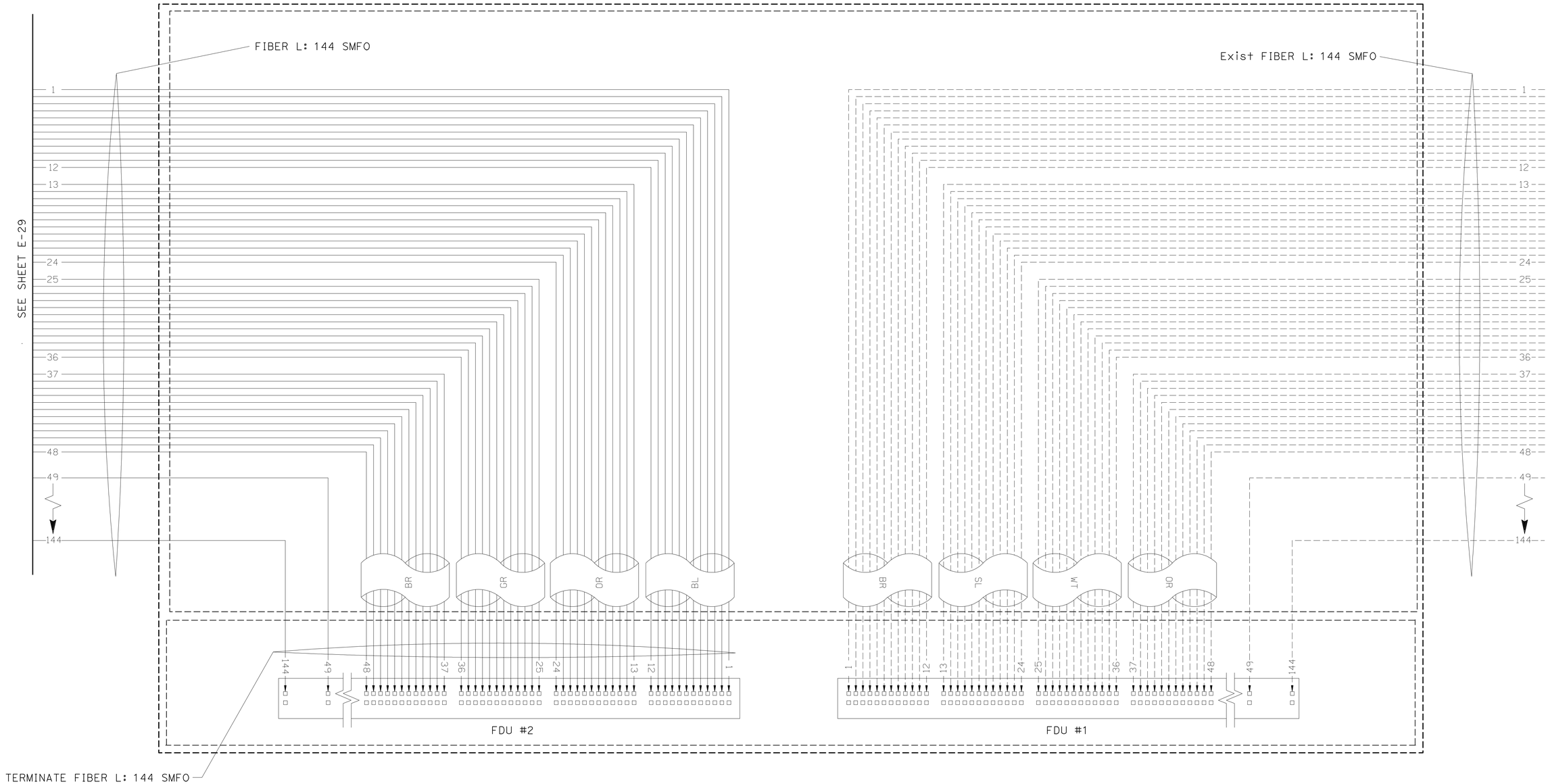
Exist MODIFIED 334 CABINET
Rte 99 AT "A" LINE, Sta 349+20



FIBER OPTIC SYSTEM
(FIBER OPTIC BLOCK BREAKOUT)
E-30

NO SCALE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 15-NOV-2010
TIME PLOTTED => 13:48

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trmikesl
DGN FILE => a41580ua030.dgn

CU 06391

EA 415801

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	431	607

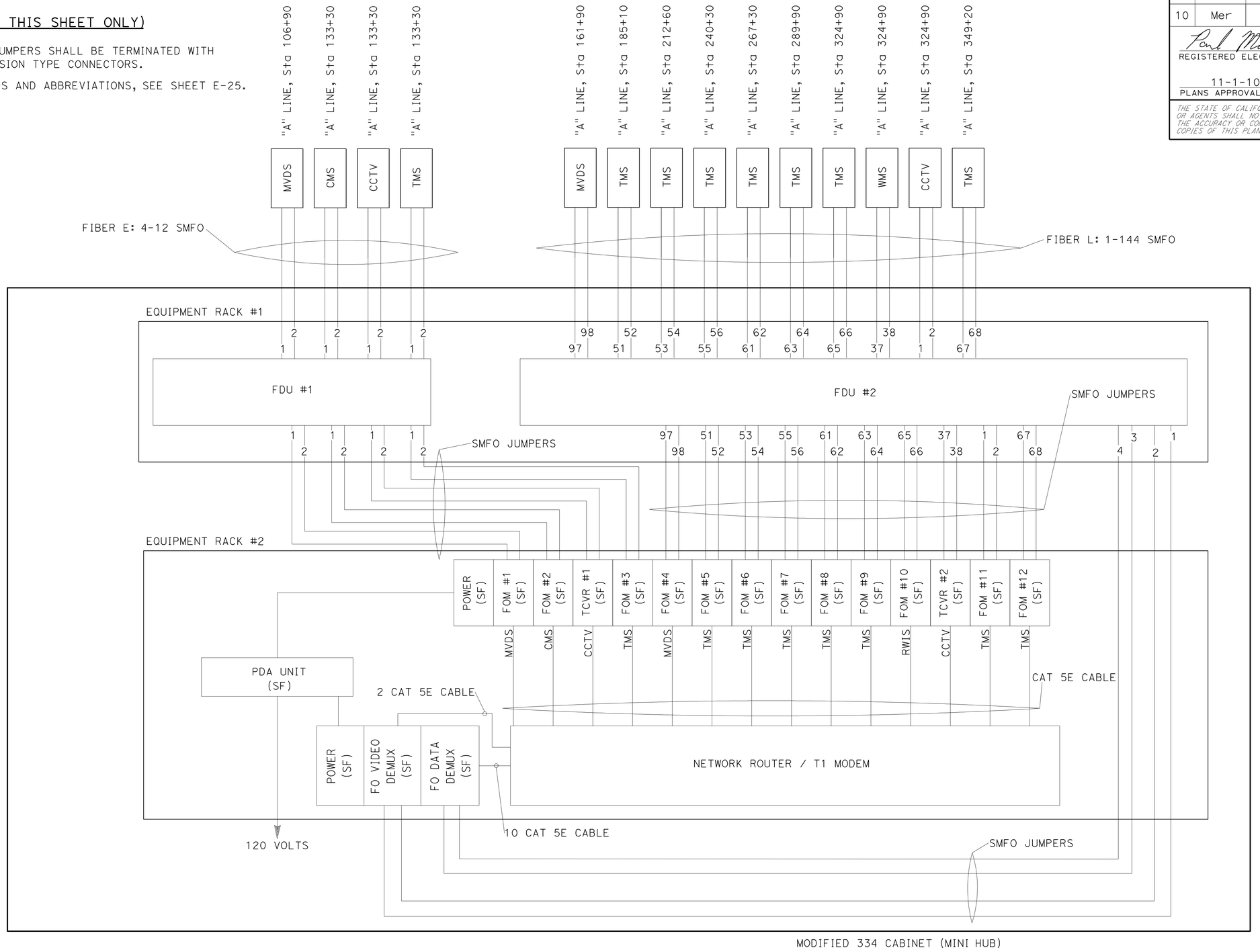
Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

NOTES: (FOR THIS SHEET ONLY)

1. ALL SMFO JUMPERS SHALL BE TERMINATED WITH SC COMPRESSION TYPE CONNECTORS.
2. FOR LEGENDS AND ABBREVIATIONS, SEE SHEET E-25.



MODIFIED 334 CABINET (MINI HUB)
EQUIPMENT DETAILS

FIBER OPTIC SYSTEM
(FIBER EQUIPMENT RACK DETAILS)
E-31

NO SCALE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

REVISED BY | DATE REVISED
CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

LAST REVISION | DATE PLOTTED => 15-NOV-2010
04-20-10 | TIME PLOTTED => 13:48

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trmikesl
DGN FILE => a41580ua031.dgn
CU 06391
EA 415801

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	432	607

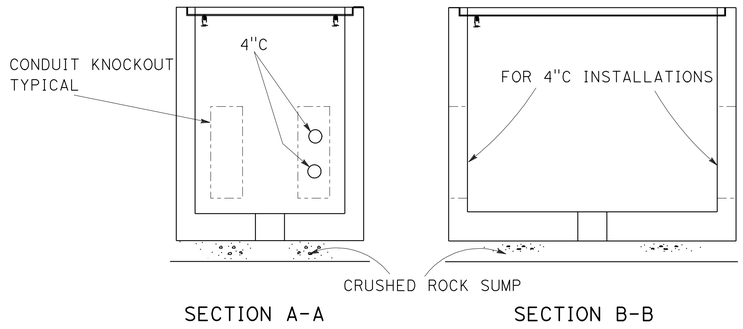
Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

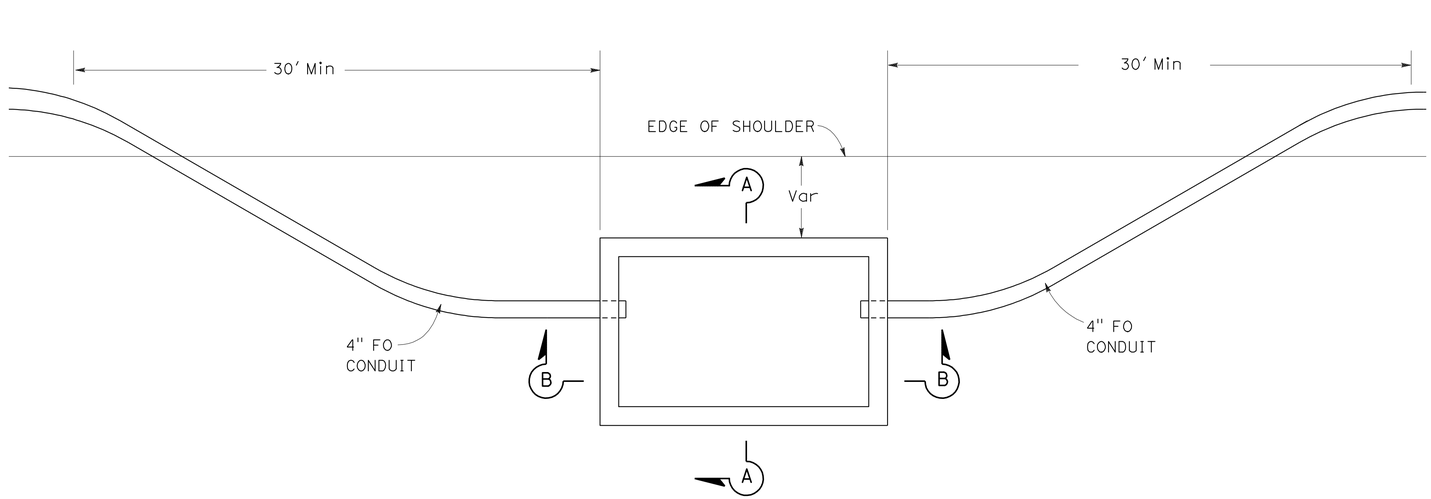
REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

NOTES: (FOR THIS SHEET ONLY)

1. 90 DEGREE SWEEPS AND BENDS SHALL NOT BE ALLOWED UNLESS NOTED ON THE PLANS.
2. CONDUIT SHALL TAPER INTO AND OUT OF VAULTS.



SECTION A-A SECTION B-B



PLAN

FIBER OPTIC SYSTEM
(SPLICE VAULT AND PULL BOX INSTALLATION DETAILS)

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

NO SCALE

E-32

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY
PAUL MATOS

CHECKED BY
RAJPREET SINGH

FUNCTIONAL SUPERVISOR
ALI BAKHDOUD

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

LAST REVISION 04-20-10
DATE PLOTTED => 04-NOV-2010
TIME PLOTTED => 11:37

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trphils
DGN FILE => a41580ua032.dgn

CU 06391

EA 415801

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	433	607

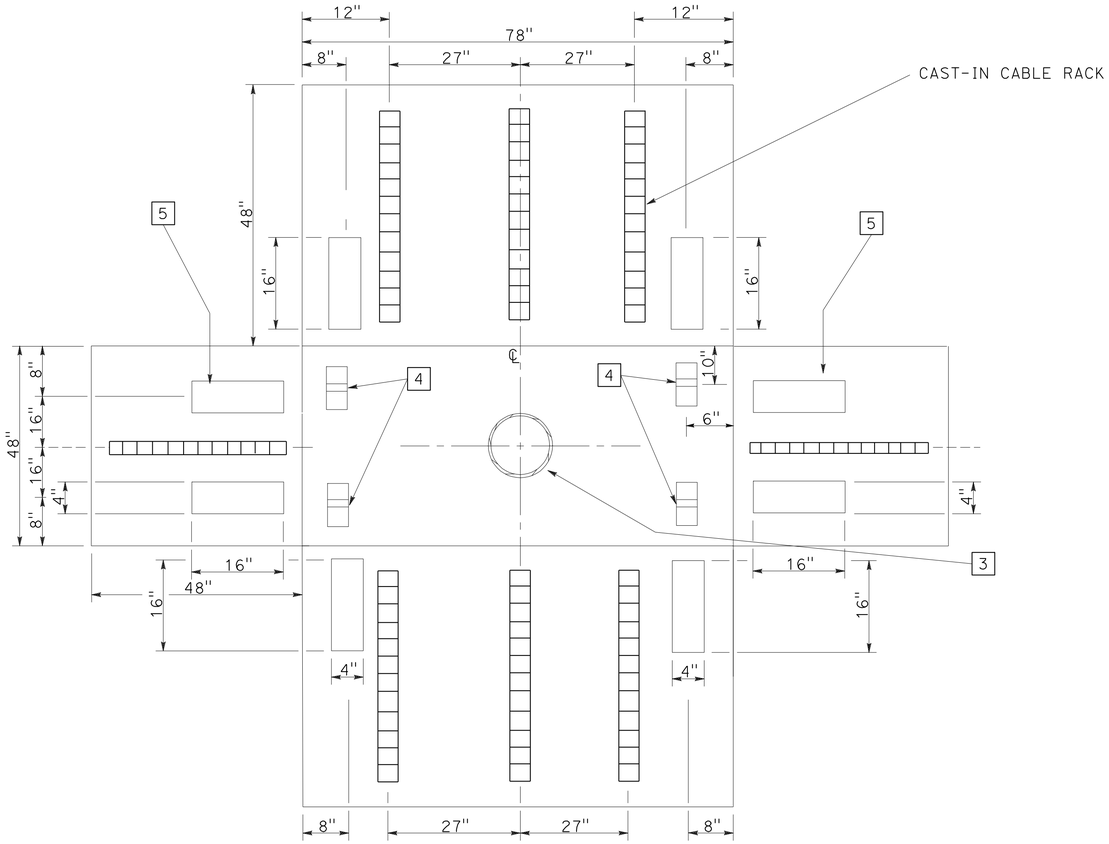
Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

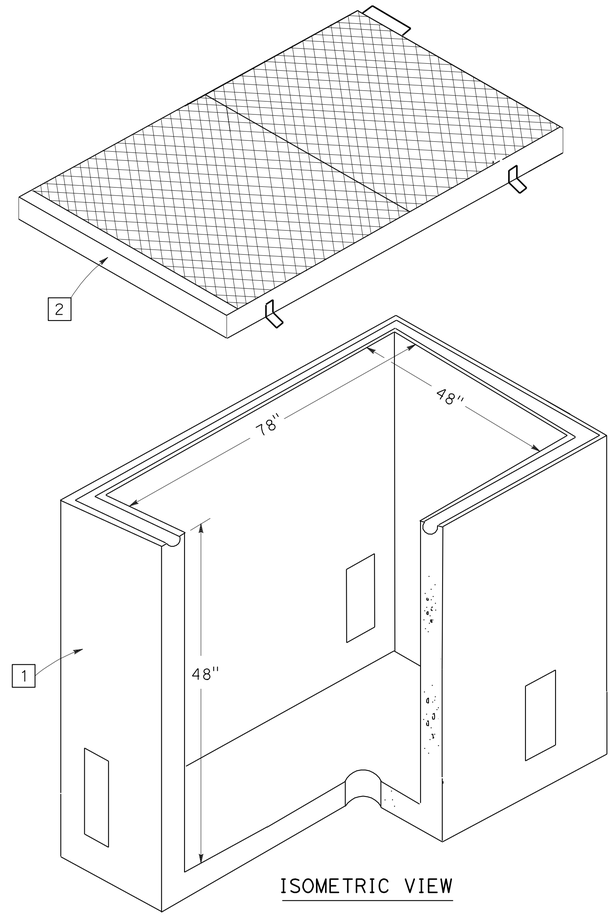
REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

NOTES: (FOR THIS SHEET ONLY)

1. GALVANIZED CAST-IN ANGLE FRAME.
2. TWO PIECE TRAFFIC RATED TORSION ASSISTED COVER, WITH PICK SLOTS AND BOLT DOWN HOLES. GALVANIZED AFTER FABRICATION.
3. 12" DIAMETER DRAIN HOLE. LOCATE AT CENTER.
4. 7/8" DIAMETER PULL IRONS. (4 EA)
5. 16" x 4" KNOCK-OUTS. (8 EA)
6. VAULT SHALL BE DESIGNED IN ACCORDANCE WITH AASHTO H-20-44 TRAFFIC BRIDGE LOADING USING 25.9 MPa COMPRESSIVE STRENGTH CONCRETE AND 413.7 MPa YIELD STRENGTH ASTM A-706 STEEL REINFORCEMENT PER CALCULATIONS.
7. VAULT SHALL BE PLACED ON A 12" BASE OF CRUSHED ROCK.
8. EACH VAULT SHALL COME PROVIDED WITH TWO SETS BOLT AND LID REMOVERS.
9. ALL MOUNTING HARDWARE SHALL BE GALVANIZED OR STAINLESS STEEL.



PLAN



ISOMETRIC VIEW

FIBER OPTIC SYSTEM
(SPLICE VAULT DETAILS)

E-33

NO SCALE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL DESIGN

CALCULATED-DESIGNED BY	FUNCTIONAL SUPERVISOR	REVISED BY	DATE REVISED
PAUL MATOS	ALI BAKHDOUD		
CHECKED BY			
RAJPREET SINGH			

LAST REVISION DATE PLOTTED => 15-NOV-2010
04-20-10 TIME PLOTTED => 13:48

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trmikesl
DGN FILE => a41580ua033.dgn

CU 06391

EA 415801

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	434	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

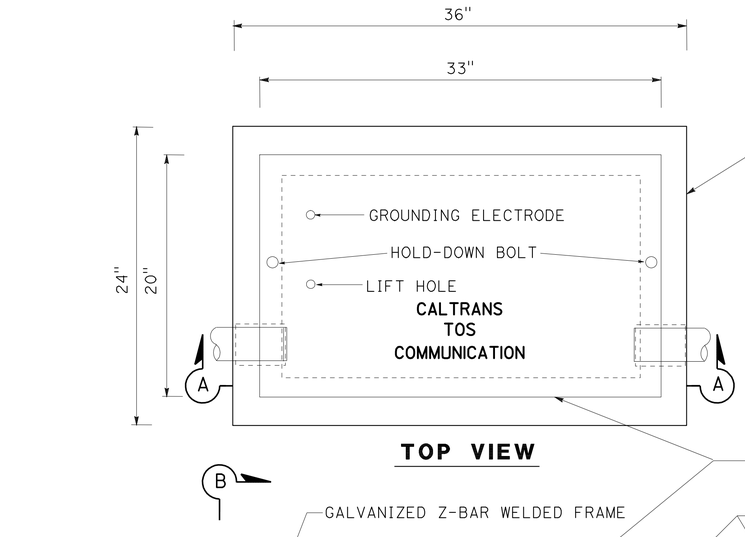
11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

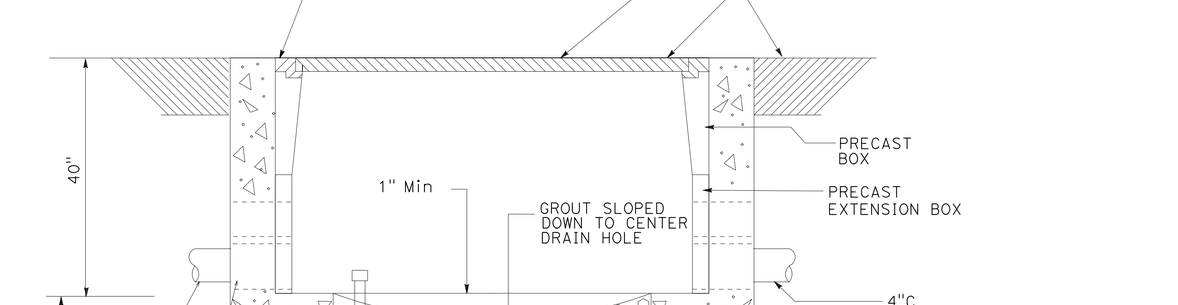
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES (FOR THIS SHEET ONLY):

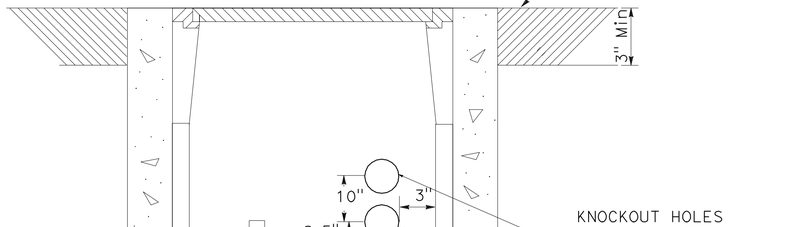
1. ADDITIONAL CONDUIT ENTRANCES AS SHOWN IN THE PLANS.
2. 4" x 5" AC PAD WITH PULL BOX IN CENTER TO BE INSTALLED FLUSH WITH PULL BOX COVER.



TOP VIEW



SECTION A-A



SECTION B-B

FIBER OPTIC SYSTEM
(COMMUNICATION PULL BOX)

E-34

NO SCALE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 15-NOV-2010
TIME PLOTTED => 13:48
04-20-10

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trmikesl
DGN FILE => a41580ua034.dgn
CU 06391
EA 415801

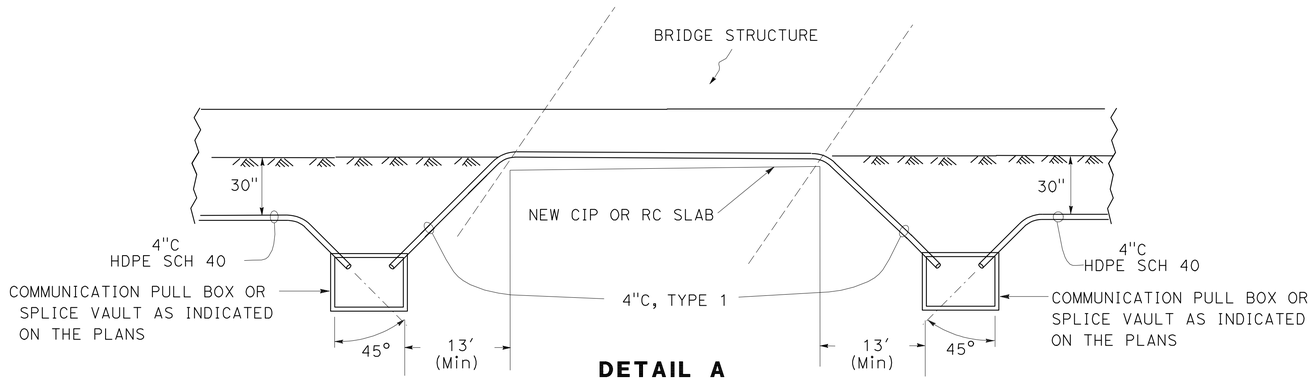
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	435	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

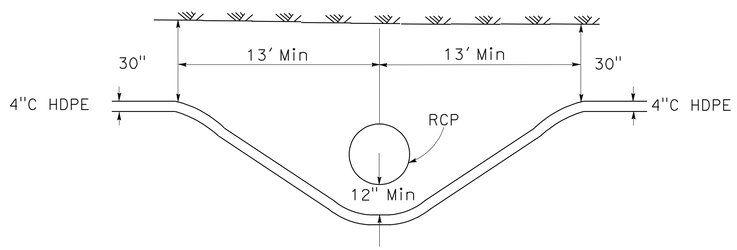
REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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.

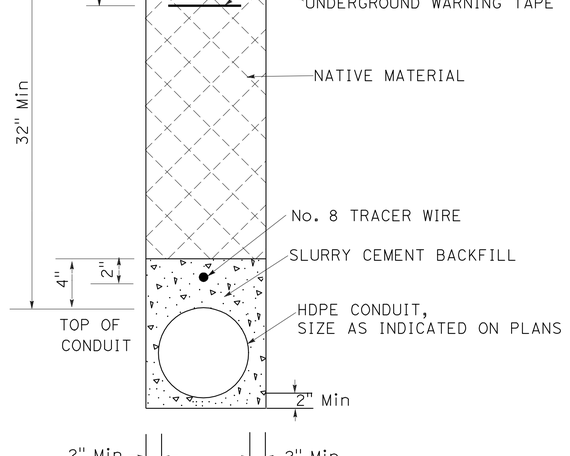


DETAIL A

COMMUNICATION CONDUIT SWEEPS DETAIL THROUGH THE STRUCTURES

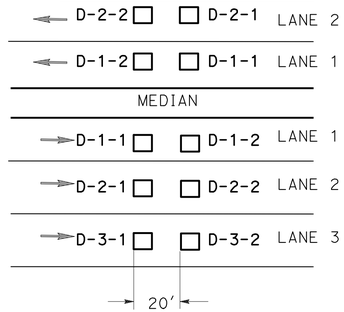


DETAIL B

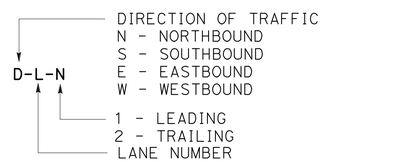


DETAIL C

TRENCH IN DIRT DETAIL
SINGLE HDPE CONDUIT



INDUCTIVE LOOP DETECTOR SENSOR DESIGNATION



DETAIL D

TYPICAL INDUCTIVE LOOP DETECTOR SENSOR DESIGNATION

FIBER OPTIC SYSTEM
TRAFFIC MONITORING STATION
E-35

NO SCALE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 04-NOV-2010
04-20-10 TIME PLOTTED => 17:05

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trrichf
DGN FILE => a41580ua036.dgn
CU 06391
EA 415801

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	436	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
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.

NOTES: (THIS SHEET ONLY)

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

[2] - FILTERED VENTILATION LOUVERS.

[3] - ALUMINUM SHELF REQUIRED FOR EQUIPMENT. 2" SPACE BETWEEN SHELF AND ENCLOSURE BACK WALL REQUIRED.

[4] - KEY LOCK AND AND THREE POINT LOCKING SYSTEM SHALL BE INTEGRATED WITH DOOR HANDLE. ROLLERS SHALL BE USED IN CONJUNCTION WITH THE THREE POINT LOCKING SYSTEM.

[5] - PIANO HINGE DOOR.

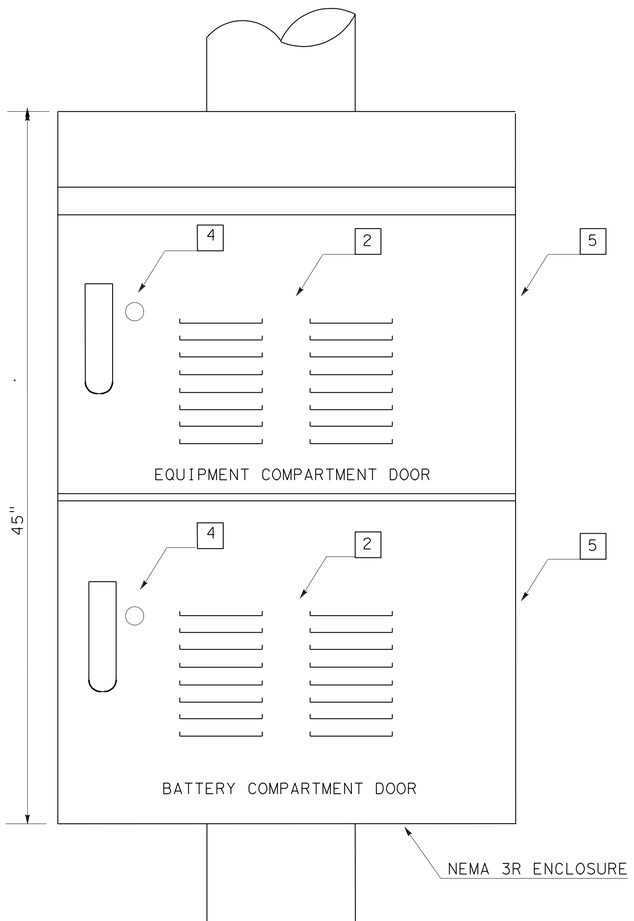
6 - SEE EQUIPMENT WIRING CONNECTION DIAGRAM ON SHEET E-28.

[7] - BACKPLATE.

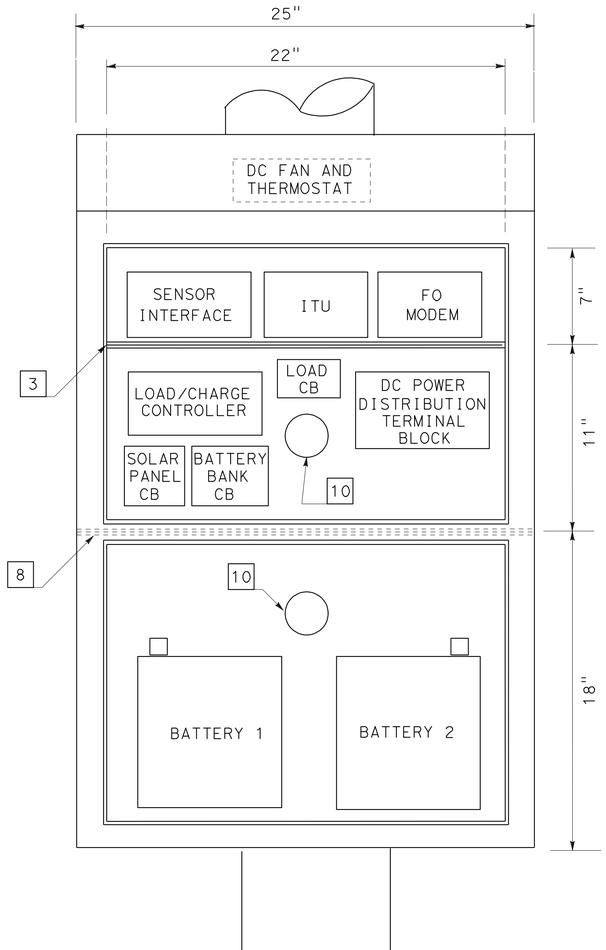
[8] - ALUMINUM SHELF REQUIRED TO PROVIDE SEPARATION OF THE EQUIPMENT AND BATTERY COMPARTMENTS. THE SHELF EDGE SHALL EXTEND TO ALL FOUR ENCLOSURE WALLS. SPACES BETWEEN THE SHELF AND ENCLOSURE WALLS SHALL BE SEALED.

[9] - DOOR HANDLE TO ENCLOSURE PADLOCK LATCH.

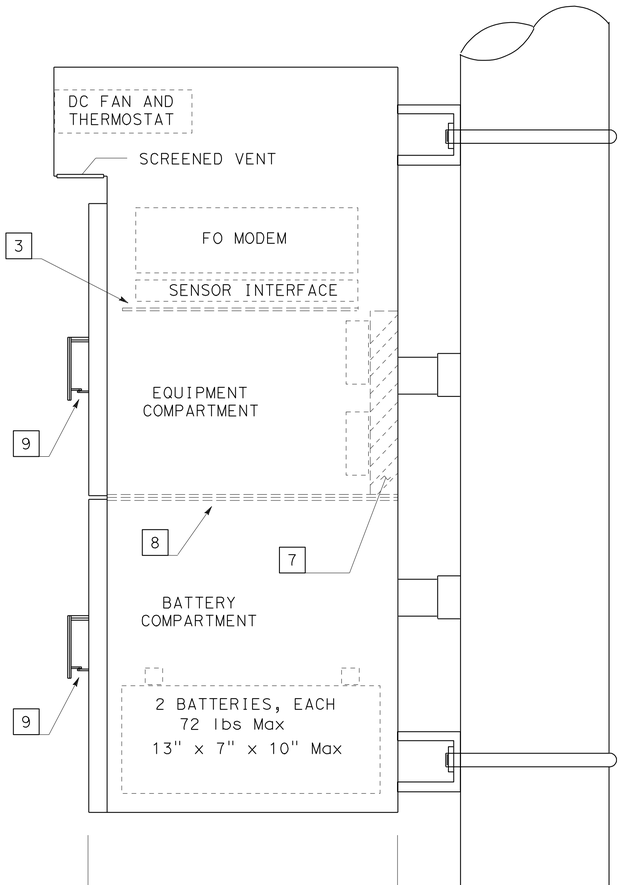
[10] - SEAL OPENING AROUND CONDUCTORS.



FRONT
(EXTERIOR)



FRONT
(INTERIOR)



SIDE

POLE MOUNTED EQUIPMENT
ENCLOSURE AND EQUIPMENT LAYOUT

MICROWAVE VEHICLE DETECTION SYSTEM

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

NO SCALE

E-36

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
REVISED BY
DATE REVISED

LAST REVISION
DATE PLOTTED => 04-NOV-2010
TIME PLOTTED => 17:05
04-20-10

BORDER LAST REVISED 3/1/2007
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trrichf
DGN FILE => a41580ua037.dgn
CU 06391
EA 41580

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	437	607

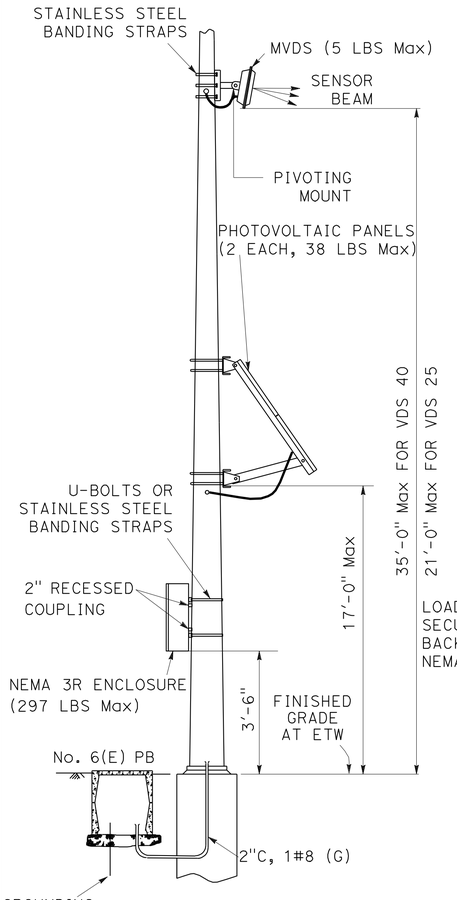
Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

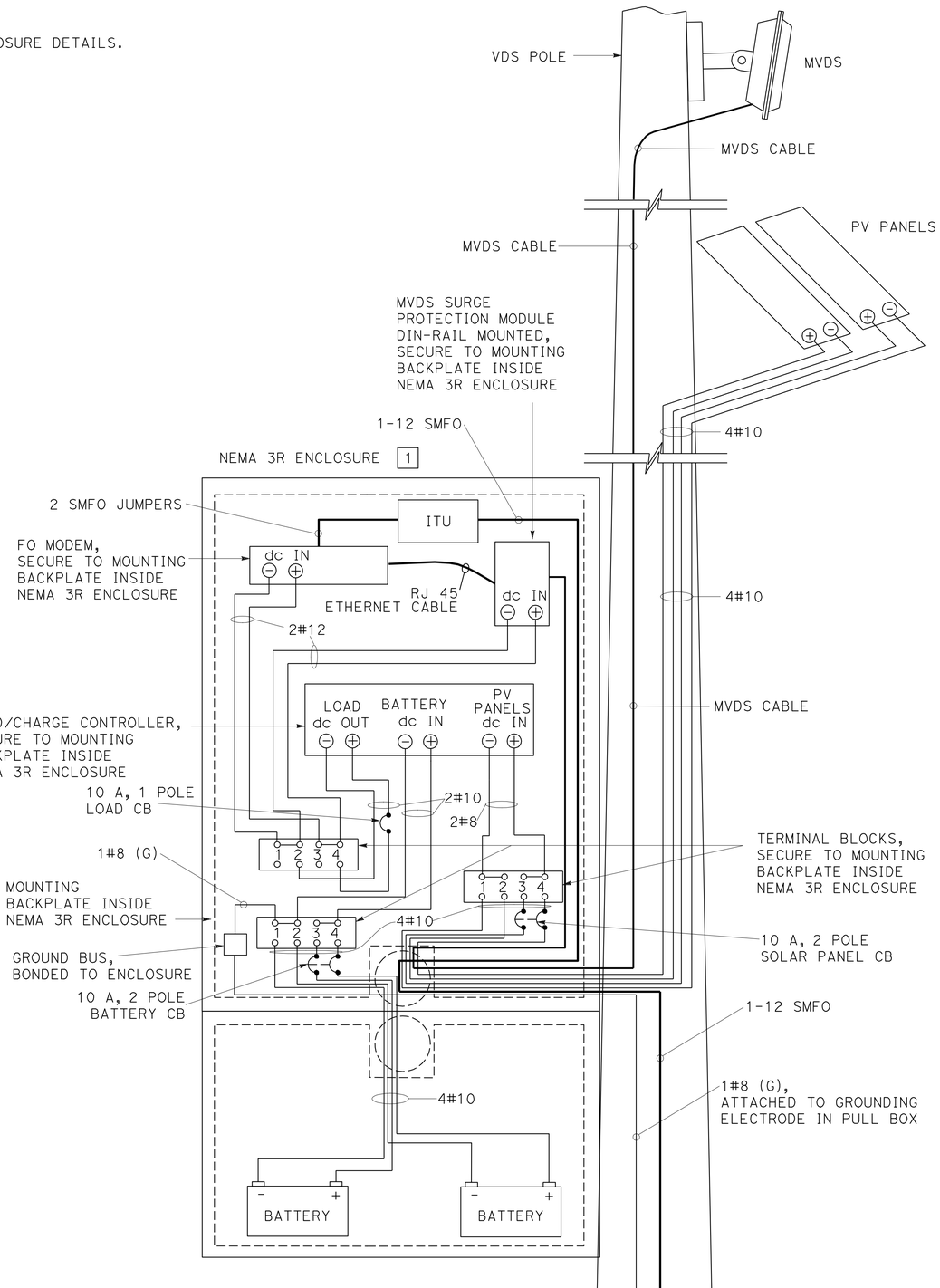
PAUL MATOS No. 18757 Exp. 6/30/11 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

NOTE:

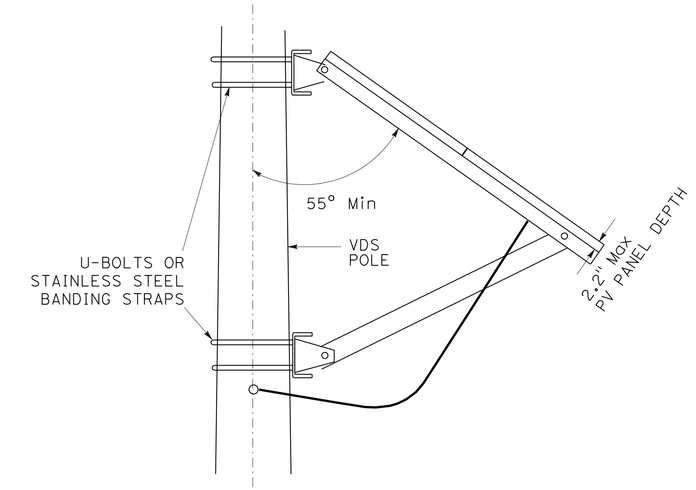
1 SEE SHEET E-37 FOR NEMA 3R ENCLOSURE DETAILS.

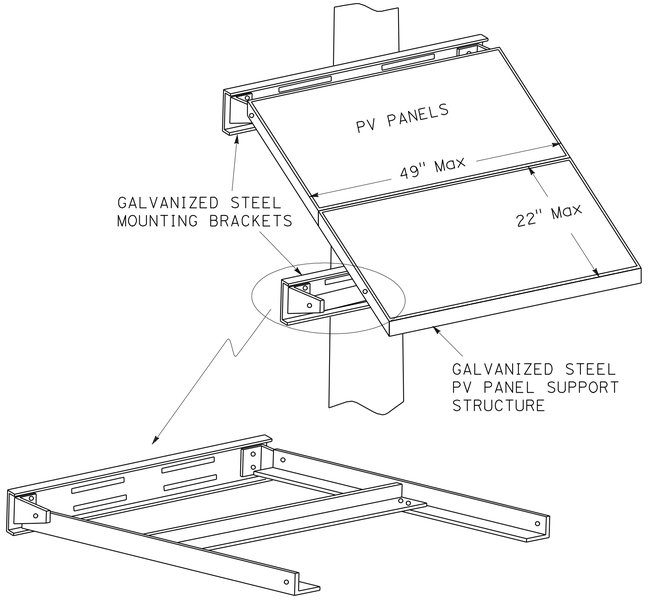


DETAIL A



DETAIL B





DETAIL C

MICROWAVE VEHICLE DETECTION SYSTEM

NO SCALE

E-37

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED-DESIGNED BY: PAUL MATOS
CHECKED BY: RAJPREET SINGH
REVISED BY
DATE REVISED

LAST REVISION | DATE PLOTTED => 04-NOV-2010 | TIME PLOTTED => 17:05

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => trrichf
DGN FILE => a41580ua038.dgn

CU 06391

EA 415801

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Mer	99	0.0/4.6	438	607

Paul Matos 04-20-10
REGISTERED ELECTRICAL ENGINEER

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL MATOS
No. 18757
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

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.

THIS SHEET INTENTIONALLY LEFT BLANK

MICROWAVE VEHICLE DETECTION SYSTEM

NO SCALE

E-38

CALCULATED-DESIGNED BY	PAUL MATOS	REVISED BY
CHECKED BY	RAJPREET SINGH	DATE REVISED
FUNCTIONAL SUPERVISOR	ALI BAKHDOUD	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

LAST REVISION | DATE PLOTTED => 05-NOV-2010
04-20-10 | TIME PLOTTED => 08:20

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

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DGN FILE => a41580ua038a.dgn

CU 06391

EA 415801

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	0.0/4.6	439	607

Eliseo Lopez 7/21/10
REGISTERED CIVIL ENGINEER DATE

11-1-10
PLANS APPROVAL 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.

REGISTERED PROFESSIONAL ENGINEER — ELISEO LOPEZ No. C72910 Exp. 12/31/10 CIVIL — STATE OF CALIFORNIA

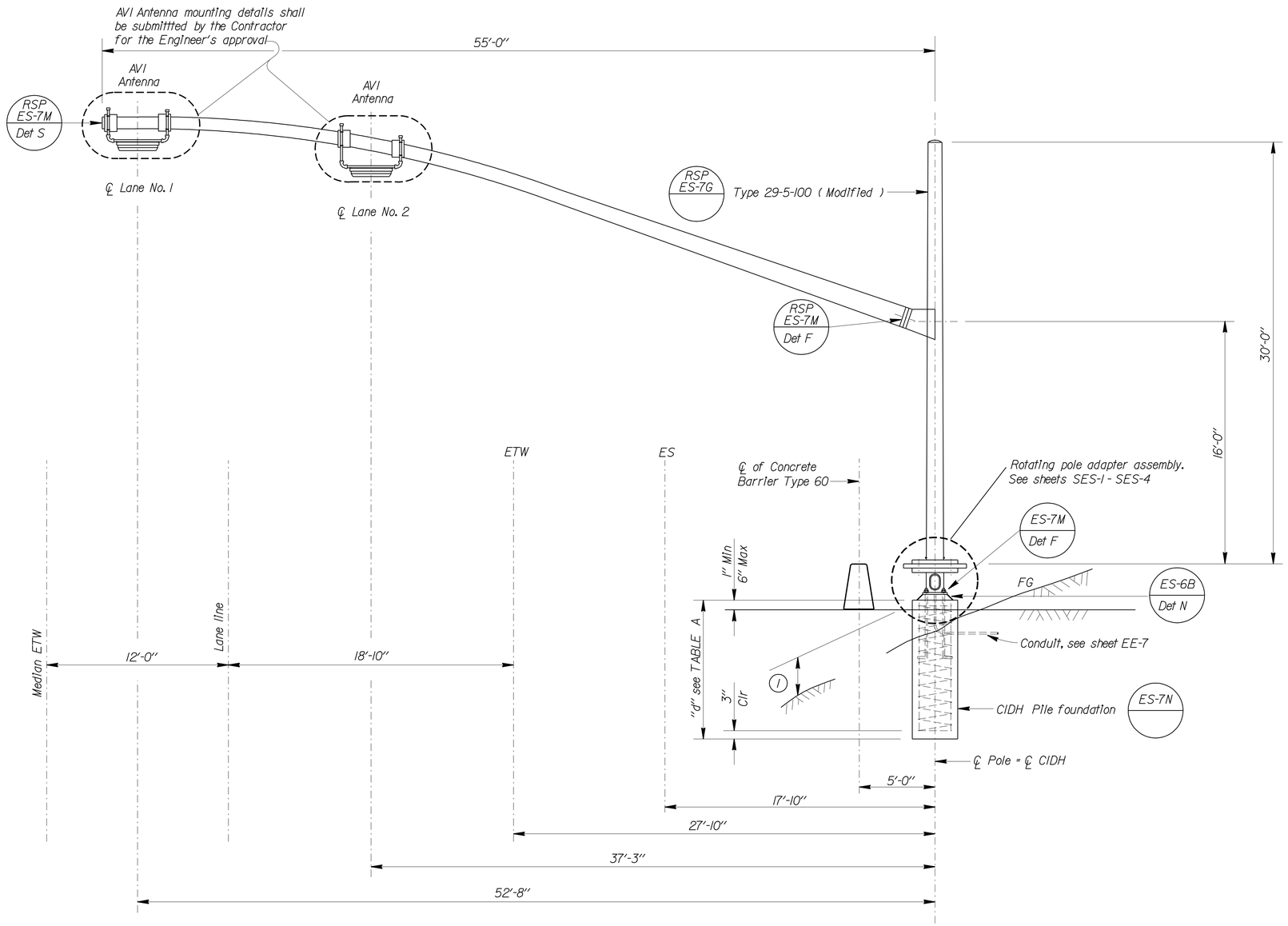

TABLE A

"d" 3'-0" Ø CIDH Pile	
LEVEL GROUND	SLOPING GROUND
12'	14'

GENERAL NOTES:

SPECIFICATIONS

Design: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals dated 2001.

LOADING

Wind Loadings: 100 mph

UNIT STRESSES FOR TYPE 29-5-100 (MODIFIED)

Structural Steel: fy = 48,000 psi tapered steel tube
fy = 36,000 psi unless otherwise noted

Anchor bolts = A307 unless otherwise noted

Reinforced Concrete: f'c = 3,600 psi
fy = 60,000 psi

NOTES:

1. For Type 29-5-100 (Modified) details not shown, see 2006 Revised Standard Plan ES-7G.
2. All steel shall be galvanized after fabrication.
3. During pole erection, the post shall be raked as necessary with the use of leveling nuts to provide a plumb pole axis.
4. The foundation shall be treated as level ground condition if the slope inclination is flatter than 4H : 1V.
5. For details not shown, see 2006 "STANDARD PLANS" and 2006 "REVISED STANDARD PLANS".
6. The Engineer will determine final location of rotating pole.
7. For mounting location of AVI Antennas, see sheet EE-7.
8. Foundation design is based on 2001 AASHTO article 13.6 Broms' approximate procedure assuming a cohesionless material. The angle of internal friction used is 30 degrees and unit weight of soil used is 120 lbs/ft^3.

ELEVATION
TYPE 29-5-100 (MODIFIED)

(1) 1'-3" Max for sloped finished grade

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

NO SCALE

BRANCH CHIEF Jeffrey S Woody

DESIGN	BY ELISEO LOPEZ	CHECKED K.C. LIU	
DETAILS	BY R. YEE	CHECKED ELISEO LOPEZ	
QUANTITIES	BY ELISEO LOPEZ	CHECKED K.C. LIU	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
DESIGN AND TECHNICAL SERVICES
SPECIAL DESIGNS BRANCH A

BRIDGE NO. X
POST MILE

CHOWCHILLA TRUCK INSPECTION FACILITY
ROTATING POLE LAYOUT

SES-1

(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 10223
EA 415801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 6/26/09 | 6/26/09 | 7/2/09 | 7/17/09 | 11/16/09 | 11/20/09 | 12/2/10 | 7/21/10

SHEET OF

FILE => 2009sd/10_415801/ses-1.dgn ses-1.dgn

USERNAME => rtreford DATE PLOTTED => 03-NOV-2010 TIME PLOTTED => 13:28

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	0.0/4.6	440	607

Eliseo Lopez 7/21/10
REGISTERED CIVIL ENGINEER DATE

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — ELISEO LOPEZ No. C72910 Exp. 12/31/10 CIVIL — STATE OF CALIFORNIA

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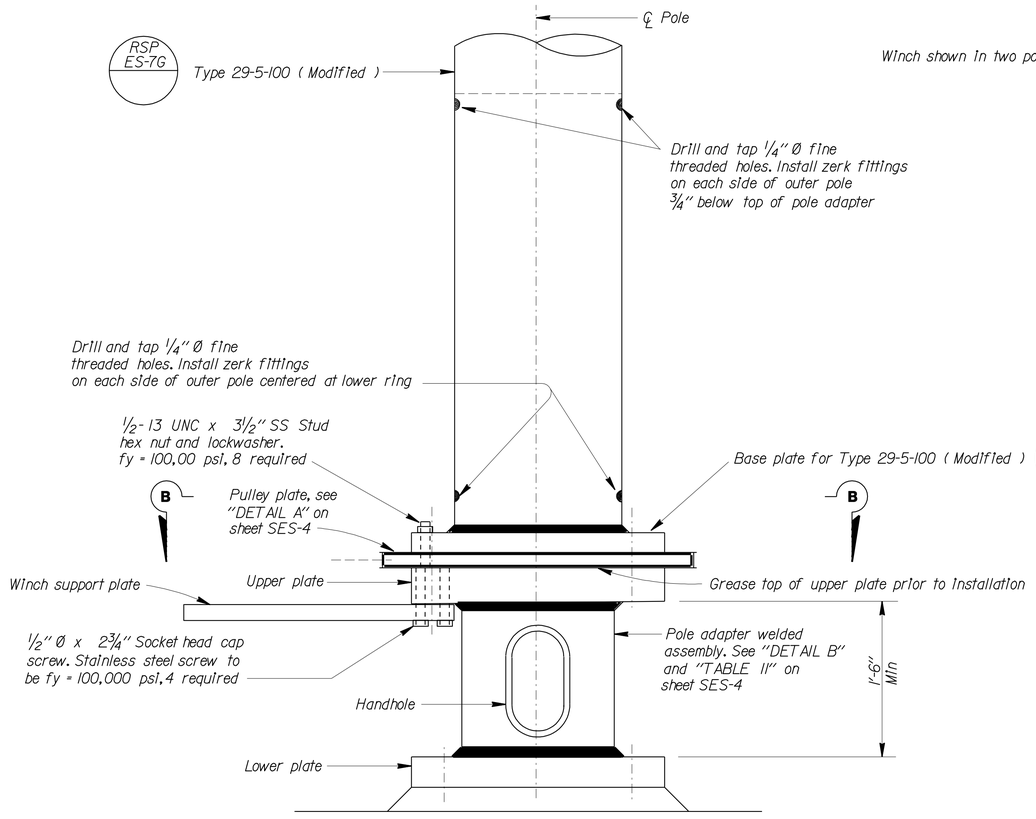
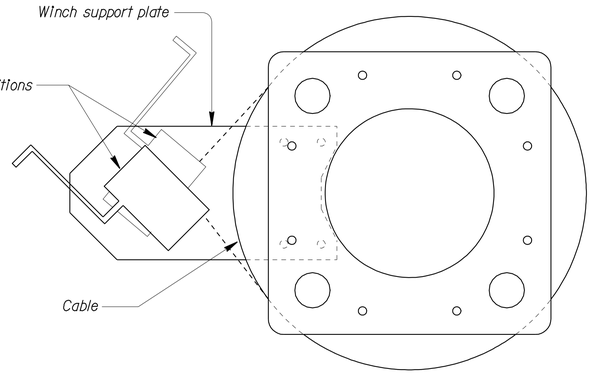


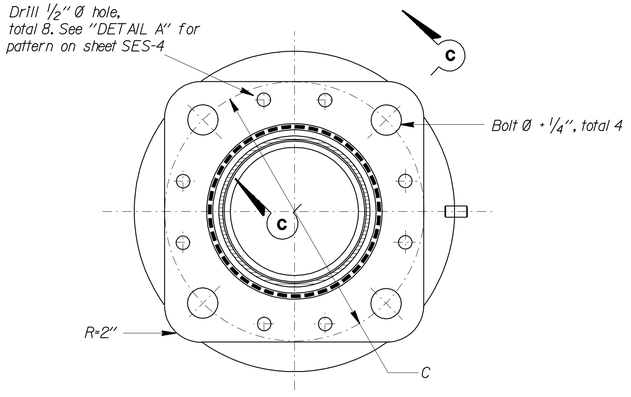
ROTATING POLE ASSEMBLY

(Some fasteners not shown)



SECTION B-B

Showing winch and winch support plate position



SECTION B-B

(Bolts and nuts not shown)

DESIGN NOTES:

Design: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals dated 2001.

Type 29-5-100 (Modified)(RSP ES-7G) to be used with rotating pole.

LOADING

Wind Loading: 100 mph

UNIT STRESSES FOR ROTATING POLE ADAPTER ASSEMBLY

fy = 48,000 psi steel tube
fy = 48,000 psi Structural steel unless otherwise noted

GENERAL NOTES:

1. Washer assembly consists of two fiber, two flat and lock washers.
2. All steel shall be galvanized after fabrication unless otherwise noted.

NOTES:

A. See "SECTION C-C" on sheet SES-4.

B. For C dimension, see "TABLE I" on sheet SES-3.

C. For details not shown, see 2006 "STANDARD PLANS and 2006 "REVISED STANDARD PLANS".

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

NO SCALE

BRANCH CHIEF Jeffrey B Woody

	BY	CHECKED
DESIGN	ELISEO LOPEZ	K.C. LIU
DETAILS	R. YEE	ELISEO LOPEZ
QUANTITIES	ELISEO LOPEZ	K.C. LIU

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
DESIGN AND TECHNICAL SERVICES
SPECIAL DESIGNS BRANCH A

BRIDGE NO. X
POST MILE

CHOWCHILLA TRUCK INSPECTION FACILITY
ROTATING POLE ADAPTER ASSEMBLY DETAILS No. 1

SES-2

(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 10223
EA 415801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 6/15/09 | 6/26/09 | 7/1/09 | 7/7/09 | 11/6/09 | 11/30/09 | 12/3/10 | 1/20/10 | 7/21/10

SHEET OF

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USERNAME => tfmirkoi DATE PLOTTED => 15-NOV-2010 TIME PLOTTED => 13:49

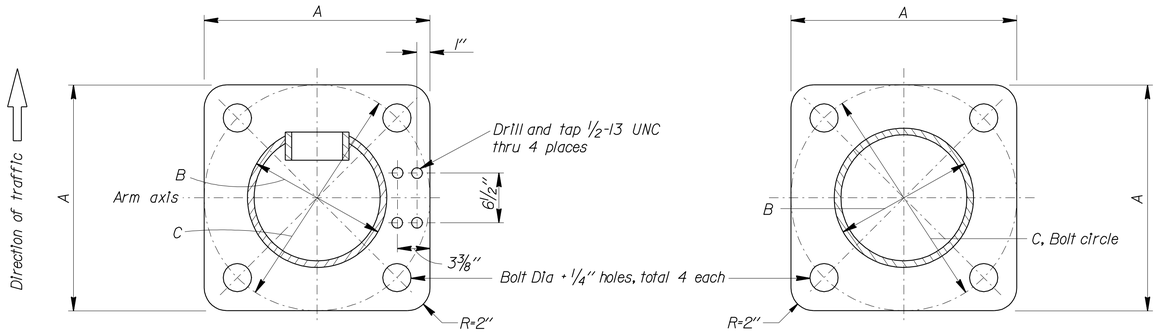
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	0.0/4.6	441	607

Eliseo Lopez 7/21/10
REGISTERED CIVIL ENGINEER DATE

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — ELISEO LOPEZ No. C72910 Exp. 12/31/10 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.



SECTION D-D **SECTION E-E**

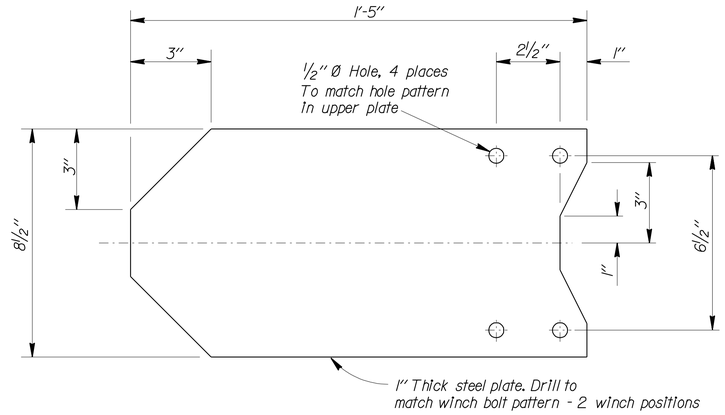
UPPER AND LOWER PLATE

TABLE I

SIGNAL AND LIGHTING STANDARD (MODIFIED)	UPPER AND LOWER PLATE DIMENSIONS		
	A	B	C
TYPE 29-5-100	21"	12 3/4"	21"

NOTE:

See "DETAIL B" on sheet SES-4 for "SECTION D-D" and "SECTION E-E" of Upper and Lower Plate.



WINCH SUPPORT PLATE

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

NO SCALE

BRANCH CHIEF Jeffrey B Woody

	BY	CHECKED
DESIGN	ELISEO LOPEZ	K.C. LIU
DETAILS	R. YEE	ELISEO LOPEZ
QUANTITIES	ELISEO LOPEZ	K.C. LIU

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
DESIGN AND TECHNICAL SERVICES
SPECIAL DESIGNS BRANCH A

BRIDGE NO. X
POST MILE

CHOWCHILLA TRUCK INSPECTION FACILITY
ROTATING POLE ADAPTER ASSEMBLY DETAILS No. 2

SES-3

(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 10223
EA 415801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 6/26/09 | 6/29/09 | 7/2/09 | 7/7/09 | 11/20/09 | 1/22/10 | 2/26/10 | 7/21/10

SHEET OF

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USERNAME => trlenard DATE PLOTTED => 03-NOV-2010 TIME PLOTTED => 13:28

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	0.0/4.6	442	607

Eliseo Lopez 7/21/10
REGISTERED CIVIL ENGINEER DATE

ELISEO LOPEZ No. C72910 Exp. 12/31/10 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

11-1-10
PLANS APPROVAL DATE

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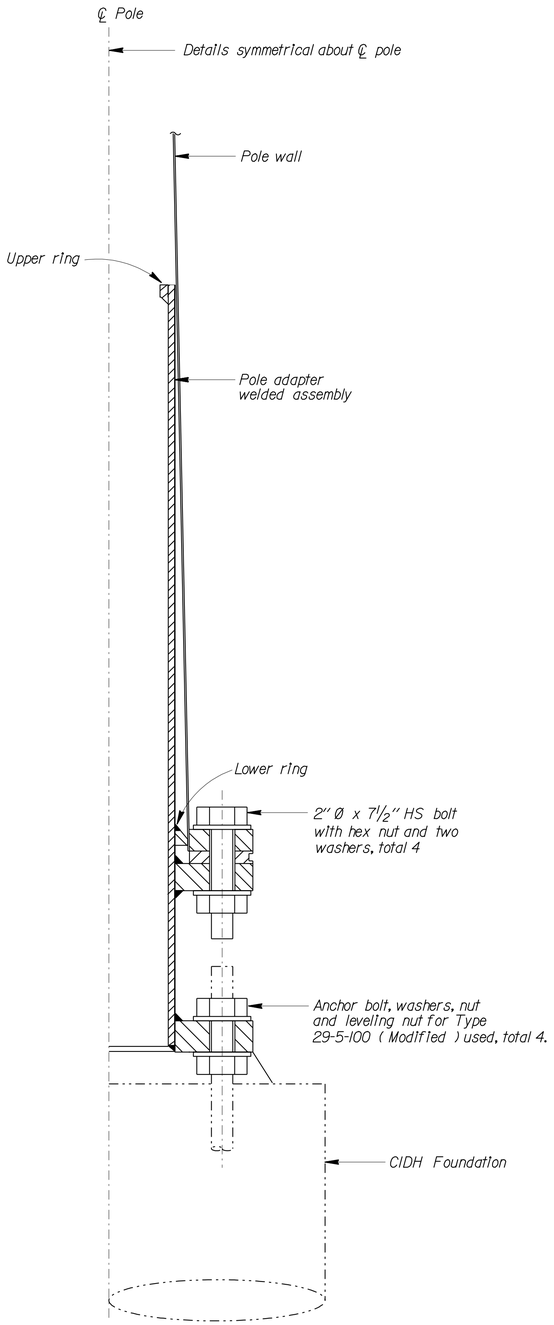
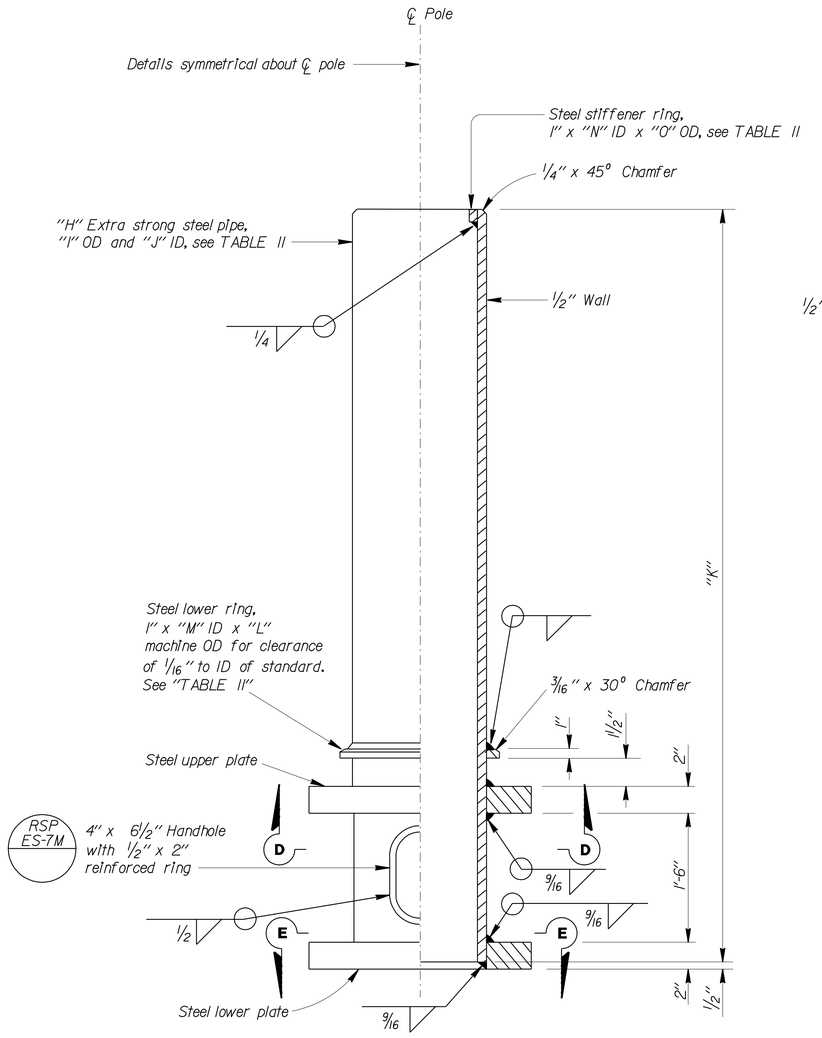


SECTION C-C



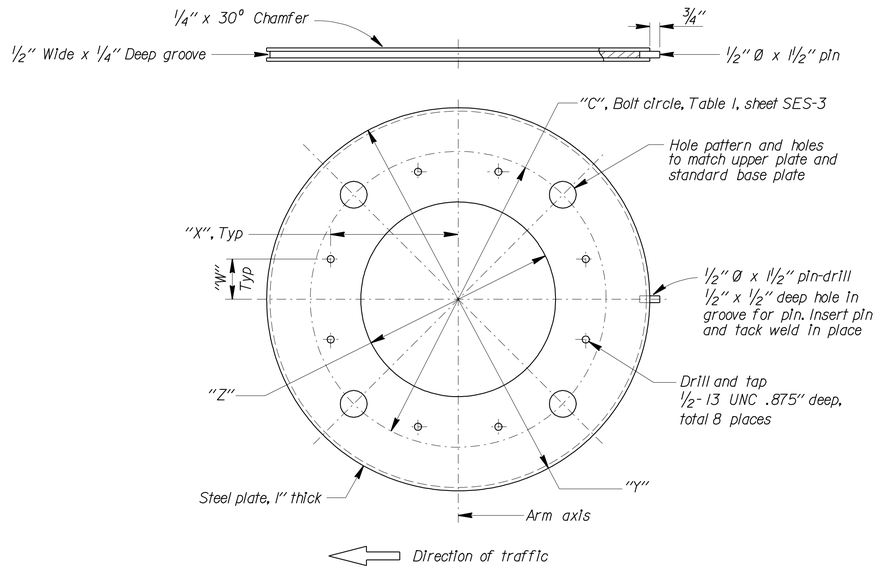
DETAIL B
POLE ADAPTER WELDED ASSEMBLY

See "SECTION D-D" and "SECTION E-E" on sheet SES-3

TABLE II

SIGNAL AND LIGHTING STANDARD (MODIFIED)	POLE ADAPTER WELDED ASSEMBLY							
	PIPE				LOWER RING		STIFFENER RING	
	"H"	"I" (OD)	"J" (ID)	"K"	"L" (OD)	"M" (ID)	"N" (ID)	"O" (OD)
TYPE 29-5-100	12"	12¾"	11¾"	5'-0"	13¼"	12¾"	10¾"	11¾"

ID = Inside diameter
OD = Outside diameter



DETAIL A
PULLEY PLATE

TABLE III

SIGNAL AND LIGHTING STANDARD (MODIFIED)	PULLEY PLATE DIMENSIONS			
	"W"	"X"	"Y"	"Z"
TYPE 29-5-100	3"	9½"	28½"	14½"

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

NO SCALE

BRANCH CHIEF Jeffrey B Woody

	BY	CHECKED
DESIGN	ELISEO LOPEZ	K.C. LIU
DETAILS	R. YEE	ELISEO LOPEZ
QUANTITIES	ELISEO LOPEZ	K.C. LIU

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
DESIGN AND TECHNICAL SERVICES
SPECIAL DESIGNS BRANCH

A

BRIDGE NO. X
POST MILE

CHOWCHILLA TRUCK INSPECTION FACILITY
ROTATING POLE ADAPTER ASSEMBLY DETAILS No. 3

SES-4

(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 10223
EA 415801

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 6/18/09 | 6/26/09 | 7/2/09 | 7/7/09 | 11/16/09 | 11/20/09 | 3/22/10 | 7/20/10 | 7/21/10

SHEET OF

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USERNAME => trlenard DATE PLOTTED => 03-NOV-2010 TIME PLOTTED => 13:28

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	0.0/4.6	443	607

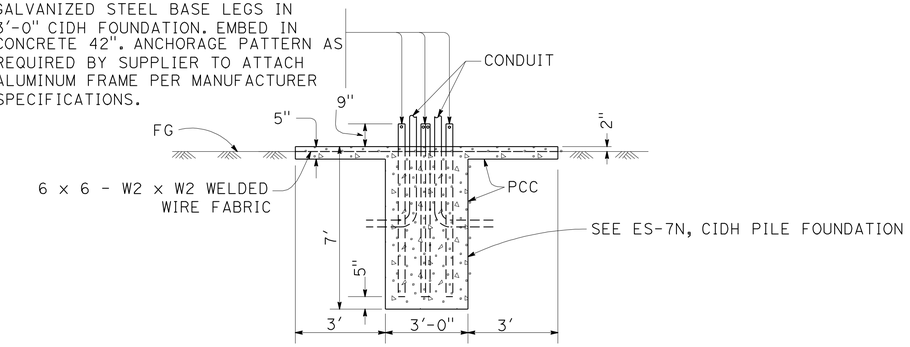
Eliseo Lopez 7/21/10
REGISTERED CIVIL ENGINEER DATE

11-1-10
PLANS APPROVAL DATE

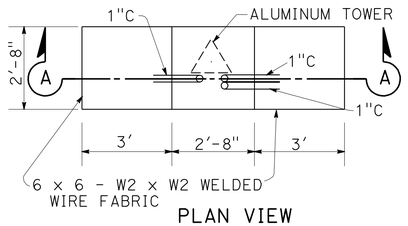
REGISTERED PROFESSIONAL ENGINEER — ELISEO LOPEZ No. C72910 Exp. 12/31/10 CIVIL — STATE OF CALIFORNIA

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.

GALVANIZED STEEL BASE LEGS IN 3'-0" CIDH FOUNDATION. EMBED IN CONCRETE 42". ANCHORAGE PATTERN AS REQUIRED BY SUPPLIER TO ATTACH ALUMINUM FRAME PER MANUFACTURER SPECIFICATIONS.



SECTION A-A

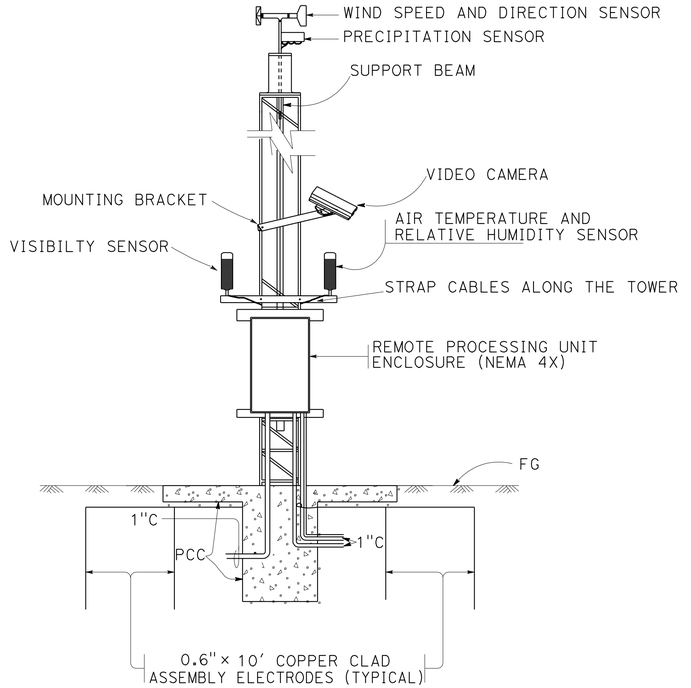


PLAN VIEW

WMS FOUNDATION DETAIL

NOTES: (CAMERA INSTALLATION)

1. MOUNTING BRACKET SHALL BE PRE DRILLED.
2. POSITION OF MOUNTING BRACKET AND CAMERA SHALL BE DETERMINED BY THE ENGINEER PER DESIRED CAMERA VIEW AND LENGTH OF CABLE ATTACHED TO THE CAMERA.
3. ALL HARDWARE SHALL BE STAINLESS STEEL.



WMS ASSEMBLY INSTALLATION

DATE PLOTTED => 15-NOV-2010
TIME PLOTTED => 13:49

BRANCH CHIEF Jeffrey B Woody	DESIGN	BY ELISEO LOPEZ	CHECKED K.C. LIU	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH A	BRIDGE NO. X POST MILE	WEATHER MONITORING STATION ELECTRICAL PLAN	SES-5
	DETAILS	BY R. YEE	CHECKED ELISEO LOPEZ					
	QUANTITIES	BY ELISEO LOPEZ	CHECKED K.C. LIU					

(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 10223
EA 415801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES								SHEET	OF
6/18/09	6/26/09	7/2/09	7/17/09	11/20/09	1/22/10	1/29/10	7/21/10		

USERNAME => trmikesl
DGN FILE => ses-5.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	0.0/4.6	444	607

Eliseo Lopez 8/26/10
REGISTERED CIVIL ENGINEER DATE

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — ELISEO LOPEZ No. C72910 Exp. 12/31/10 CIVIL — STATE OF CALIFORNIA

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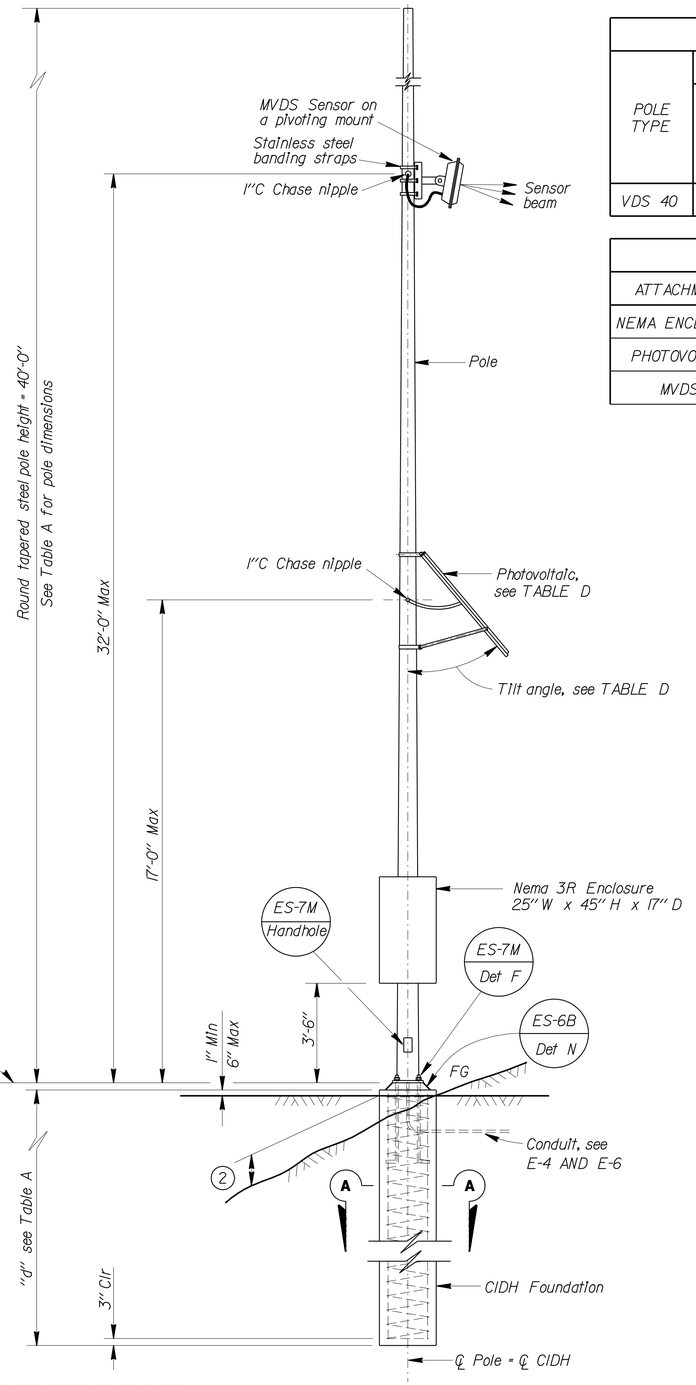


NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

ELEVATION

TABLE A

POLE TYPE	POLE DATA: HEIGHT "H"	POLE DATA: Min OD BASE	POLE DATA: Min OD TOP	POLE DATA: THICKNESS	BASE PLATE DATA: "C"	BASE PLATE DATA: THICKNESS	BASE PLATE DATA: ANCHOR BOLTS SIZE	BASE PLATE DATA: ANCHOR BOLTS BC = BOLT CIRCLE	"d" 2'-0" Ø CIDH Pile: LEVEL GROUND	"d" 2'-0" Ø CIDH Pile: SLOPING GROUND	STRUCTURAL STEEL LBS PLUS 3.5% GALVANIZING
VDS 40	40'	9 3/8"	3 7/8"	0.1793"	1'-1"	1"	1 1/4" x 3'-0" x 4"	1'-1"	10'-0"	12'-0"	650

TABLE B

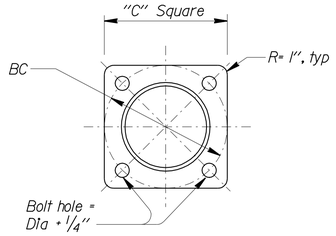
ATTACHMENT	MOUNTING HEIGHT	WEIGHT LIMITS (Max)
NEMA ENCLOSURE	3'-6" Max bottom Clr	297 lbs
PHOTOVOLTAIC	17'-0" Max	38 lbs
MVDS	32'-0" Max	5 lbs

TABLE C

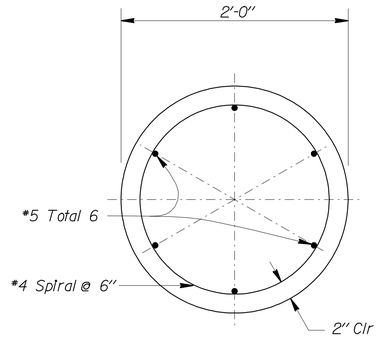
SPREAD FOOTING		
GROUND	FOOTING SIZE LENGTH x WIDTH x DEPTH	REINFORCEMENT TOP & BOTTOM
LEVEL	6'-0" x 6'-0" x 1'-6"	7 - #4
SLOPING	7'-0" x 7'-0" x 1'-6"	8 - #4

TABLE D

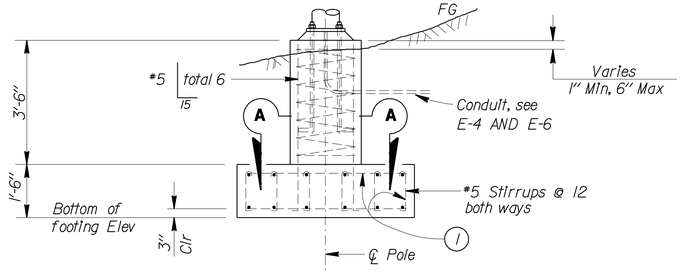
PHOTOVOLTAIC PANEL LIMITS	
PANEL SIZE	TILT ANGLE
15 ft² max	40° Min



BASE PLATE



SECTION A-A



ALTERNATIVE FOOTING ELEVATION

(1) #4 bars and #5 stirrups (top and bottom) to run both longitudinal and transverse direction.

(2) 1'-3" Max for sloped finished grade.

GENERAL NOTES:

SPECIFICATIONS

Design: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals dated 2001.

LOADING

Wind Loadings: 100 mph

UNIT STRESSES

Structural Steel: fy = 48,000 psi tapered steel tube
fy = 36,000 psi unless otherwise noted.

Anchor bolts = A307

Reinforced Concrete: f'c = 3,600 psi
fy = 60,000 psi

NOTES:

1. All steel shall be galvanized after fabrication.
2. During pole erection the post shall be raked as necessary with the use of leveling nuts to provide a plumb pole axis.
3. The foundation shall be treated as level ground condition if the slope inclination is flatter than 4H:1V.
4. Foundation design is based on AASHTO 2001 article 13.6 Broms' approximate procedure assuming a cohesionless material. The angle of internal friction used is 30 degrees and unit weight of soil used is 120 lb/ft³.

NO SCALE

BRANCH CHIEF	Jeffrey B Woody		
DESIGN	BY ELISEO LOPEZ	CHECKED ARLENA GUTIERREZ	
DETAILS	BY R. YEE	CHECKED ELISEO LOPEZ	
QUANTITIES	BY	CHECKED	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
DESIGN AND TECHNICAL SERVICES
SPECIAL DESIGNS BRANCH **A**

BRIDGE NO.
POST MILE

MICROWAVE VEHICLE DETECTION SYSTEM
POLE DETAILS

SES-6

(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 10223
EA 415801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 8/26/10

SHEET OF

FILE => ses6.dgn

USERNAME => trlenard DATE PLOTTED => 03-NOV-2010 TIME PLOTTED => 13:29

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	0.0/4.6	445	607

Eliseo Lopez 8/26/10
REGISTERED CIVIL ENGINEER DATE

11-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — ELISEO LOPEZ No. C72910 Exp. 12/31/10 CIVIL — STATE OF CALIFORNIA

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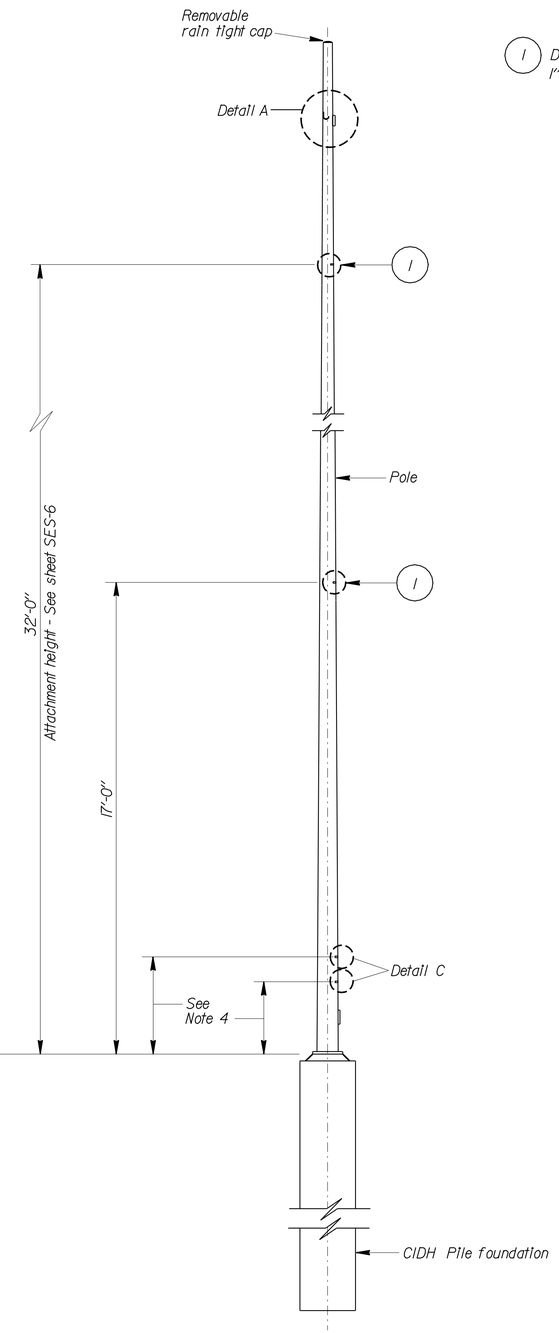
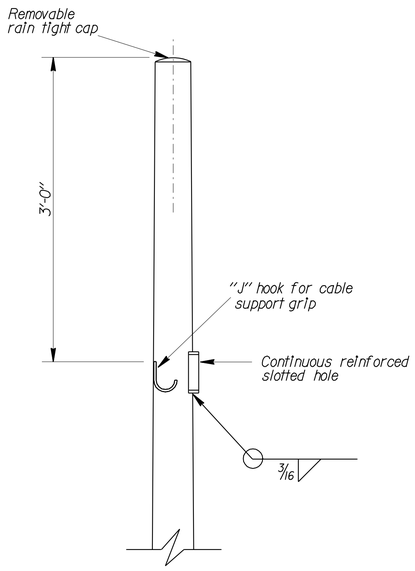


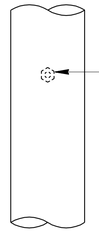
ELEVATION

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

(1) *Drill and tap for 1" chase nipple and plug with rain tight plugs. 1" chase nipple per attachment per pole. See "DETAIL B".*

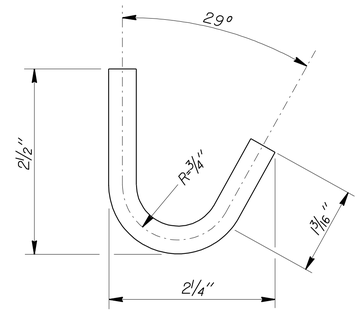


DETAIL A

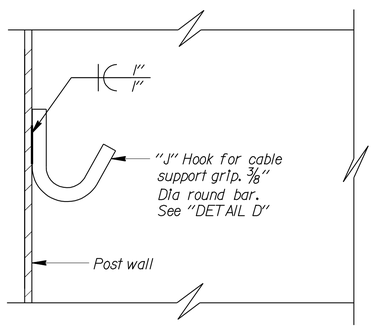


DETAIL B

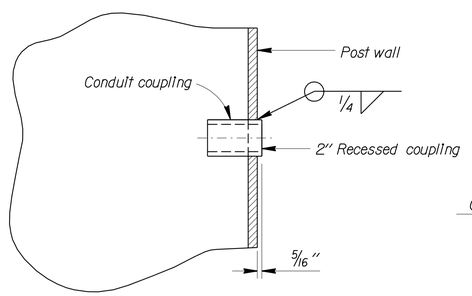
TYPICAL ELECTRICAL ACCESS DETAIL



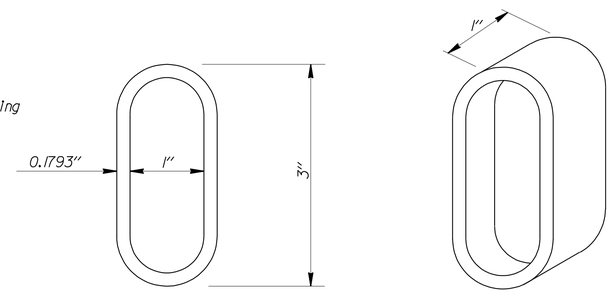
DETAIL D



J HOOK DETAIL



2" RECESSED COUPLING DETAIL C (TYPICAL)



SLOTTED HOLE

NOTES:

1. *Place all couplings on the same side of pole.*
2. *Chase nipples and slotted hole have a rain tight plug. Plug should only be removed if chase nipple or slotted hole is used.*
3. *The chase nipples shall be 1'-0" Min vertical clearance from the slotted hole and not on the same side as the slotted hole.*
4. *For attachment details, see sheet SES-6.*
5. *Coupling location above ground and spacing shall be verified to match choice of enclosure, prior to fabrication.*
6. *All attachments, unless otherwise noted, shall be mounted to pole with stainless steel straps or other method without drilling holes in pole. Enclosure may require drilling through post for mounting. Method of mounting enclosure will require the Engineer's approval.*

BRANCH CHIEF Jeffrey B Woody	DESIGN BY ELISEO LOPEZ	CHECKED ARLENA GUTIERREZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
	DETAILS BY R. YEE	CHECKED ELISEO LOPEZ	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH A
	QUANTITIES BY	CHECKED	BRIDGE NO. / POST MILE

MICROWAVE VEHICLE DETECTION SYSTEM
POLE DETAILS
SES-7

(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 10223
EA 415801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 8/26/10

SHEET OF

FILE => 2009sd/10-415801/ses7.dgn

USERNAME => rleonard DATE PLOTTED => 03-NOV-2010 TIME PLOTTED => 13:29

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	0.0/4.6	446	607

REGISTERED CIVIL ENGINEER DATE

11-1-10
PLANS APPROVAL DATE

JEFFREY B. WOODY — REGISTERED PROFESSIONAL ENGINEER — No. C41260 — Exp. 3/31/11 — CIVIL — STATE OF CALIFORNIA

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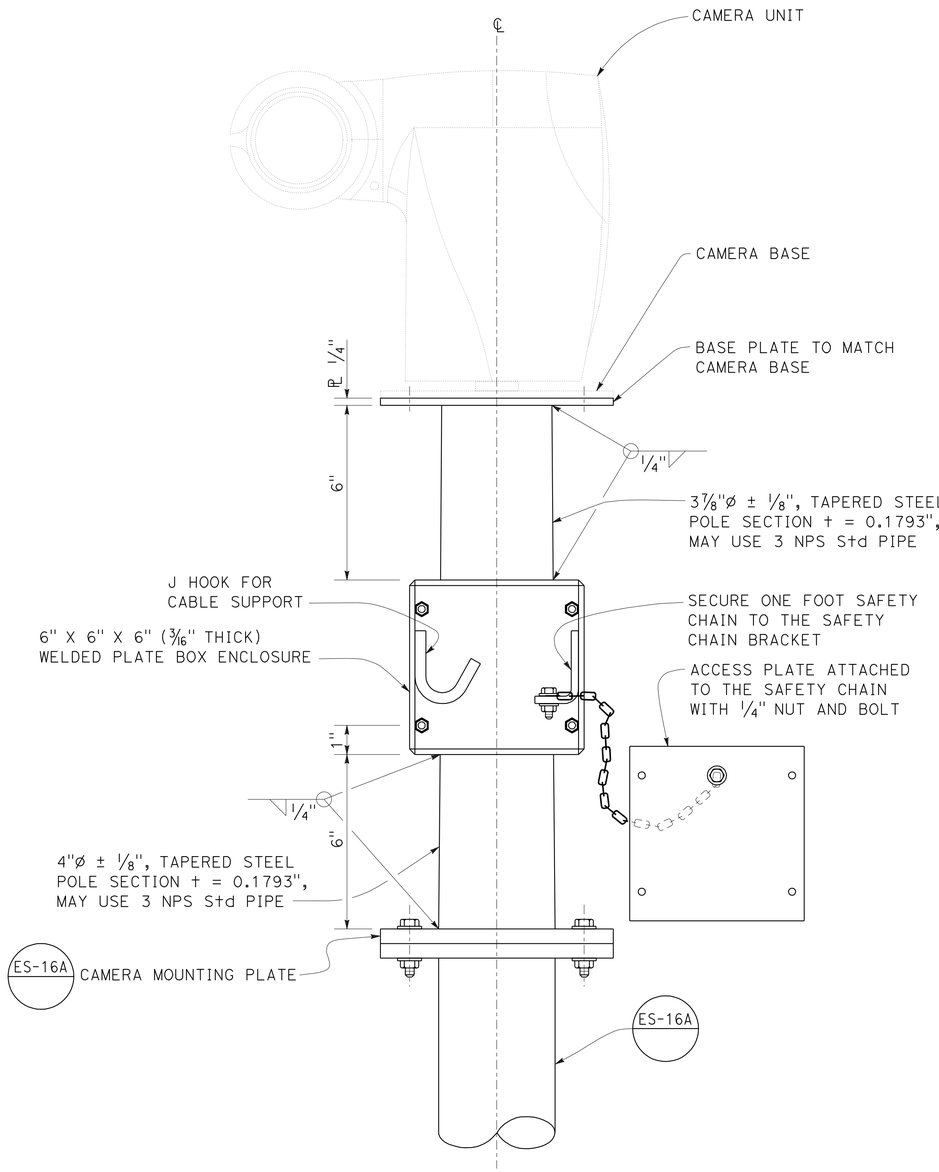
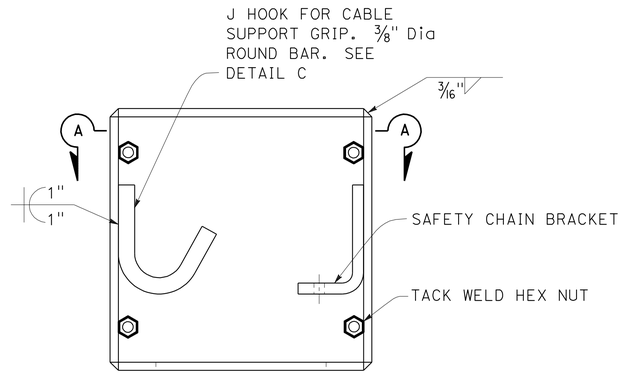
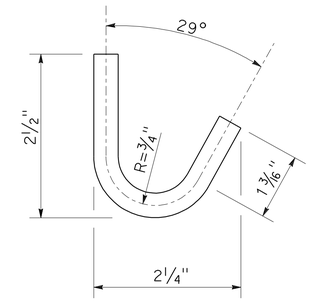


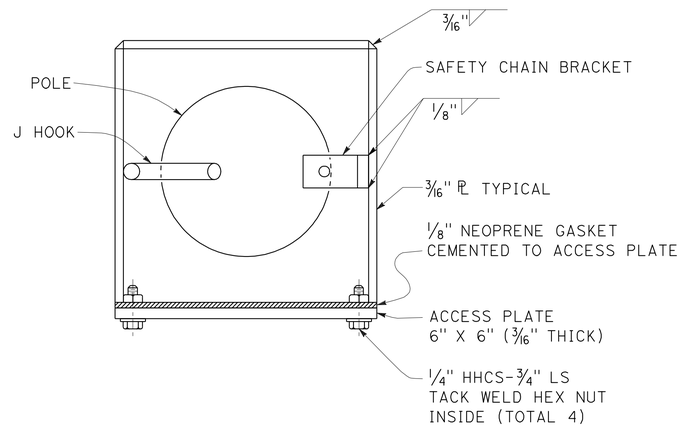
DETAIL A
CCTV POLE MOUNTING WITH ADAPTER



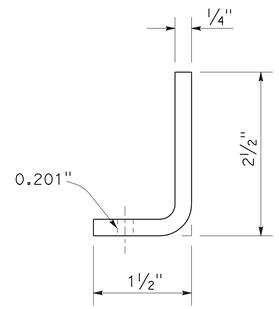
DETAIL B
BOX ENCLOSURE



DETAIL C
J HOOK



SECTION A-A



DETAIL D
SAFETY CHAIN BRACKET

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

CLOSED CIRCUIT TELEVISION SYSTEM (LOCATION 1 AND 2)

DESIGN	BY J WOODY	CHECKED J GILLIAM	
DETAILS	BY MIKE SLAYTON	CHECKED J WOODY	
QUANTITIES	BY J WOODY	CHECKED J GILLIAM	

BRANCH CHIEF

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
DESIGN AND TECHNICAL SERVICES
SPECIAL DESIGNS BRANCH **A**

BRIDGE NO. N/A
POST MILE 0.0/4.6

ELECTRICAL PLAN

SES-8

(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 10
EA 415801

DISREGARD PRINTS BEARING EARLIER REVISION DATES → REVISION DATES 7-21-10

SHEET OF

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	447	607

Donald E. Howe
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Donald E. Howe — No. C46402 — Exp. 3-31-09 — CIVIL — STATE OF CALIFORNIA

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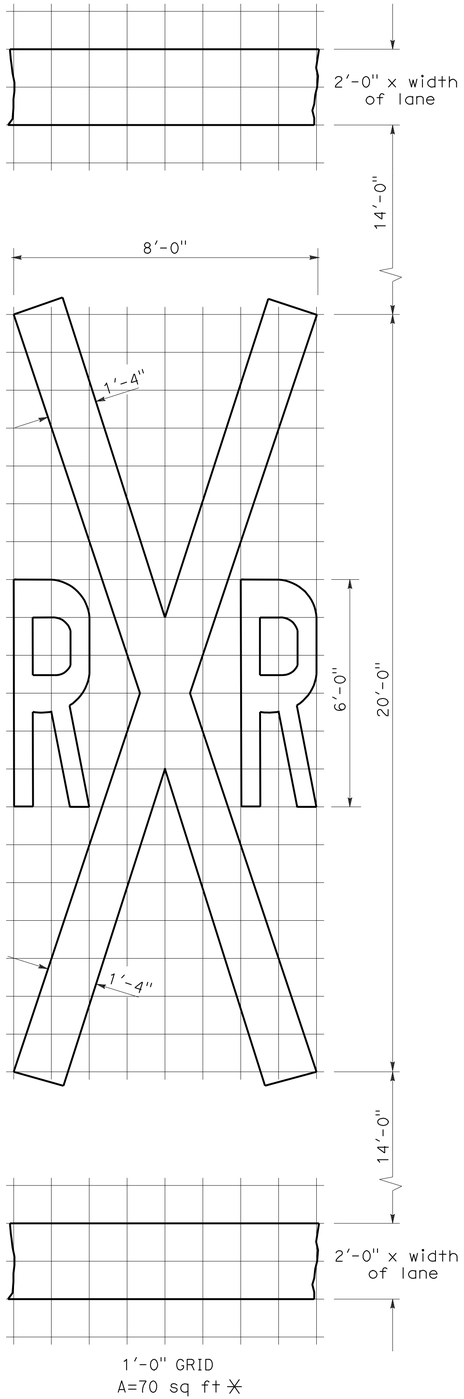
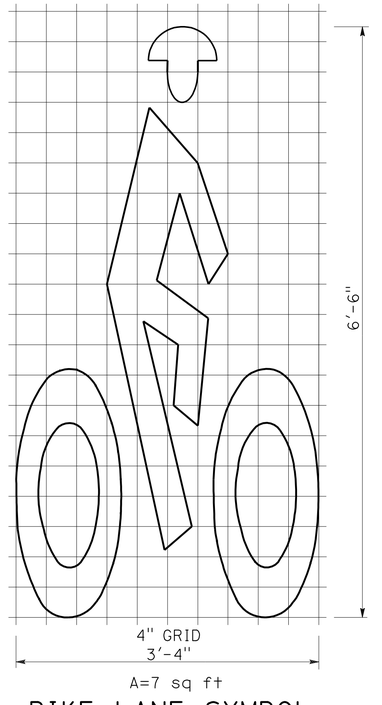
To accompany plans dated 11-1-10



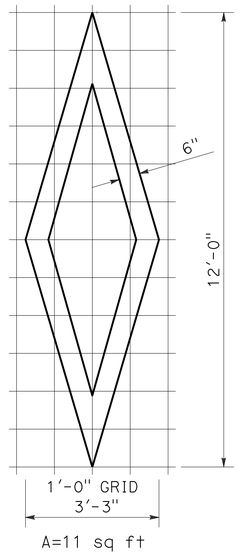
RAILROAD CROSSING SYMBOL

✳70 sq ft DOES NOT INCLUDE THE 2'-0" x VARIABLE WIDTH TRANSVERSE LINES.



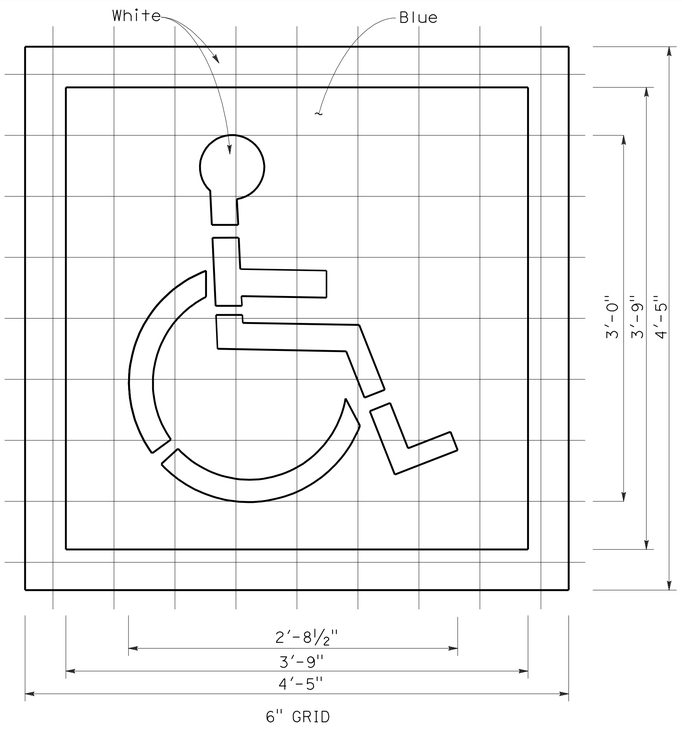
A=7 sq ft

BIKE LANE SYMBOL



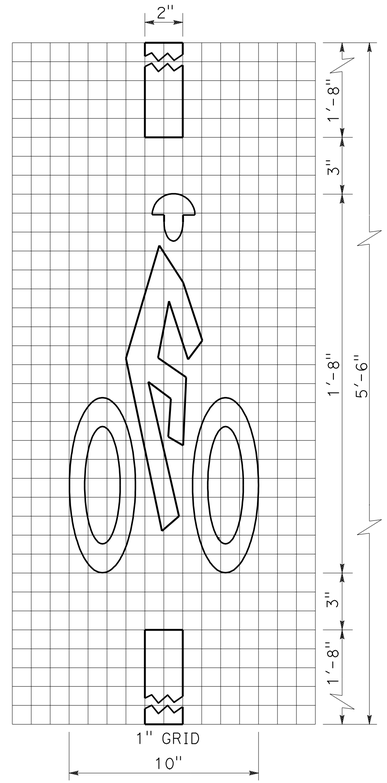
A=11 sq ft

DIAMOND SYMBOL



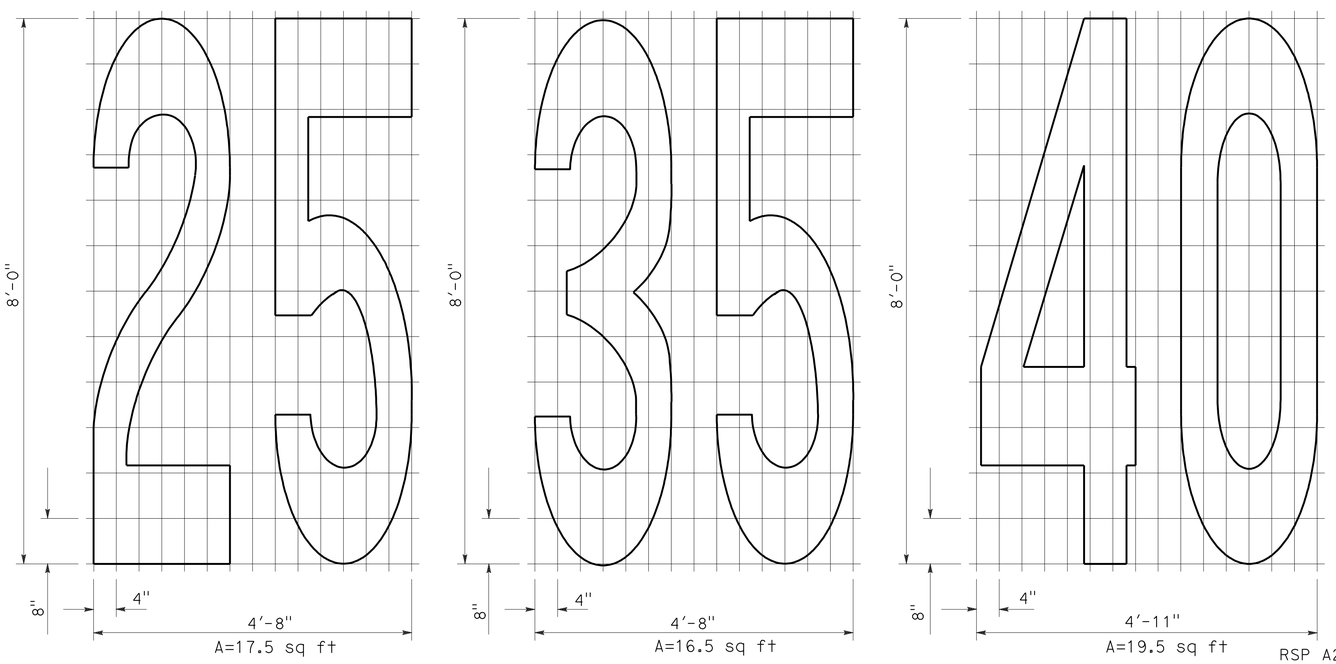
6" GRID
A (White) =9 sq ft
A (Blue) =14 sq ft

INTERNATIONAL SYMBOL OF ACCESSIBILITY MARKING



A=2 sq ft

BICYCLE LOOP DETECTOR SYMBOL



A=17.5 sq ft A=16.5 sq ft A=19.5 sq ft

NUMERALS

NOTE:

1. Minor variations in dimensions may be accepted by the Engineer.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS SYMBOLS AND NUMERALS

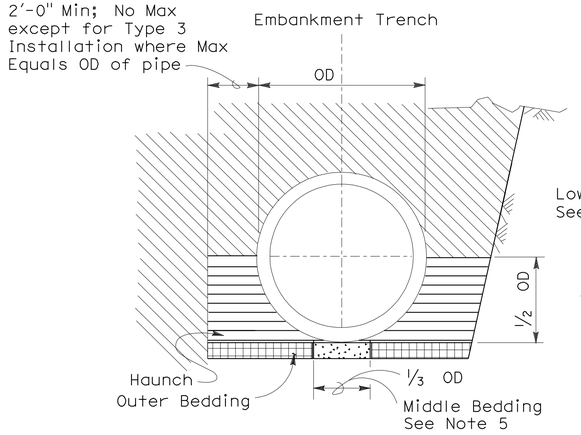
NO SCALE

RSP A24C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A24C DATED MAY 1, 2006 - PAGE 11 OF THE STANDARD PLANS BOOK DATED MAY 2006.

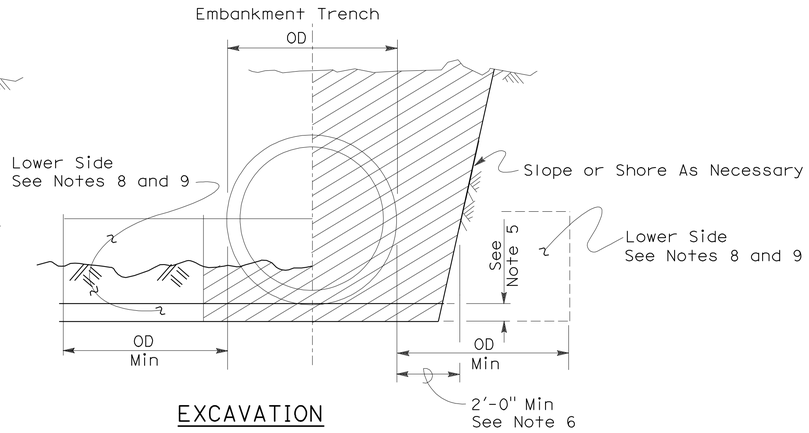
REVISED STANDARD PLAN RSP A24C

2006 REVISED STANDARD PLAN RSP A24C

5-27-08



BACKFILL



EXCAVATION

Roadway Embankment

Structure Backfill (Culvert) See Note 6

Structure Backfill (Culvert) See Note 6

Loose Backfill

Excavation Structure (Culvert)

TYPE 1 INSTALLATION:

The haunch and outer bedding shall be compacted to a minimum 90 percent relative compaction. In addition, the minimum sand equivalent in these areas shall be 30 and the maximum percentage passing the 75 μm sieve size shall be 12.

TYPE 2 INSTALLATION:

The haunch and outer bedding shall be compacted to a minimum 90 percent relative compaction. In addition, the minimum sand equivalent in these areas shall be 25.

TYPE 3 INSTALLATION:

The haunch and outer bedding shall be compacted to a minimum 85 percent relative compaction. 90 percent relative compaction will be required where the fill over the pipe is less than 4'-0" or 1/2 OD.

INSTALLATION TYPE 1

MINIMUM CLASS AND D-LOAD	COVER	
	108" Dia AND SMALLER	OVER 108" Dia
Class II 1000D	14.9'	12.9'
Class III 1350D	15.0' - 20.9'	13.0' - 18.9'
Class III Special 1700D	21.0' - 26.9'	19.0' - 24.9'
Class IV 2000D	27.0' - 31.9'	25.0' - 29.9'
Class IV Special 2500D	32.0' - 40.9'	30.0' - 38.9'
Class V 3000D	41.0' - 49.9'	39.0' - 46.9'
Class V Special 3600D	50.0' - 59.0'	47.0' - 58.0'

INSTALLATION TYPE 2

MINIMUM CLASS AND D-LOAD	COVER
Class II 1000D	9.9'
Class III 1350D	10.0'- 14.9'
Class III Special 1700D	15.0' - 19.9'
Class IV 2000D	20.0' - 24.9'
Class IV Special 2500D	25.0' - 31.9'
Class V 3000D	32.0' - 38.9'
Class V Special 3600D	39.0' - 47.0'

INSTALLATION TYPE 3

MINIMUM CLASS AND D-LOAD	COVER	
	48" Dia AND SMALLER	OVER 48" Dia
Class II 1000D	7.9'	5.9'
Class III 1350D	8.0' - 10.9'	6.0' - 8.9'
Class III Special 1700D	11.0' - 14.9'	9.0' - 12.9'
Class IV 2000D	15.0' - 17.9'	13.0' - 15.9'
Class IV Special 2500D	18.0' - 21.9'	16.0' - 19.9'
Class V 3000D	22.0' - 26.9'	20.0' - 24.9'
Class V Special 3600D	30.0' - 33.0'	25.0' - 31.0'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	448	607

Dallas J. Forester
REGISTERED CIVIL ENGINEER

November 17, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Dallas Forester
No. C37765
Exp. 12-31-06
CIVIL
STATE OF CALIFORNIA

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To accompany plans dated 11-1-10

NOTES:

1. Unless otherwise shown on the plans or specified in the special provision, the Contractor shall have the option of selecting the class of RCP and the type of installation to be used, provided the height of cover does not exceed the value shown for the RCP selected.
   Example: 24" RCP culvert with maximum cover of 19'-0"' the options are:
   a) Class III or stronger with Installation Type 1.
   b) Class III Special or stronger with Installation Type 2.
   c) Class IV Special or stronger with Installation Type 3.
   Cover is defined as the maximum vertical distance from top of the pipe to finished grade within the length of any given culvert.
2. The class of RCP and Installation Type selected shall be the same throughout the length of any given culvert.
3. The "length of any culvert" is defined as the culvert between:
   a) Successive drainage structure (inlets, junction boxes, headwalls, etc.).
   b) A drainage structure and the inlet or outlet end of the culvert.
   c) The inlet and outlet end of the culvert when there are no intervening drainage structures.
4. Oval and arch shaped RCP shall not be used.
5. 1/25 OD Min, not less than 3".
6. Slurry cement backfill may be substituted for backfill in the outer bedding and haunch areas. If slurry is used the outer and middle beddings shall be omitted. Prior to installation the soil under the middle 1/3 of the outside diameter of the pipe shall be softened by scarifying or other means to a minimum depth of 1/25 OD, but not less than 3". Where slurry cement backfill is used clear distance to trench wall may be reduced as set forth in Section 19-3.062 of the Standard Specifications.
7. Backfill shall be placed full width of excavation except where dimensions are shown for backfill width or thickness. Dimensions shown are minimums.
8. Lower side shall be suitable material as determined by the Engineer. Otherwise it shall be considered unsuitable as set forth in Section 19-2.02 of the Standard Specifications. See Note 9.
9. Where the pipe is placed in a trench, if the trench walls are sloped at 5 vertical to 1 horizontal or steeper for at least 90 percent of the trench height or up to not less than 12" from the grading plane, the firmness of the soil in the lower side need not be considered.
10. Non-reinforced precast concrete pipe sizes 3'-0" or smaller may be placed under installation Types 1, 2 or 3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

EXCAVATION AND BACKFILL CONCRETE PIPE CULVERTS

NO SCALE

RSP A62DA DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN A62DA DATED MAY 1, 2006 - PAGE 20 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A62DA

2006 REVISED STANDARD PLAN RSP A62DA

10-26-06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	449	607

Mark S. Turner
PROFESSIONAL LAND SURVEYOR

June 30, 2006
PLANS APPROVAL DATE

LICENSED LAND SURVEYOR — Mark S. Turner — No. 6228 — Exp. 3-31-08 — STATE OF CALIFORNIA

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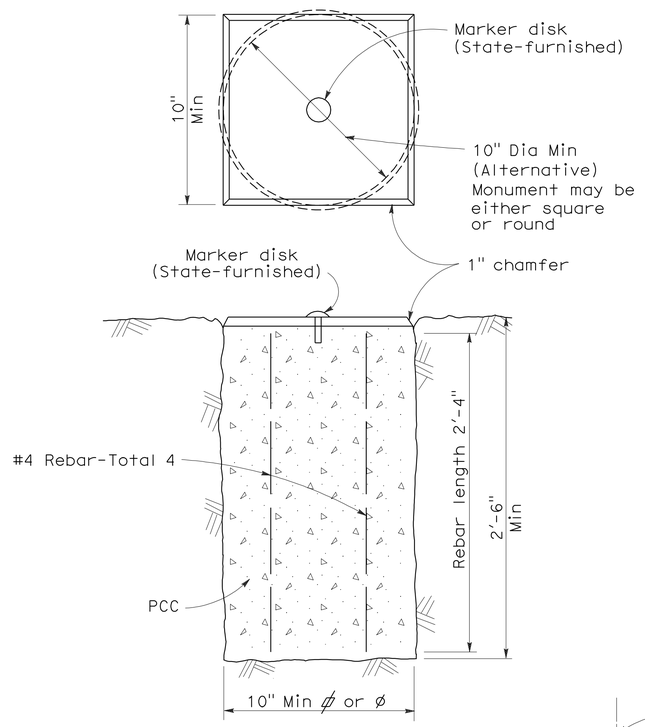
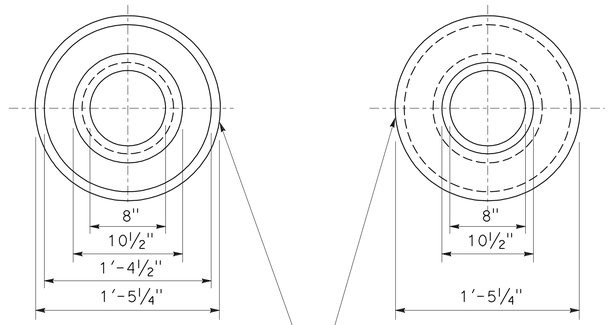
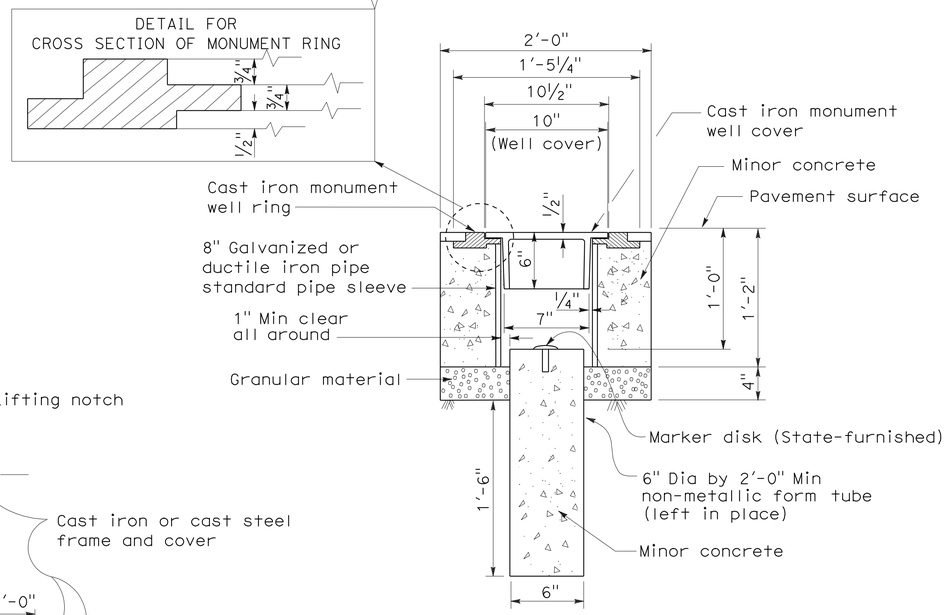
To accompany plans dated 11-1-10

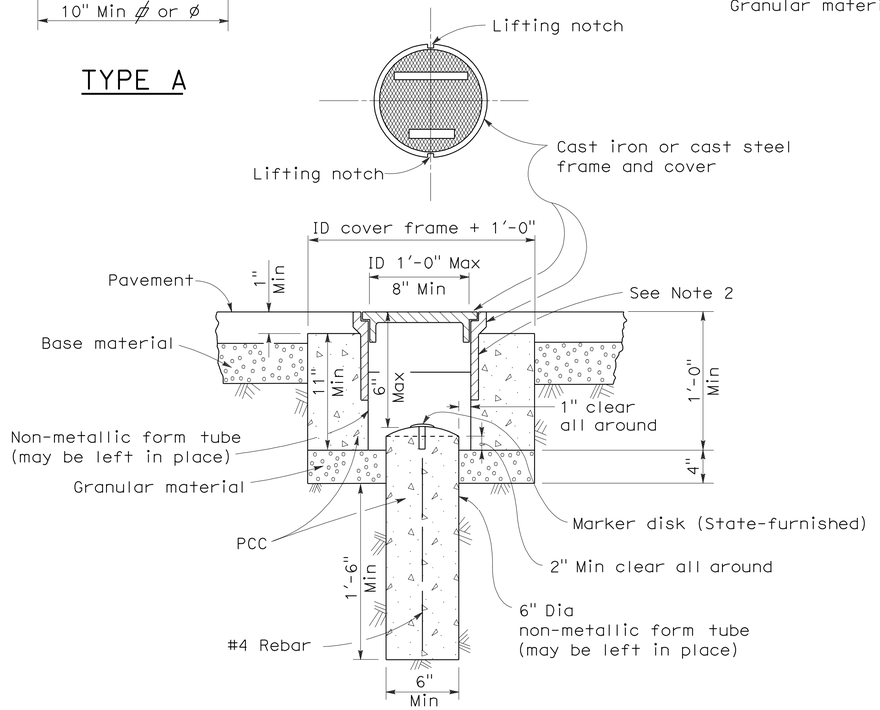


TYPE A





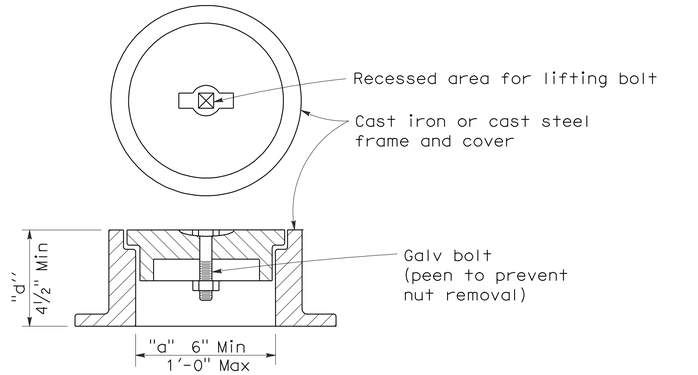
TYPE B

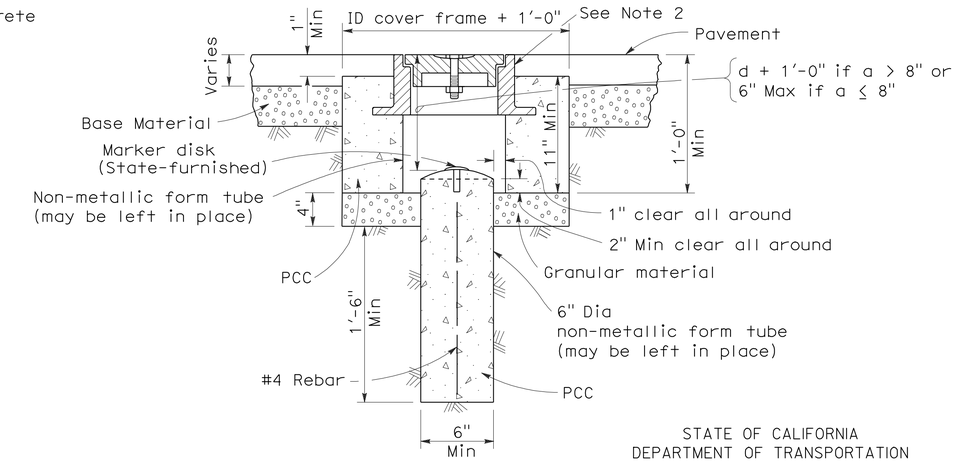


TYPE D
Alternative No. 1

NOTES:

1. The configuration of the cast iron or cast steel frame and cover may vary from that shown.
2. Frame shall be embedded in the concrete a minimum of 3".
3. Type D monument shall be either Alternative No. 1 or Alternative No. 2 at the contractor's option.
4. All portland cement concrete shall be Class 2 or minor concrete with 1" maximum aggregate.





TYPE D
Alternative No. 2

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

SURVEY MONUMENTS

NO SCALE

RSP A74 DATED JUNE 30, 2006 SUPERSEDES STANDARD PLAN DATED MAY 1, 2006 - PAGE 28 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A74

2006 REVISED STANDARD PLAN RSP A74

5-24-06

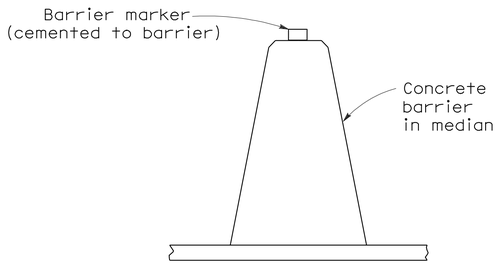
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	450	607

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

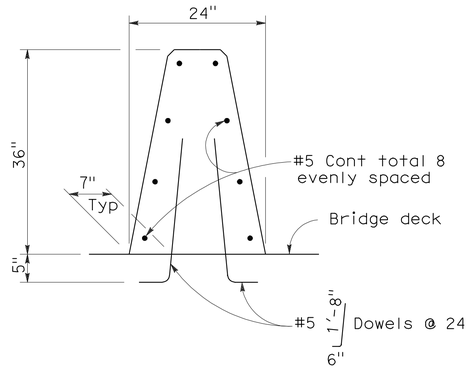
REGISTERED PROFESSIONAL ENGINEER — Randell D. Hiatt — No. C50200 — Exp. 6-30-09 — CIVIL — STATE OF CALIFORNIA

To accompany plans dated 11-1-10



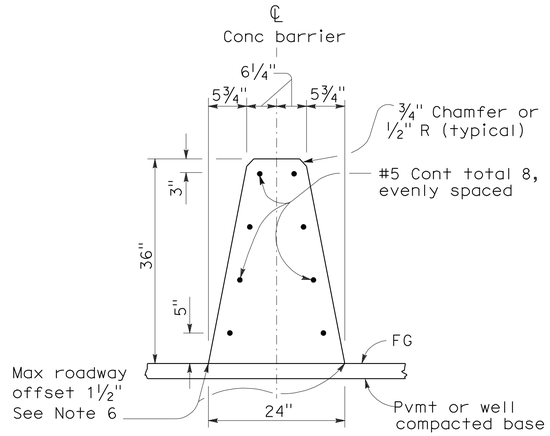
CONCRETE BARRIER TYPE 60 DELINEATION

See Notes 7 and 8



CONCRETE BARRIER TYPE 60A

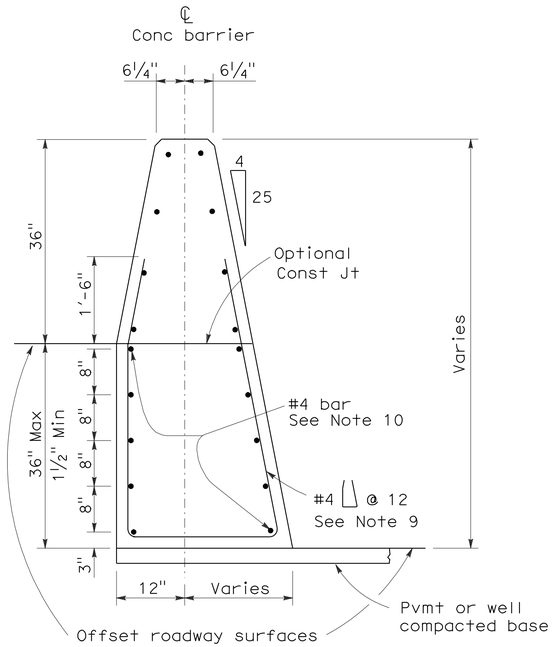
Details similar to Type 60 except as noted.



CONCRETE BARRIER TYPE 60

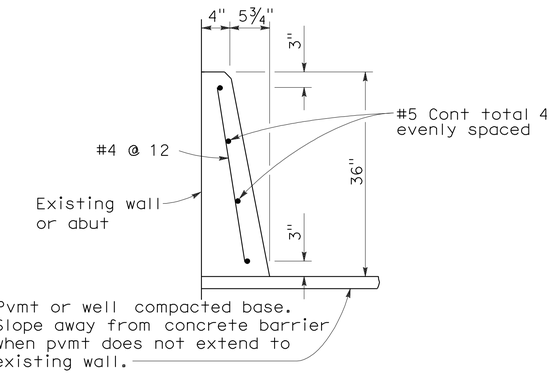
NOTES:

1. See Standard Plan A76B for details of Concrete Barrier Type 60 end anchors, connection to structures and transitions to Concrete Barrier Type 50 and Concrete Barrier Type 60S.
2. See Standard Plan A76C for Concrete Barrier Type 60 transitions at bridge column and sign pedestals.
3. Where glare screen is required on Concrete Barrier Type 60, use Concrete Barrier Type 60G.
4. Where the concrete barrier is added to the face of existing concrete structure, match existing weep holes.
5. Expansion joints in concrete barrier shall be located at all deck, pavement and principal wall joints. Expansion joint filler material shall be the same size as joint or ½" minimum.
6. Where roadway offset is greater than 1½", see Concrete Barrier Type 60C.
7. Barrier delineation to be used when required by the Special Provisions.
8. Spacing of barrier markers to match spacing of raised pavement markers on the adjacent median edgeline pavement delineation.
9. Reinforcing stirrup not required for roadway offsets less than 1'-0".
10. For roadway surfaces offset greater than 1½" to 3", no rebars required. For roadway surfaces offset greater than 3" to 8" use two #4 rebars at 3" above the lower roadway surface. For roadway surfaces offset greater than 8" to 12", use two #4 rebars at 3" above the lower roadway surface and two #4 rebars at 8" above the lower roadway surface. For roadway surfaces offset greater than 12" to 36", use two #4 rebars at 3" above the lower roadway surface and two #4 rebars at every 8" increment vertical spacing above the first two #4 rebars.



CONCRETE BARRIER TYPE 60C

Details similar to Type 60 except as noted.
Concrete barrier end anchor when necessary.
36" roadway surfaces offset shown.



CONCRETE BARRIER TYPE 60D

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE BARRIER TYPE 60

NO SCALE

RSP A76A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A76A
DATED MAY 1, 2006 - PAGE 29 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A76A

2006 REVISED STANDARD PLAN RSP A76A

5-21-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	451	607

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

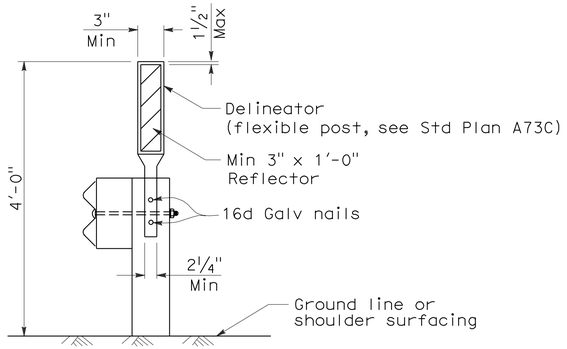
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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.

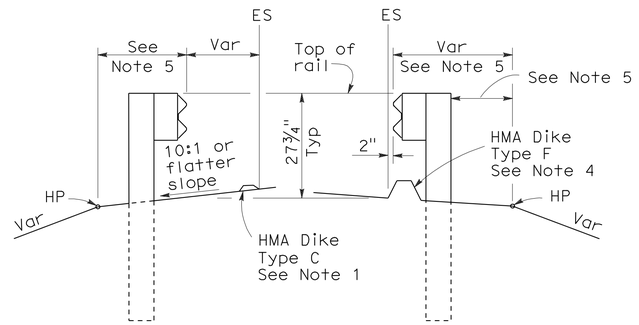
To accompany plans dated 11-1-10

NOTES:

1. When necessary to place dike in front of face of guard railing, only Type C dike may be used. For dike details, see Standard Plan A87B.
2. For standard railing post embedment, see Standard Plans A77C3.
3. Guard railing delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under guard railing, the maximum height of the dike or curb shall be 4". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and Standard Plan A87B.
5. For details of typical distance between the face of rail and hinge point, see Standard Plan A77C3.



GUARD RAILING DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL RAILING DELINEATION AND DIKE POSITIONING DETAILS

NO SCALE

RSP A77C4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77C4
DATED MAY 1, 2006 - PAGE 47 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C4

2006 REVISED STANDARD PLAN RSP A77C4

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	452	607

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA

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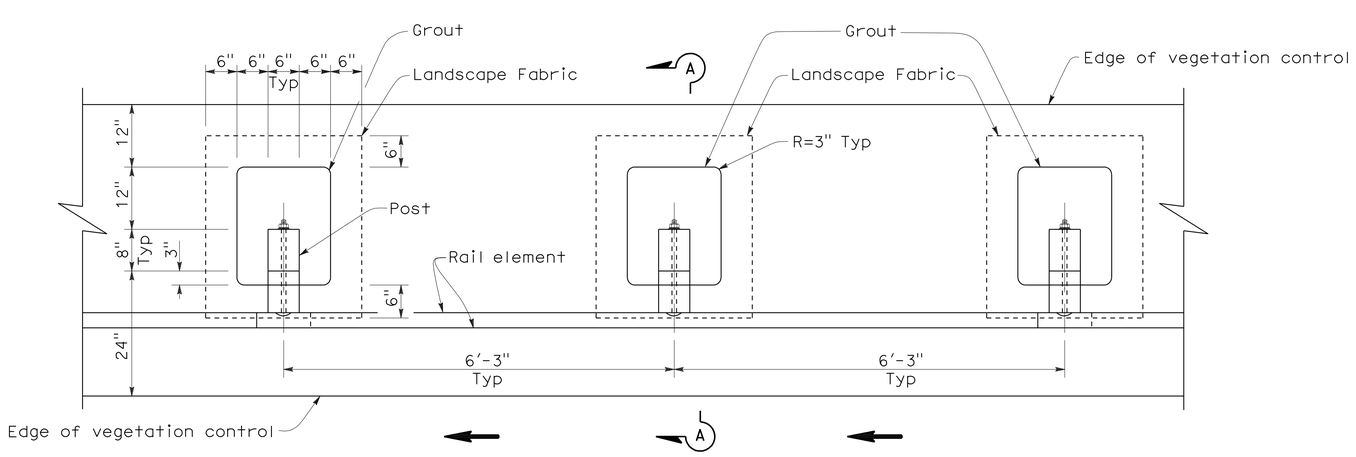
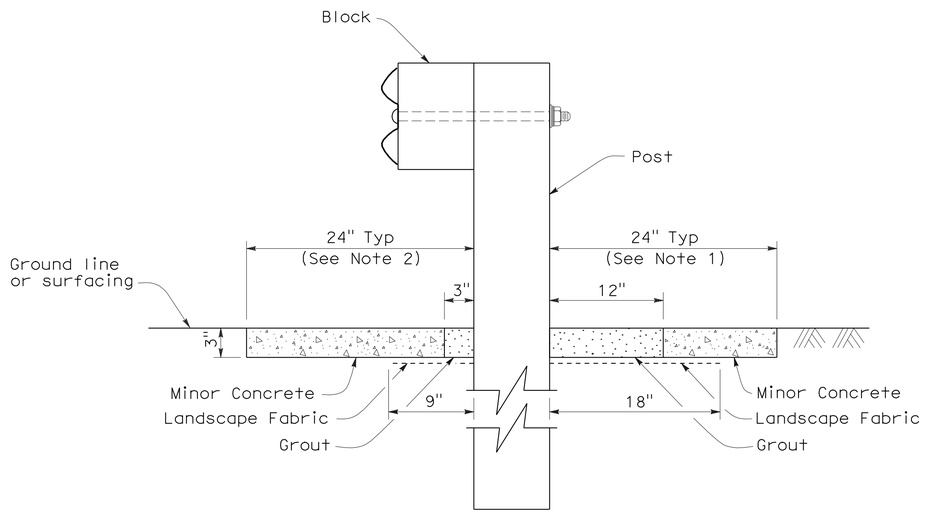
To accompany plans dated 11-1-10



PLAN

NOTES:

1. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
3. Direction of adjacent traffic indicated by ← .



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
STANDARD RAILING SECTION

NO SCALE

NSP A77C5 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A77C5

2006 NEW STANDARD PLAN NSP A77C5

7-17-06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	453	607

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA

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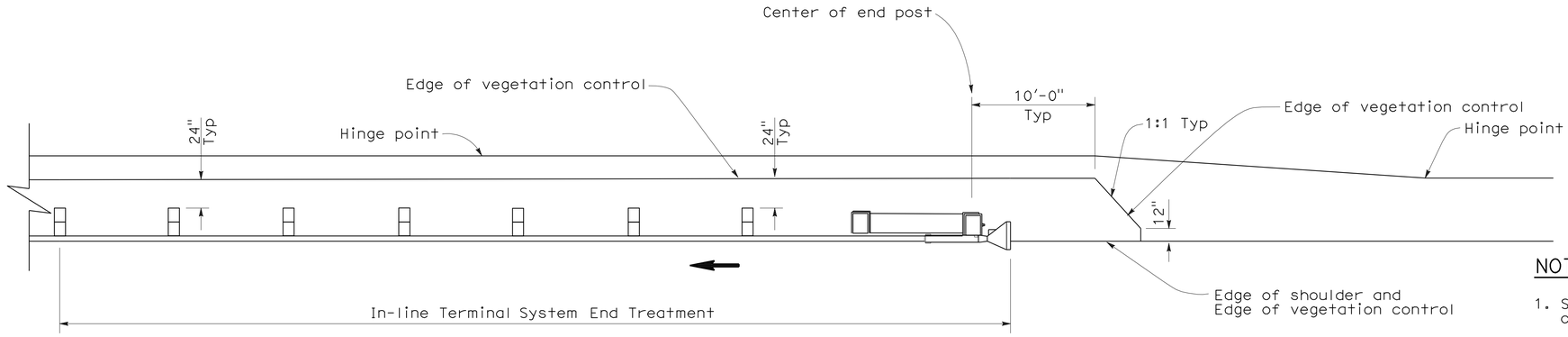
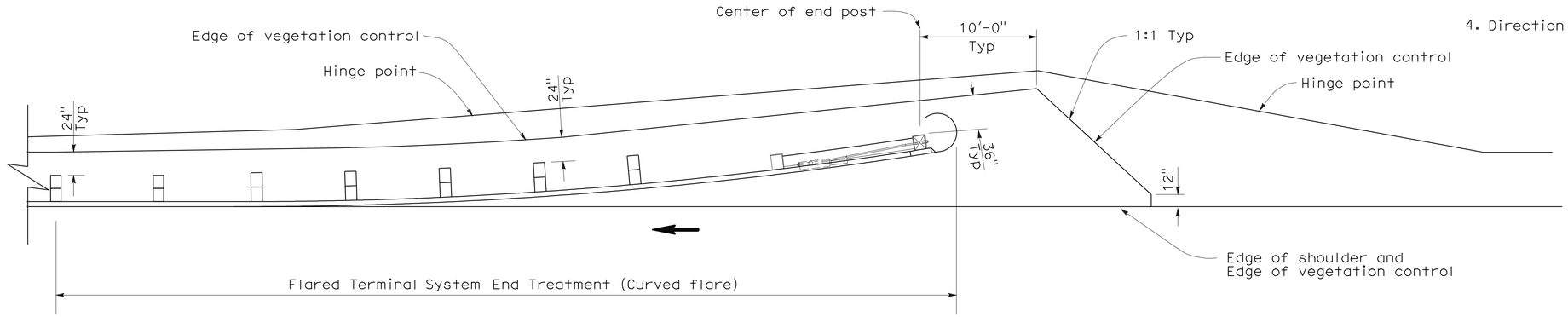
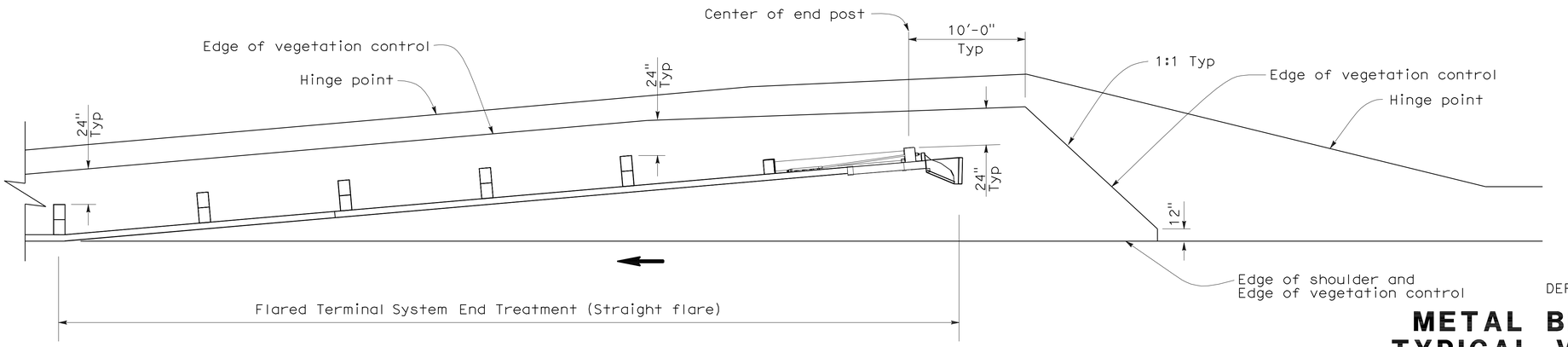
To accompany plans dated 11-1-10



PLAN



PLAN



PLAN

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
4. Direction of adjacent traffic indicated by ←.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
FOR TERMINAL SYSTEM END TREATMENTS

NO SCALE

NSP A77C6 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A77C6

2006 NEW STANDARD PLAN NSP A77C6

7-17-06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	454	607

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA

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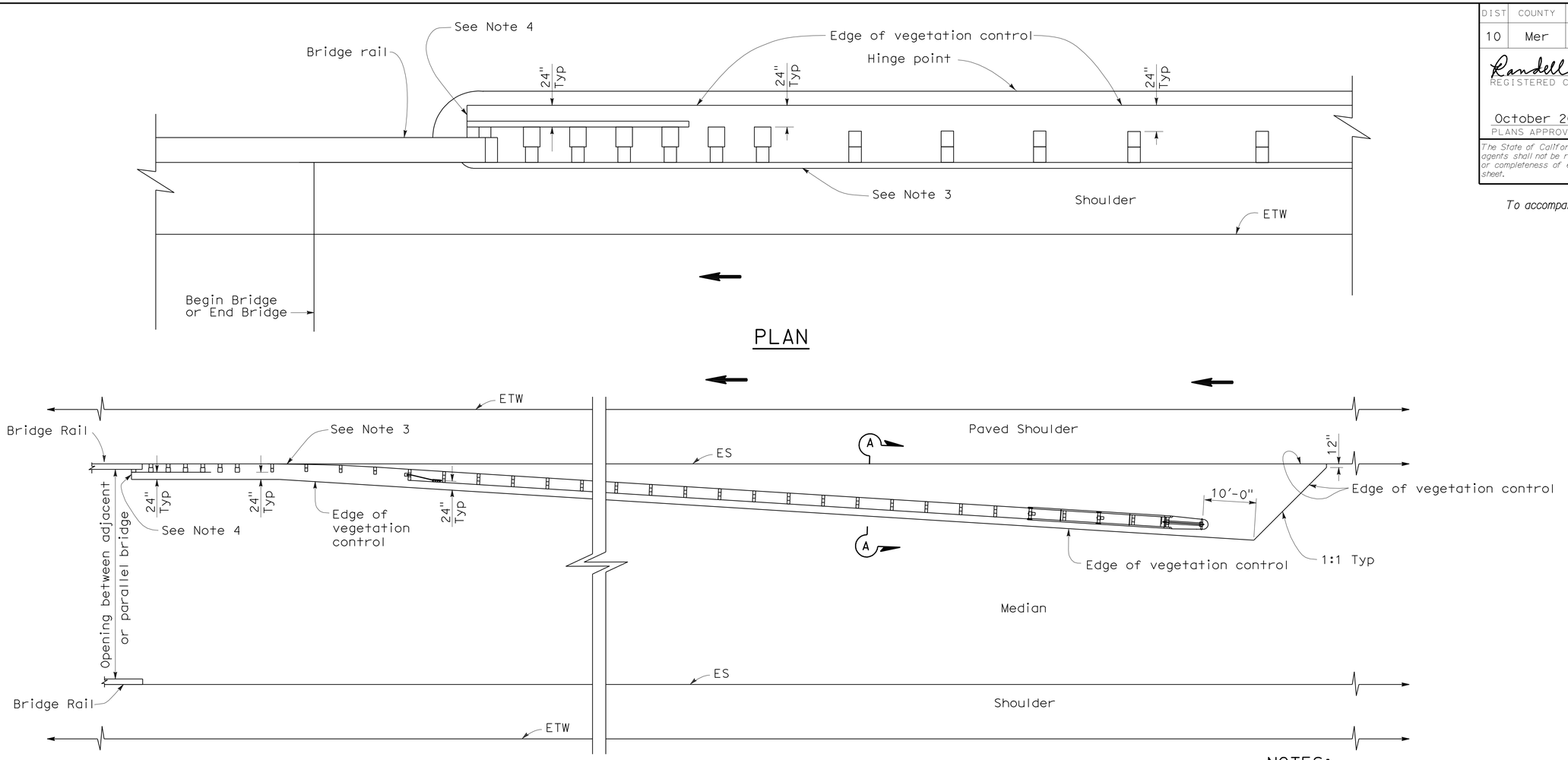
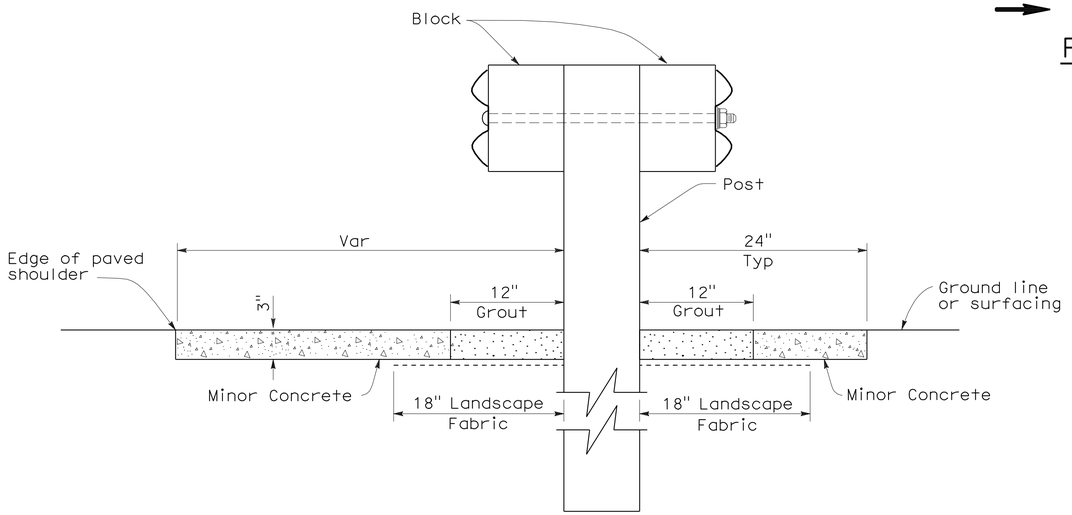
To accompany plans dated 11-1-10



PLAN



SECTION A-A

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
4. End vegetation control at end of backside rail element.
5. Direction of adjacent traffic indicated by ←.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL VEGETATION CONTROL AT STRUCTURE APPROACH AND DEPARTURE

NO SCALE

NSP A77C7 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A77C7

2006 NEW STANDARD PLAN NSP A77C7

7-17-06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	455	607

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA

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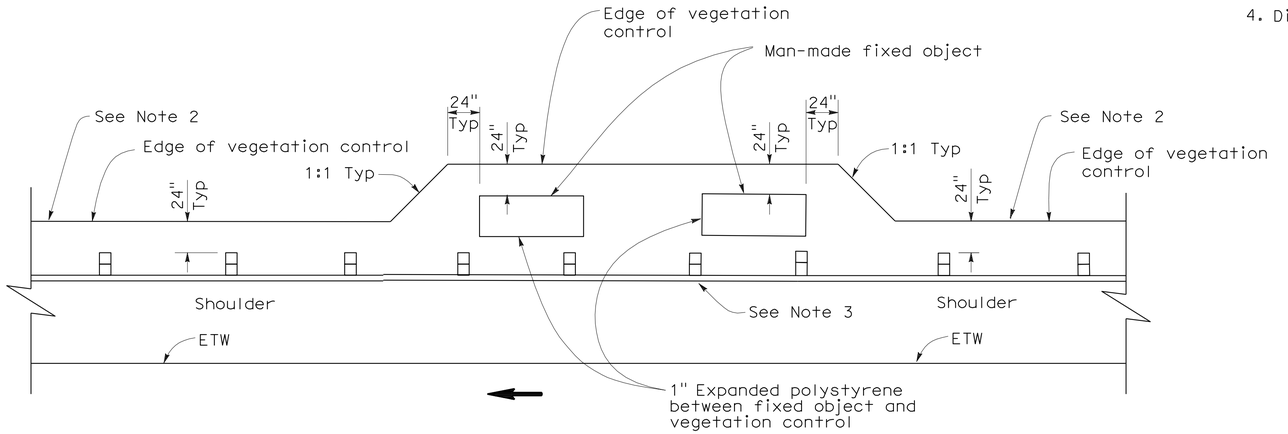
To accompany plans dated 11-1-10

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
4. Direction of adjacent traffic indicated by ←.



PLAN

FIXED OBJECT(S) ON SHOULDER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL AT FIXED OBJECT

NO SCALE

NSP A77C8 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A77C8

2006 NEW STANDARD PLAN NSP A77C8

7-17-06

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
3. Direction of adjacent traffic indicated by ← .

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	456	607

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA

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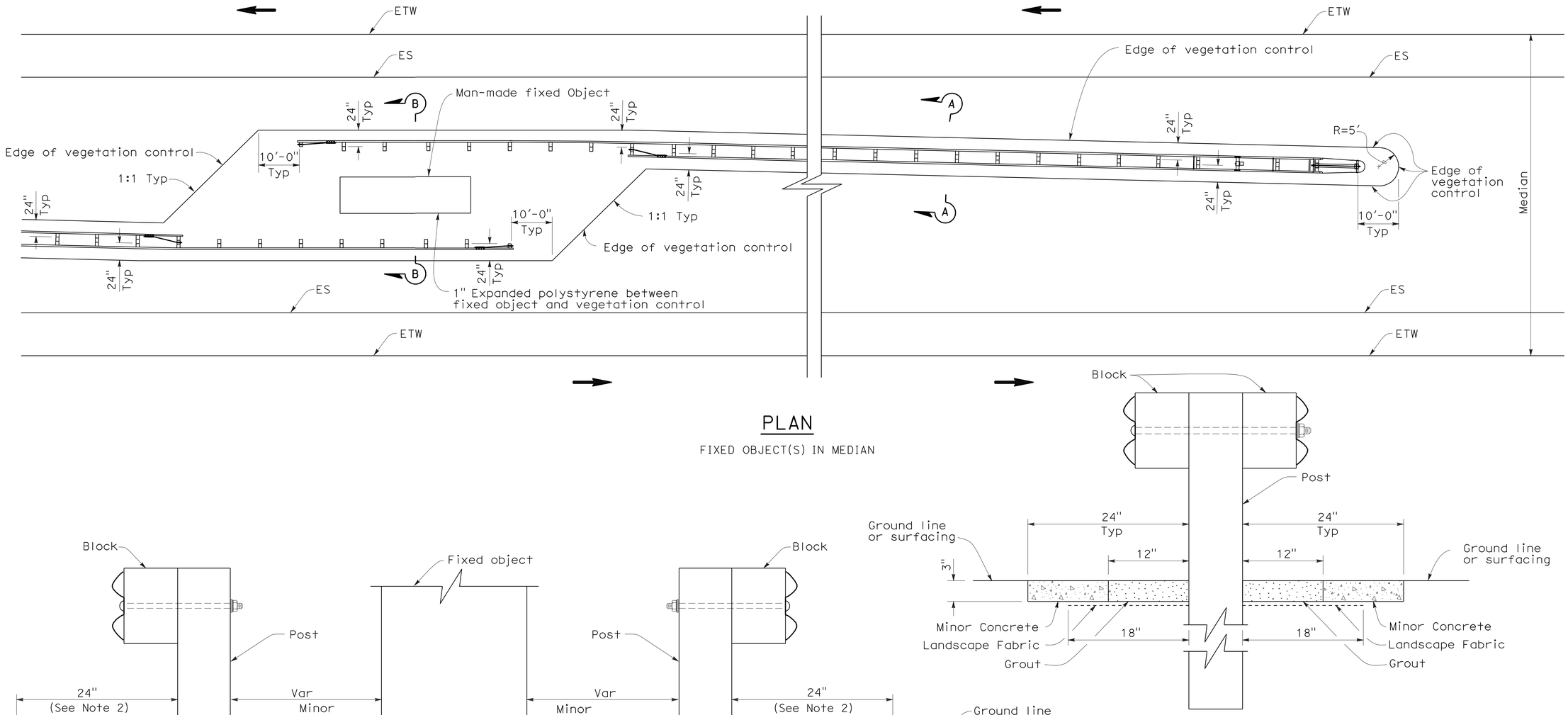
To accompany plans dated 11-1-10



PLAN

FIXED OBJECT(S) IN MEDIAN

SECTION A-A

SECTION B-B

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL VEGETATION CONTROL AT FIXED OBJECT

NO SCALE

NSP A77C9 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A77C9

2006 NEW STANDARD PLAN NSP A77C9

7-17-06

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
3. Direction of adjacent traffic indicated by ⟵.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	457	607

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA

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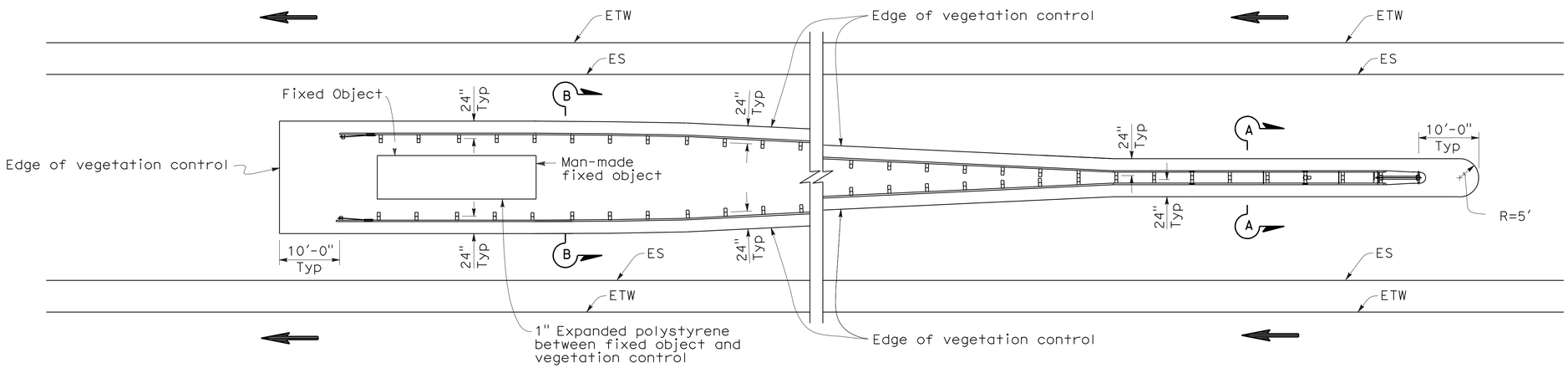
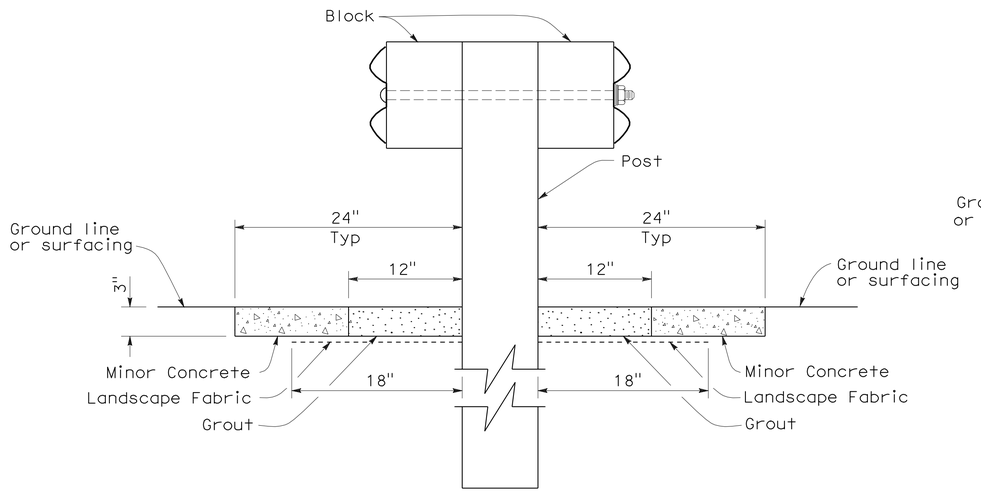
To accompany plans dated 11-1-10

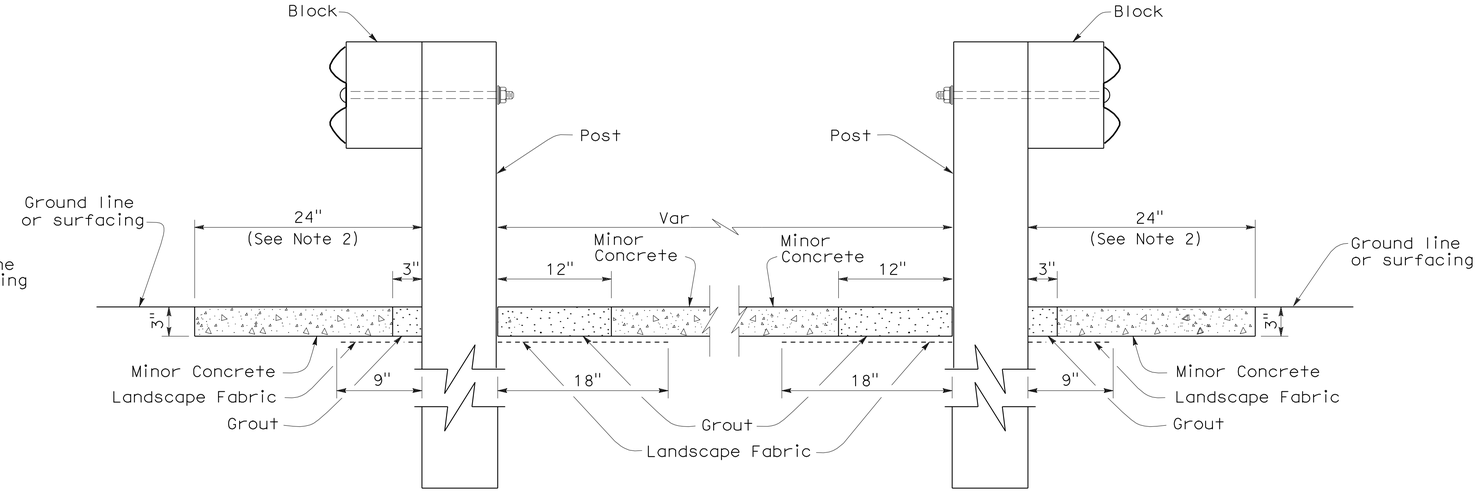


PLAN

FIXED OBJECT(S) BETWEEN SEPARATE ROADBEDS
(ONE-WAY TRAFFIC)



SECTION A-A



SECTION B-B

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL VEGETATION CONTROL AT FIXED OBJECT

NO SCALE

NSP A77C10 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A77C10

2006 NEW STANDARD PLAN NSP A77C10

7-17-06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	458	607

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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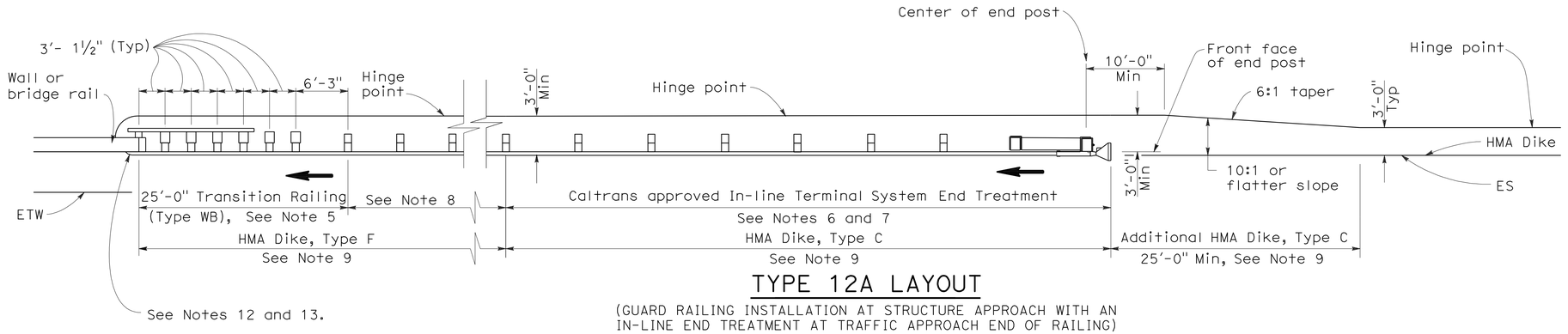
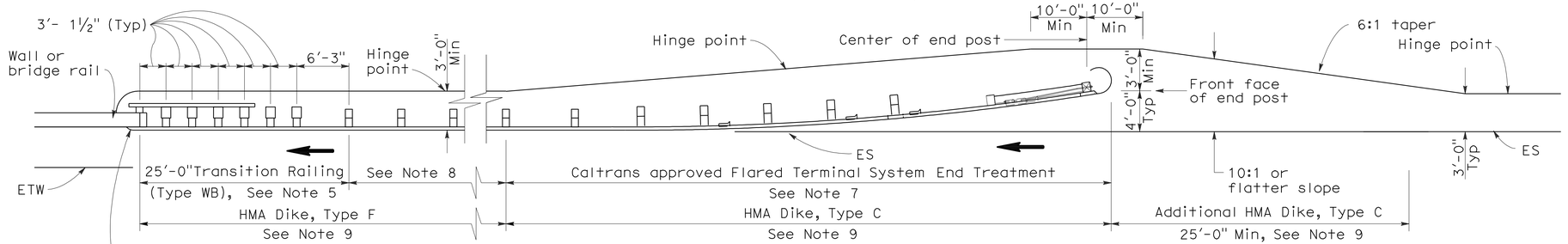
To accompany plans dated 11-1-10



TYPE 12A LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10



TYPE 12B LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10

NOTES:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. Direction of adjacent traffic indicated by →.
5. For Transition Railing (Type WB) details for Types 12A and 12B Layouts, see Standard Plan A77J4.
6. In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
7. The type of terminal system end treatment to be used will be shown on the Project Plans.
8. Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment.
9. Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
10. Type 12A or Type 12B Layouts are typically used:
    a. To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
    b. To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
    c. To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
    d. To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
11. See Revised Standard Plan RSP A77F3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
12. For additional details of typical connections to bridge rail, see Connection Detail AA on Revised Standard Plans RSP A77J1 and RSP A77J2 and Connection Detail FF on Standard Plans A77K1 and A77K2.
13. For additional details of a typical connection to walls or abutments, see Standard Plan A77J3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR STRUCTURE APPROACH

NO SCALE

RSP A77F1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F1
DATED MAY 1, 2006 - PAGE 54 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77F1

2006 REVISED STANDARD PLAN RSP A77F1

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	459	607

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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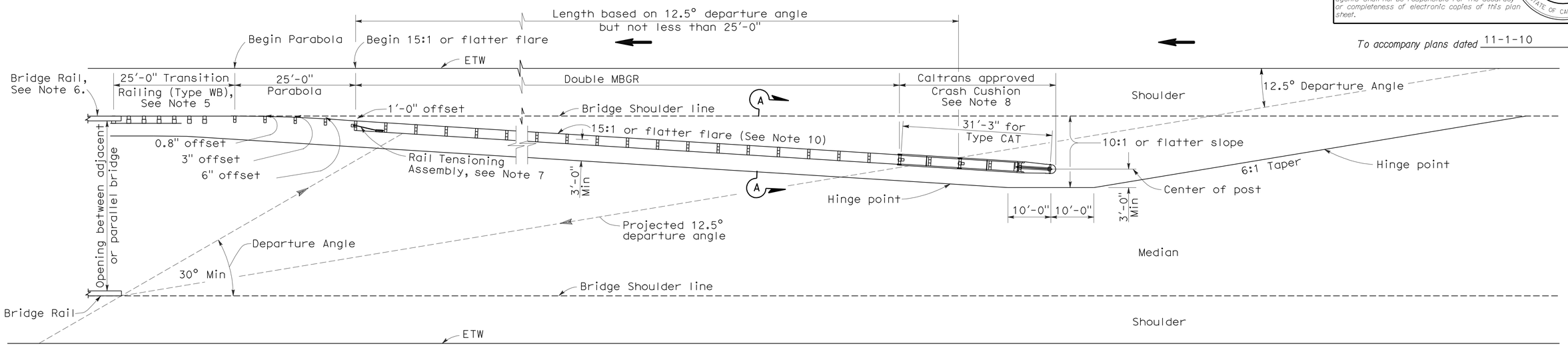
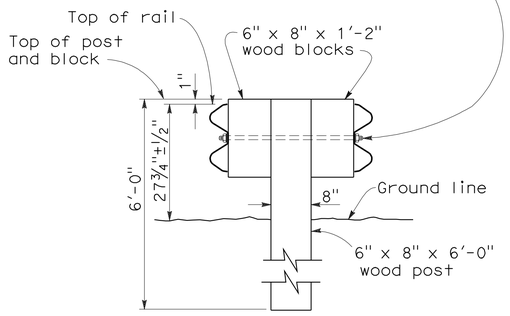
To accompany plans dated 11-1-10



TYPE 12E LAYOUT

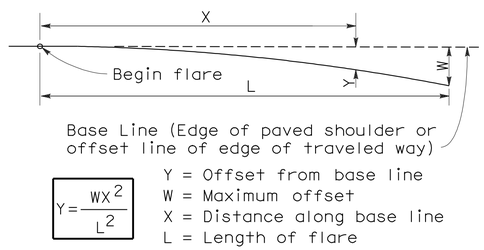
See Note 10

5/8" ø Button head bolt with hex nut or 5/8" ø Rod, threaded both ends, with hex nuts. 1/2" Max exposed threads after hex nut(s) tightened. No washer on rail faces for bolted connection to line post.



SECTION A-A

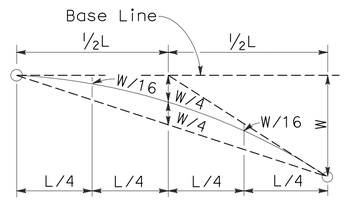
TYPICAL DOUBLE METAL BEAM GUARD RAILING



$Y = \frac{WX^2}{L^2}$

Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

NOTES:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. Direction of adjacent traffic indicated by →.
5. For Transition Railing (Type WB) details, see Standard Plan A77J4.
6. For additional details of a typical connection to bridge rail, see Connection Detail AA on Revised Standard Plan RSP A77J1.
7. For Rail Tensioning Assembly details, see Standard Plan A77H2.
8. The type of Crash Cushion to be used will be shown on the Project Plans.
9. Type 12E Layout is typically used left of approaching traffic at the end of each structure on multilane freeways or expressways where a median type barrier is not constructed between separated roadbeds.
10. The 15:1 or flatter flare is measured off of the edge of traveled way.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR STRUCTURE APPROACH

NO SCALE

RSP A77F3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F3
DATED MAY 1, 2006 - PAGE 56 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77F3

2006 REVISED STANDARD PLAN RSP A77F3

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	460	607

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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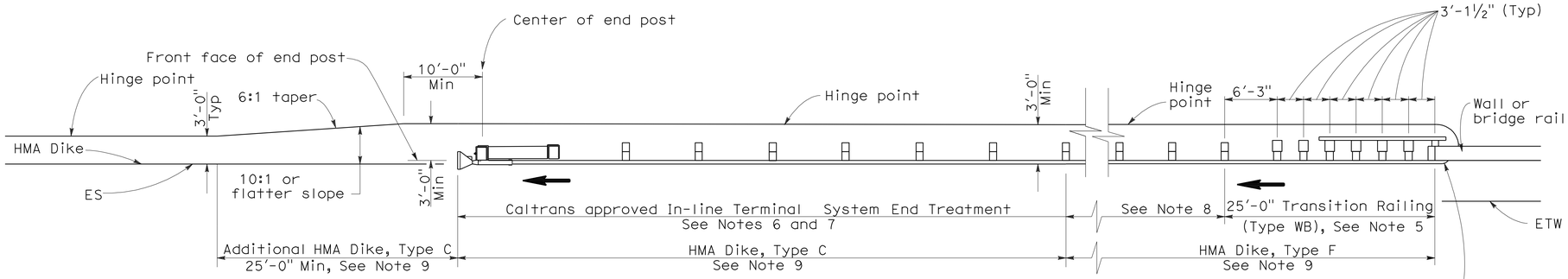
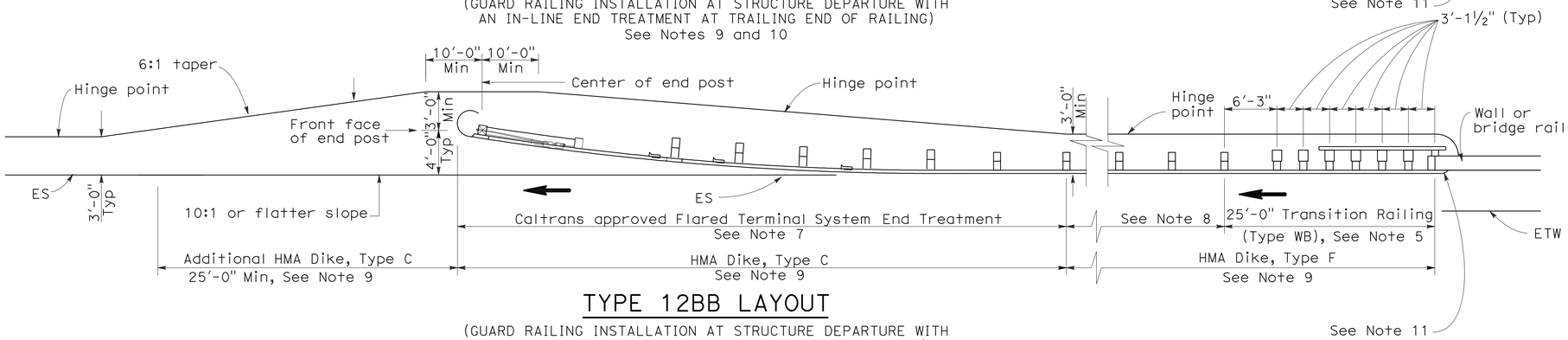
REGISTERED PROFESSIONAL ENGINEER — Randell D. Hiatt — No. C50200 — Exp. 6-30-09 — CIVIL — STATE OF CALIFORNIA

To accompany plans dated 11-1-10



TYPE 12AA LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH AN IN-LINE END TREATMENT AT TRAILING END OF RAILING)
See Notes 9 and 10



TYPE 12BB LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH A FLARED END TREATMENT AT TRAILING END OF RAILING)
See Notes 9 and 10

NOTES:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. Direction of adjacent traffic indicated by ⟶.
5. For Transition Railing (Type WB) details for Types 12AA and 12BB Layouts, see Standard Plan A77J4.
6. In-line Terminal System Treatments are used where site conditions will not accommodate a flared end treatment.
7. The type of terminal system to be used will be shown on the Project Plans.
8. Dependent on site conditions (embankment height, side slopes, other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatments.
9. Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
10. Type 12AA or Type 12BB Layouts are typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is less than 40 feet.
11. For additional details of typical connections to bridge rail, see Connection Detail CC on Revised Standard Plan RSP A77J2 and Connection Detail HH on Standard Plans A77k2.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR STRUCTURE DEPARTURE

NO SCALE

RSP A77F4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F4
DATED MAY 1, 2006 - PAGE 57 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77F4

2006 REVISED STANDARD PLAN RSP A77F4

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	461	607

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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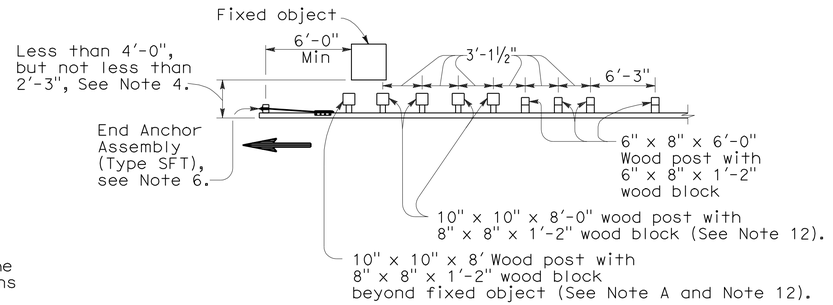
To accompany plans dated 11-1-10

2006 REVISED STANDARD PLAN RSP A77G1

NOTES:

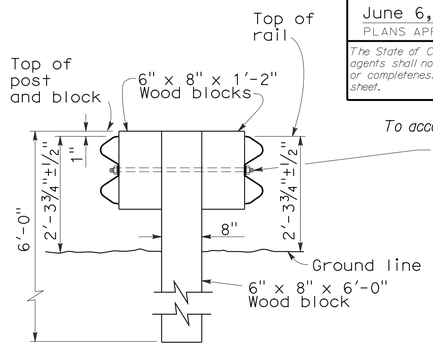
1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing of 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
5. Direction of adjacent traffic indicated by ➡.
6. For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
7. For details of Rail Tensioning Assembly, see Standard Plan A77H2.
8. The type of crash cushion to be used will be shown on the Project Plans.
9. Type 14A layout is typically used on multilane freeways or expressways to shield fixed objects where a median type barrier is not constructed between the separated roadbeds.
10. For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.
11. The 15:1 or flatter flare is measured off of the edge of traveled way.
12. W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic block may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".



NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1½" center to center spacing are to be used between fixed objects.

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

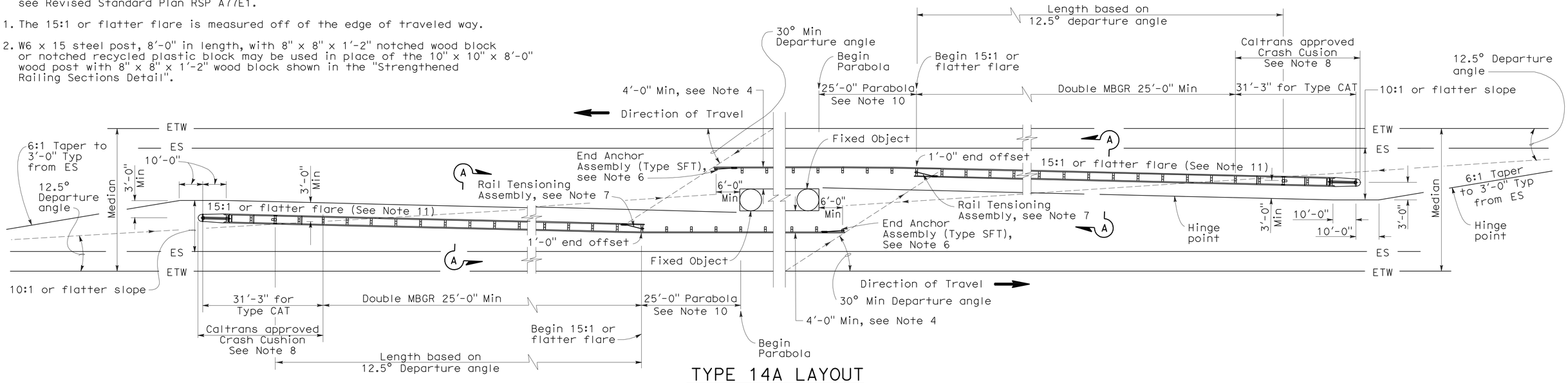
Use strengthened railing sections with Type 14A layout where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3", See Note 4.



⅝" ø button head bolt with hex nut or ⅝" ø Rod, threaded both ends, with hex nuts. ½" Max exposed threads after hex nut(s) tightened. No washer on rail faces for bolted connection to line post.

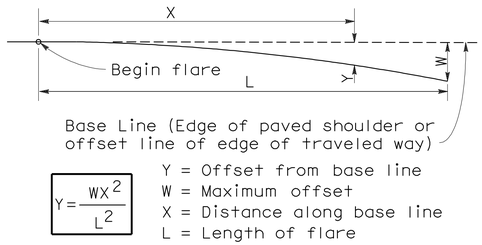
SECTION A-A

TYPICAL DOUBLE METAL BEAM GUARD RAILING



TYPE 14A LAYOUT

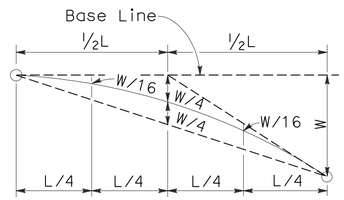
See Note 9



$$Y = \frac{WX^2}{L^2}$$

Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR FIXED OBJECTS BETWEEN SEPARATE ROADBEDS (TWO-WAY TRAFFIC)

NO SCALE

RSP A77G1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G1 DATED MAY 1, 2006 - PAGE 59 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G1

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	462	607

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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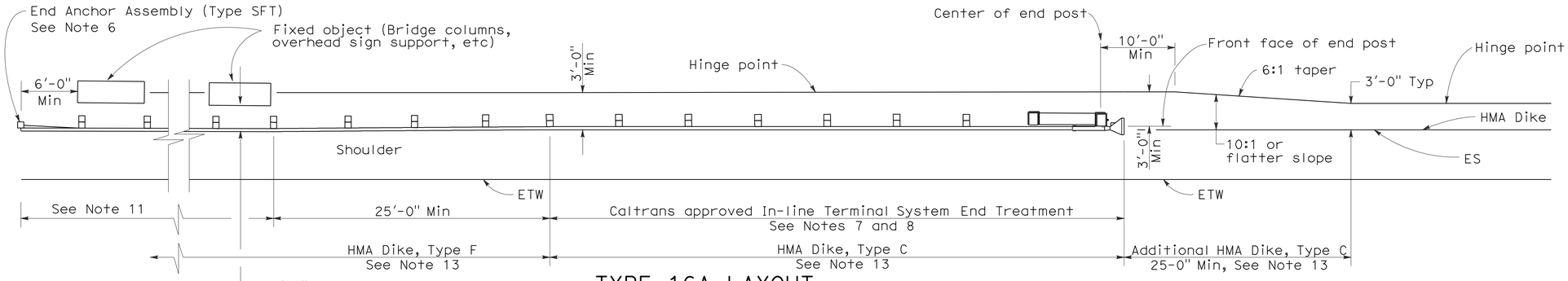
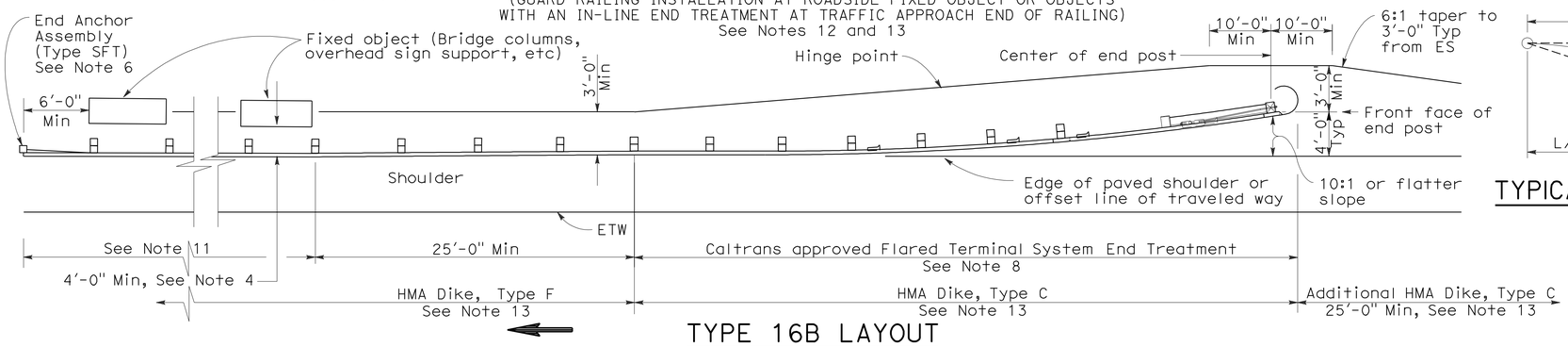
REGISTERED PROFESSIONAL ENGINEER — Randell D. Hiatt — No. C50200 — Exp. 6-30-09 — CIVIL — STATE OF CALIFORNIA

To accompany plans dated 11-1-10



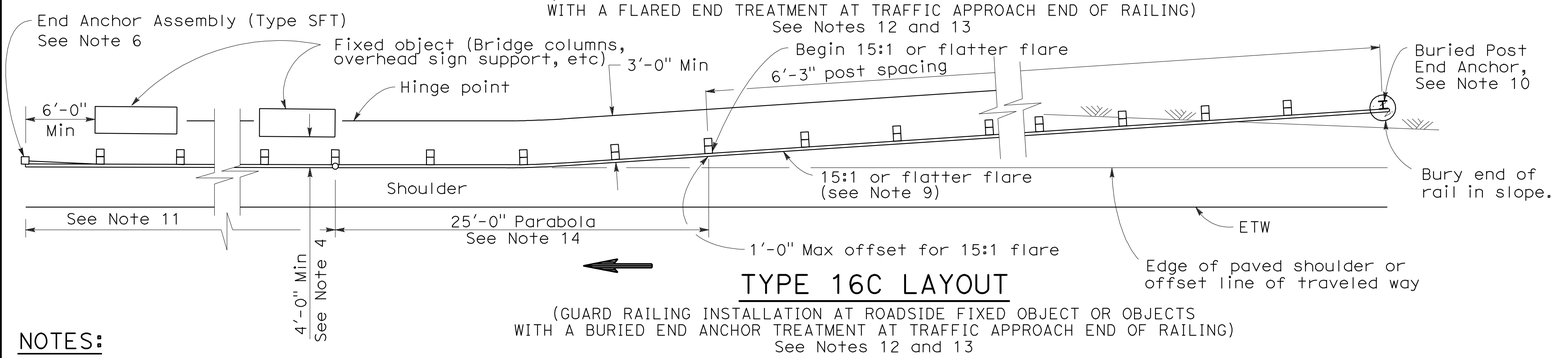
TYPE 16A LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13



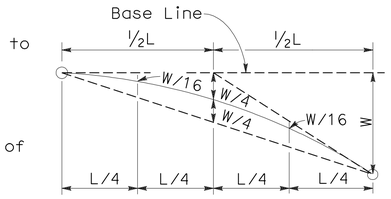
TYPE 16B LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13

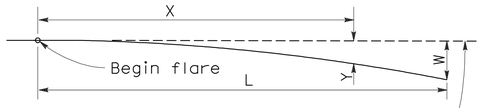


TYPE 16C LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A BURIED END ANCHOR TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13



TYPICAL PARABOLIC LAYOUT

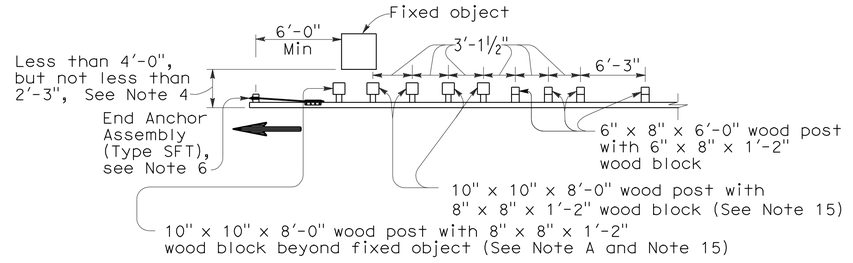


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

$$Y = \frac{WX^2}{L^2}$$

Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS



NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1½" center to center spacing are to be used between fixed objects.

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Types 16A, 16B or 16C Layouts where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4

NOTES:

1. Line post, blocks and hardware to be used are shown on Revised Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing of 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
5. Direction of adjacent traffic indicated by ⟶.
6. For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
7. In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
8. The type of terminal system to be used will be shown on the Project Plans.
9. The 15:1 or flatter flare used with Type 16C Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
10. For details of the Buried Post End Anchor used with Type 16C Layout, see Standard Plan A77I2.
11. As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3" except as specified in Note 4.
12. Layout Types 16A, 16B or 16C are typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for only one direction of traffic.
13. Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.
14. For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.
15. W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR ROADSIDE FIXED OBJECTS

NO SCALE

RSP A77G3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G3
DATED MAY 1, 2006 - PAGE 61 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G3

2006 REVISED STANDARD PLAN RSP A77G3

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	463	607

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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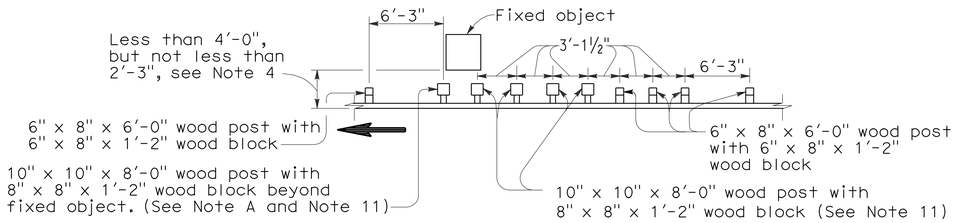
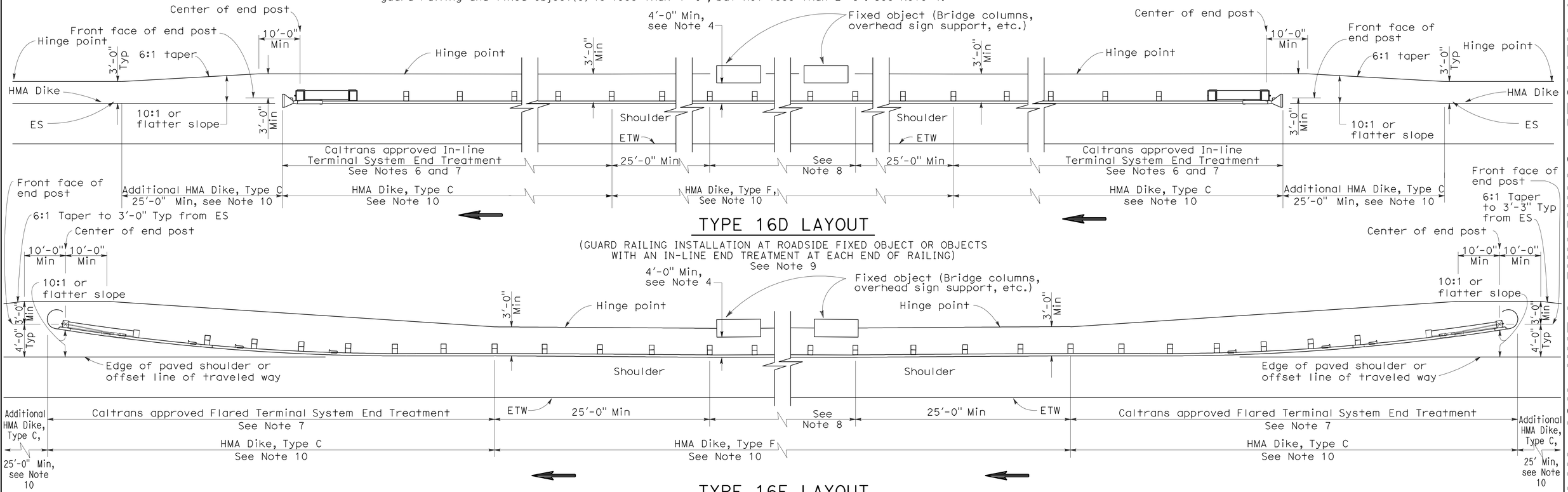
To accompany plans dated 11-1-10



NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1½" center to center spacing are to be used between fixed object(s).

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Layout Types 16D or 16E where minimum clearance between the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4.



TYPE 16D LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH AN IN-LINE END TREATMENT AT EACH END OF RAILING)
See Note 9

TYPE 16E LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A FLARED END TREATMENT AT EACH END OF RAILING)
See Note 9

NOTES:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing at 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
5. Direction of adjacent traffic indicated by ⟶.
6. In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
7. The type of terminal system to be used will be shown on the Project Plans.
8. As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3", except as specified in Note 4.
9. Layout Types 16D through 16L, shown on the A77G Series of Revised Standard Plans, are typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for both directions of traffic.
10. Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.
11. W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic block may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail."

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR ROADSIDE FIXED OBJECTS

NO SCALE

RSP A77G4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G4
DATED MAY 1, 2006 - PAGE 62 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G4

2006 REVISED STANDARD PLAN RSP A77G4

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	464	607

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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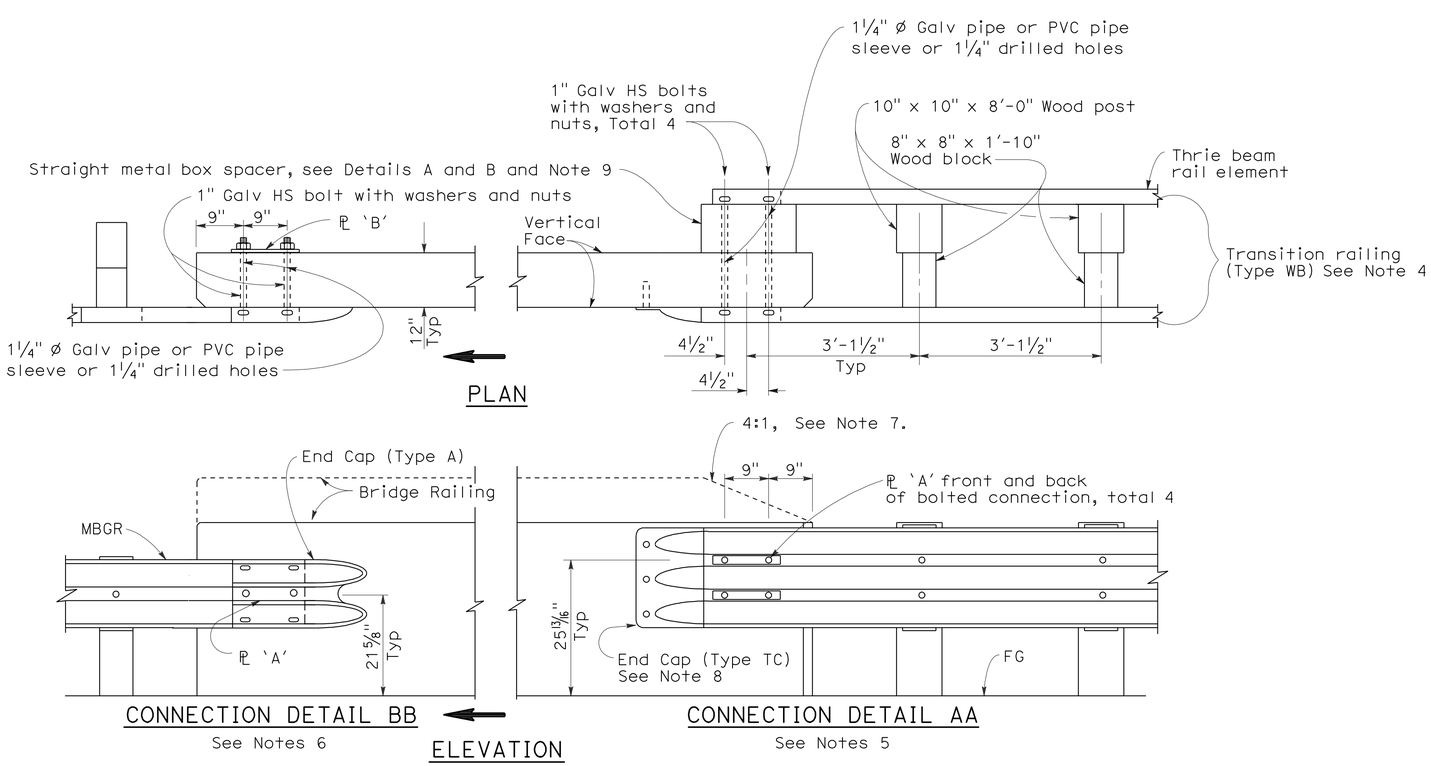
To accompany plans dated 11-1-10



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77J2 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by ➡.
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail BB, see Layout Type 12D (structure departure railing connection) on Standard Plan A77F2 and Layout Type 12DD on Standard Plan A77F5.
7. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam rail.
8. For details of End Cap (Type TC), see Standard Plan A77J4.
9. See Standard Plan A77J4 for additional details regarding depth dimension for straight metal box spacer.

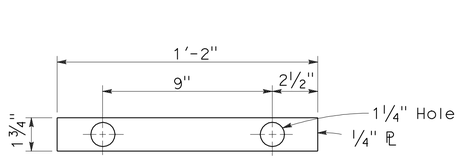


PLATE 'A'

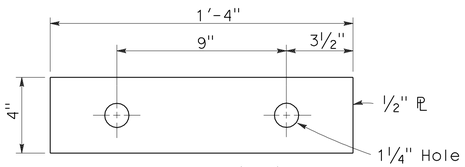
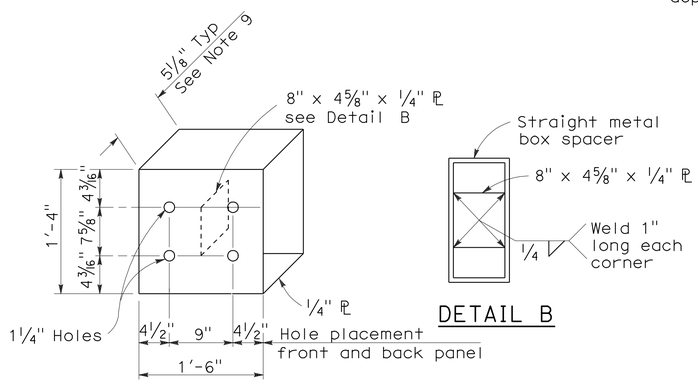


PLATE 'B'
(For backside of connection BB)



DETAIL A

STRAIGHT METAL BOX SPACER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No.1

NO SCALE

RSP A77J1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77J1
DATED MAY 1, 2006 - PAGE 72 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J1

2006 REVISED STANDARD PLAN RSP A77J1

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	465	607

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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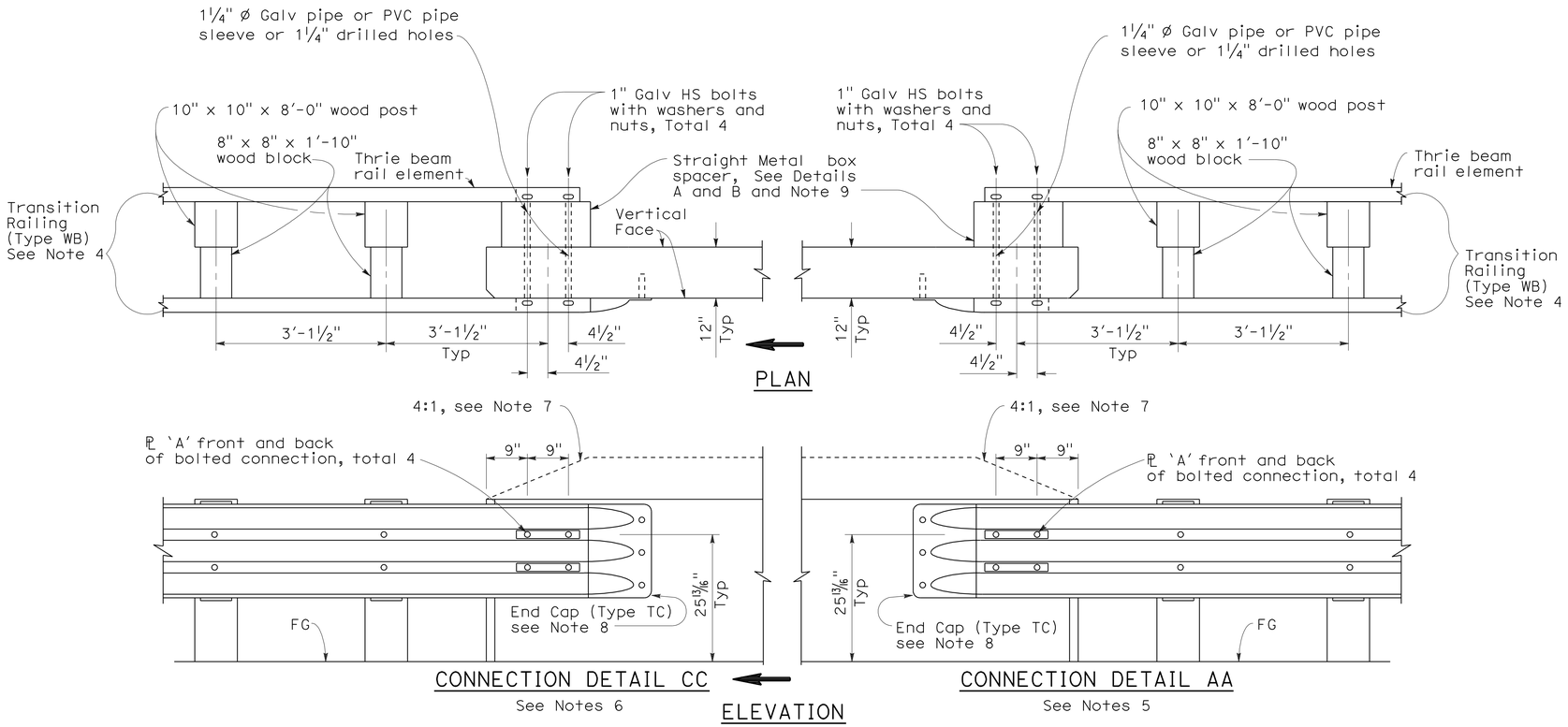
To accompany plans dated 11-1-10



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77J1 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by ⟹.
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail CC, see Layout Types 12AA and 12BB on Standard Plan A77F4 and Layout Type 12CC on Standard Plan A77F5.
7. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA and connection Detail CC, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam railing.
8. For details of End Cap (Type TC), see Standard Plans A77J4.
9. See Standard Plans A77J4 for additional details regarding depth dimension for straight metal box spacer.

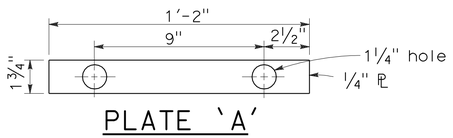


PLATE 'A'

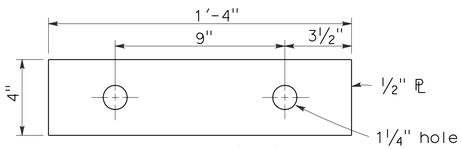
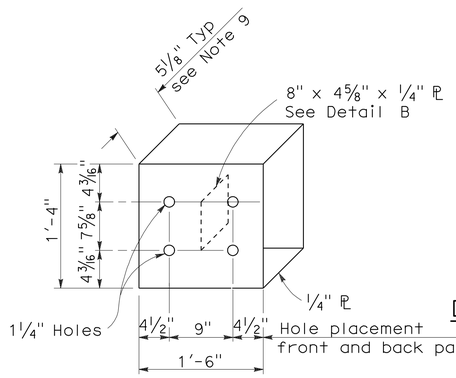
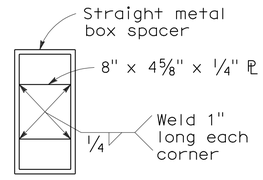


PLATE 'B'
(For backside of connection BB)



DETAIL A



DETAIL B

STRAIGHT METAL BOX SPACER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No.2

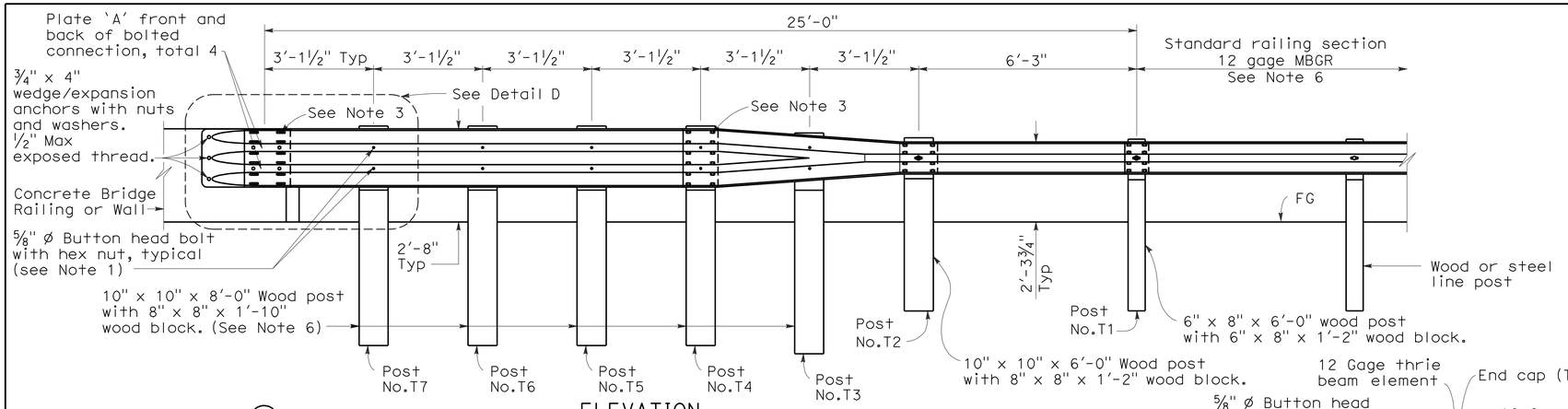
NO SCALE

RSP A77J2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77J2
DATED MAY 1, 2006 - PAGE 73 OF THE STANDARD PLANS BOOK DATED MAY 2006.

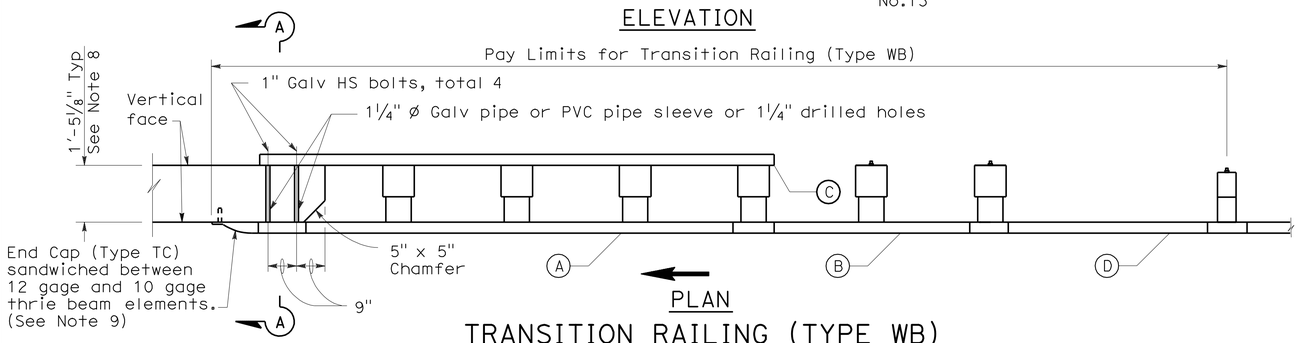
REVISED STANDARD PLAN RSP A77J2

2006 REVISED STANDARD PLAN RSP A77J2

12-10-07



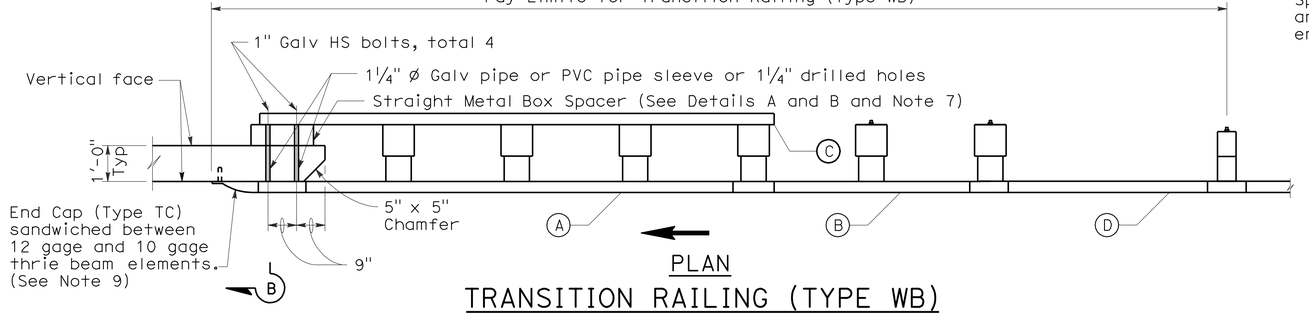
ELEVATION



PLAN

TRANSITION RAILING (TYPE WB)

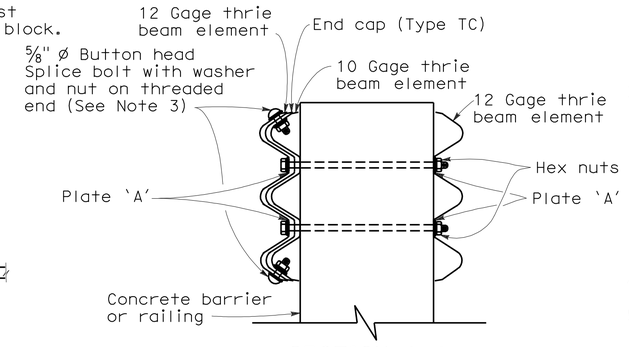
(No Blockout Attachment)



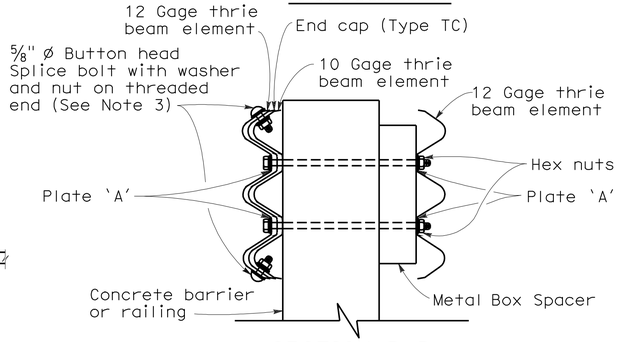
PLAN

TRANSITION RAILING (TYPE WB)

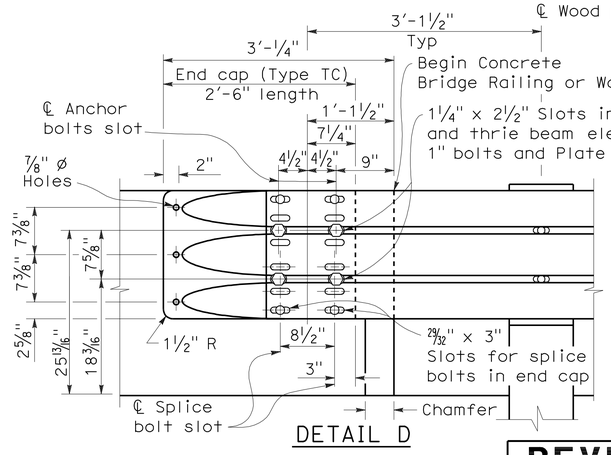
(Blockout Attachment)



SECTION A-A



SECTION B-B



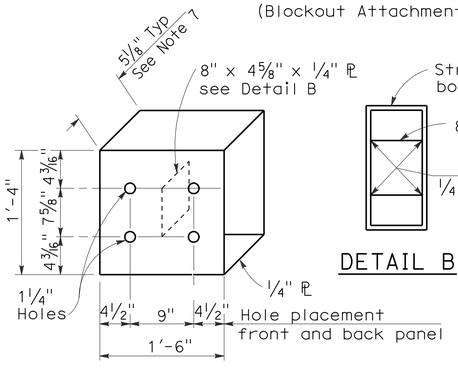
DETAIL D

LEGEND

- (A) Nested thrie beam elements (one 12 gage element nested over one 10 gage element).
- (B) One 10 gage "W" beam to thrie beam element.
- (C) One 12 gage thrie beam element.
- (D) One 10 gage "W" beam rail element (7'-3½" length)

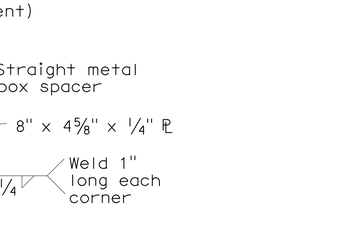
10 gage = 0.135" thick

12 gage = 0.108" thick

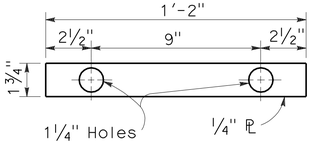


DETAIL A

STRAIGHT METAL BOX SPACER



DETAIL B



DETAIL C

PLATE 'A'

NOTES:

To accompany plans dated 11-1-10

1. Use 5/8 " ø Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
2. The nested rail elements, end cap, and 'W' beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
3. Exterior splice bolt holes for rail element splices at Post No.T4 and the connection to the concrete barrier or railing shall be the standard 29/32 " x 1 1/8 " slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4 " ø. Only the top 2 and the bottom 2 splice bolts with washers and nuts are required for rail splices at Post No.T4 and the connection to the concrete barrier or railing.
4. Direction of adjacent traffic indicated by →.
5. The top elevation of Post Nos.T2 through T7 shall not project more than 1" above the top elevation of the rail element.
6. Typically, the railing connected to Transition Railing (Type WB) will be either standard railing section of metal beam guard railing or an approved Caltrans end treatment attached to Post No.T1.
7. The depth of the metal box spacer varies from the 5 1/8 " to 1 1/2 " and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 17 1/8 ". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2 ", metal plates similar to Plate 'A' are to be used as spacers.
8. Where the width of the concrete railing or wall is greater than 17 1/8 ", wood blocks are to be used to fill the space created between the backside of Posts No.4 through No.7 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
9. End cap may be installed over 12 gage and 10 gage thrie beam elements where transition railing is installed on the departure end of bridge railing.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	466	607

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 5, 2009
PLANS APPROVAL DATE

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

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STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TRANSITION RAILING (TYPE WB)

NO SCALE

RSP A77J4 DATED JUNE 5, 2009 SUPERSEDES RSP A77J4 DATED JUNE 6, 2008 AND STANDARD PLAN A77J4 DATED MAY 1, 2006 - PAGE 75 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J4

2006 REVISED STANDARD PLAN RSP A77J4

5-14-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	467	607

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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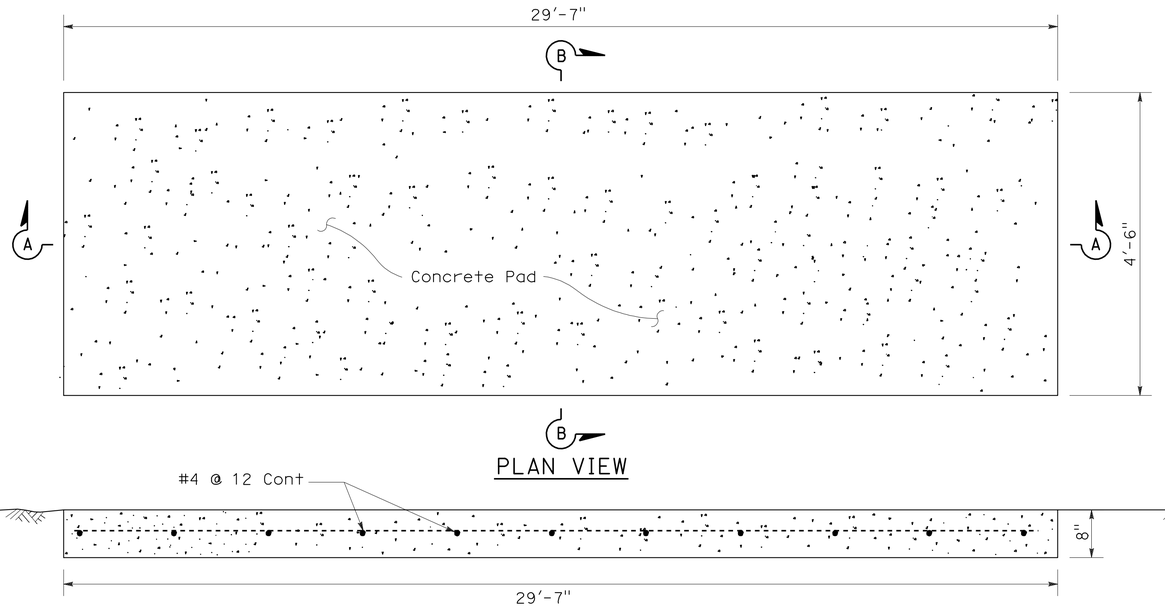
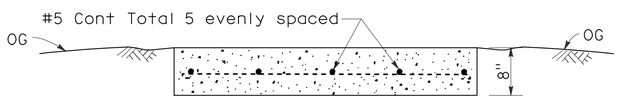
To accompany plans dated 11-1-10



PLAN VIEW

SECTION A-A

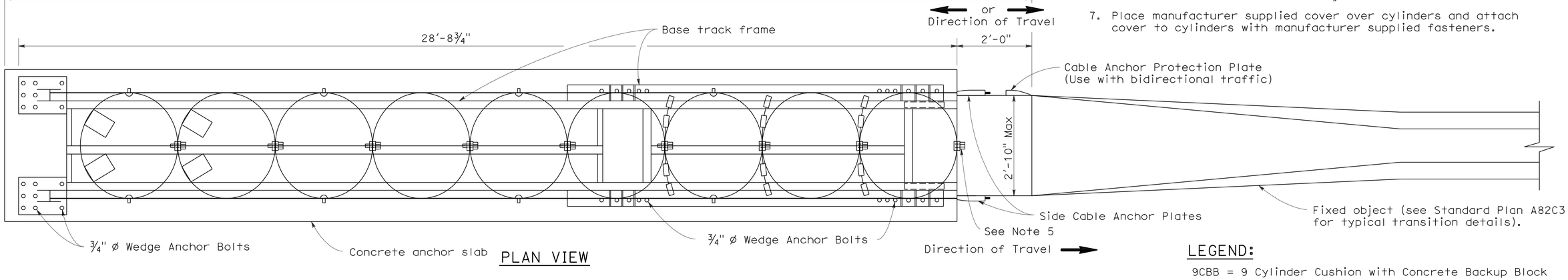
CONCRETE ANCHOR SLAB



SECTION B-B

NOTES:

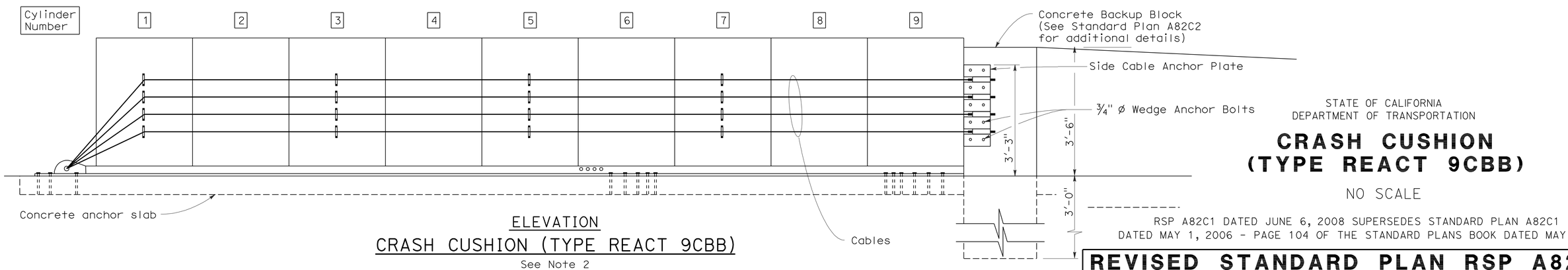
1. For additional details of this crash cushion, refer to manufacturer's installation instructions.
2. For details of the REACT Crash Cushion with self contained backup support (no concrete backup block), see Standard Plan A82D1.
3. The base track frame with cylinders attached comes from the manufacturer as a completely pre-assembled unit.
4. Place the crash cushion unit on the cured concrete anchor slab and use the base track frame of the crash cushion as a template for drilling anchor bolt holes. Drill holes in slab and attach crash cushion with wedge anchor bolts supplied by the manufacturer.
5. Attach last cylinder to concrete backup block with manufacturer supplied fastener in such manner as recommended by the manufacturer.
6. Attach the manufacturer supplied side cable anchor plates to the cured concrete backup block with the manufacturer supplied bolts in such manner as recommended by the manufacturer.
7. Place manufacturer supplied cover over cylinders and attach cover to cylinders with manufacturer supplied fasteners.



PLAN VIEW

LEGEND:

9CBB = 9 Cylinder Cushion with Concrete Backup Block



ELEVATION

CRASH CUSHION (TYPE REACT 9CBB)

See Note 2

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CRASH CUSHION (TYPE REACT 9CBB)

NO SCALE

RSP A82C1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A82C1 DATED MAY 1, 2006 - PAGE 104 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A82C1

2006 REVISED STANDARD PLAN RSP A82C1

4-21-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	468	607

Glenn DeCou
REGISTERED CIVIL ENGINEER

June 5, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Glenn DeCou — No. C34547 — Exp. 9-30-09 CIVIL — STATE OF CALIFORNIA

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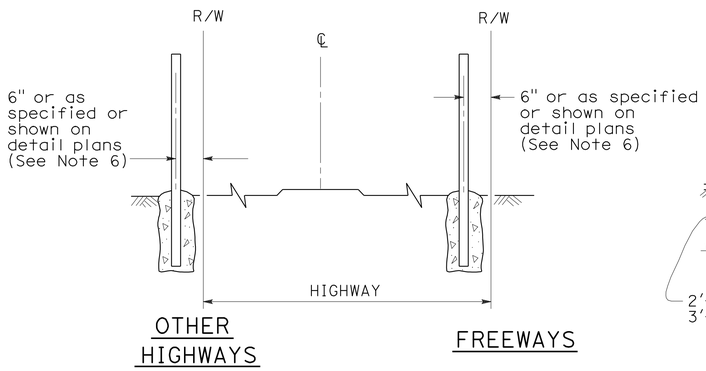
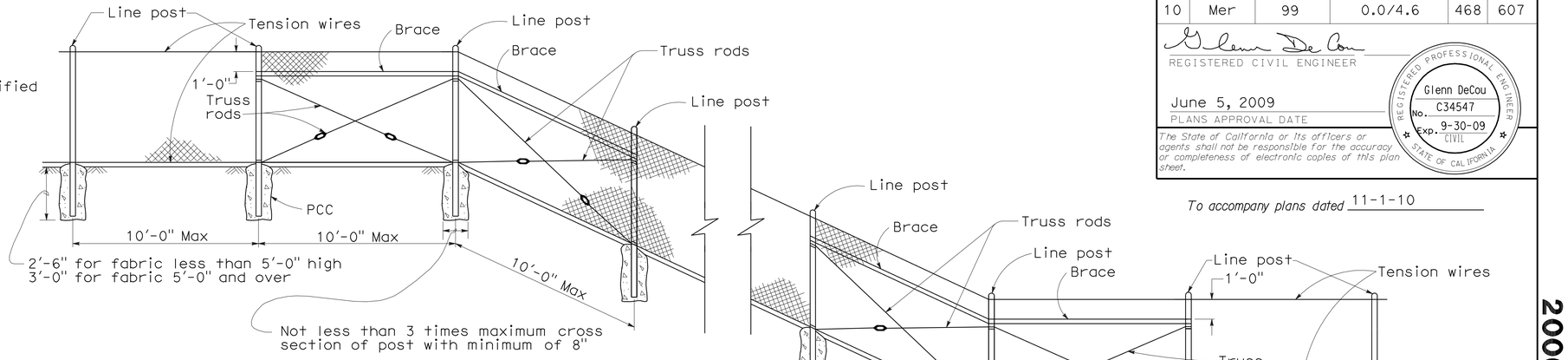
To accompany plans dated 11-1-10

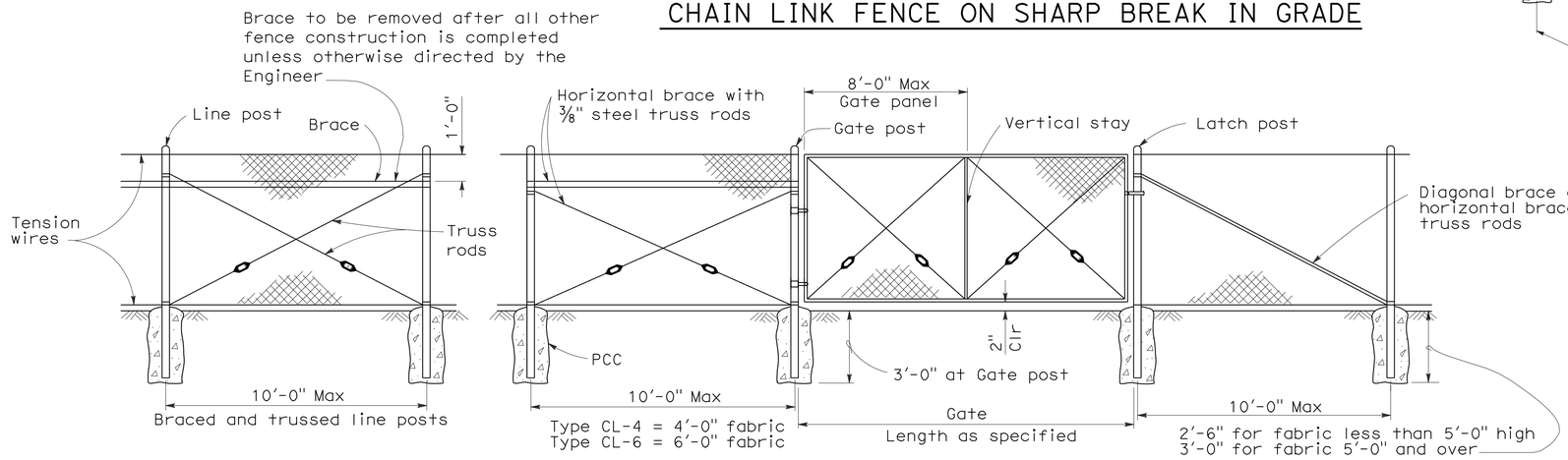


OTHER HIGHWAYS — FREEWAYS

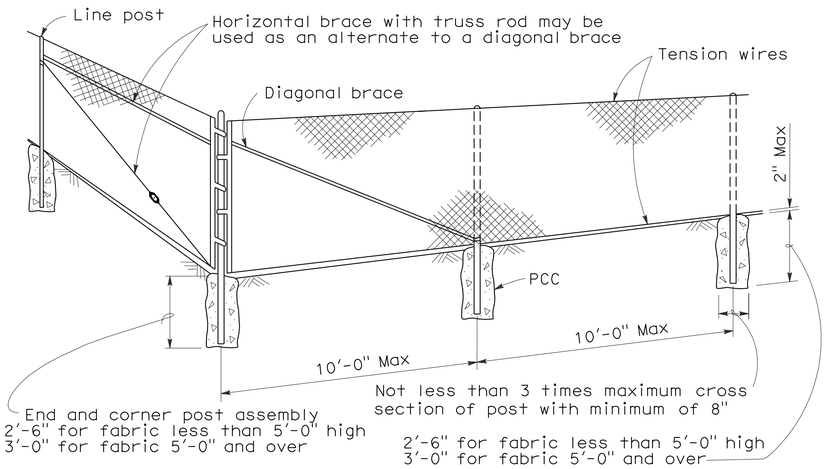
FENCE LOCATION



CHAIN LINK FENCE ON SHARP BREAK IN GRADE



CHAIN LINK GATE INSTALLATION



CORNER POST

NOTES:

1. The below table shows examples of post and brace sections which may comply with the Specifications.
2. Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
3. Other sections which comply with the strength requirements and other provisions of the Specifications may be used on approval of the Engineer.
4. Options exercised shall be uniform on any one project.
5. Dimensions shown are nominal.
6. Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'-0" long.

GATE POST

FENCE HEIGHT	GATE WIDTHS	NOMINAL ID	WEIGHT PER FOOT
6'-0" and Less	Up thru 6'-0"	2½"	4.95 LB
	Over 6'-0" thru 12'-0"	4"	10.79 LB
	Over 12'-0" thru 18'-0"	5"	14.62 LB
	Over 18'-0" to 24'-0" Max	6"	18.97 LB
Over 6'-0"	Up thru 6'-0"	3"	7.58 LB
	Over 6'-0" thru 12'-0"	5"	14.62 LB
	Over 12'-0" thru 18'-0"	6"	18.97 LB
	Over 18'-0" to 24'-0" Max	8"	28.55 LB

Above post dimensions and weights are minimums. Larger sizes may be used on approval of the Engineer.

TYPICAL MEMBER DIMENSIONS (See Notes)

FENCE HEIGHT	LINE POSTS			END, LATCH & CORNER POSTS			BRACES			
	ROUND ID	H	ROLL FORMED	ROUND ID	ROLL FORMED		ROUND ID	H	ROLL FORMED	
					⊂	⊂⊃ □			⊂⊃	□
6' & less	1½"	1⅞" × 1⅝"	1⅞" × 1⅝"	2"	3½" × 3½"	2" × 1¾"	1¼"	1½" × 1⅝"	1⅝" × 1¼"	1¾" × 1¼"
Over 6'	2"	2¼" × 2"	2" × 1¾"	2½"	3½" × 3½"	2½" × 2½"	1¼"	1½" × 1⅝"	1⅝" × 1¼"	1¾" × 1¼"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CHAIN LINK FENCE

NO SCALE

RSP A85 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN A85
DATED MAY 1, 2006 - PAGE 111 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A85

2006 REVISED STANDARD PLAN RSP A85

5-7-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	469	607

REGISTERED CIVIL ENGINEER

Glenn DeCou
No. C34547
Exp. 9-30-09
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

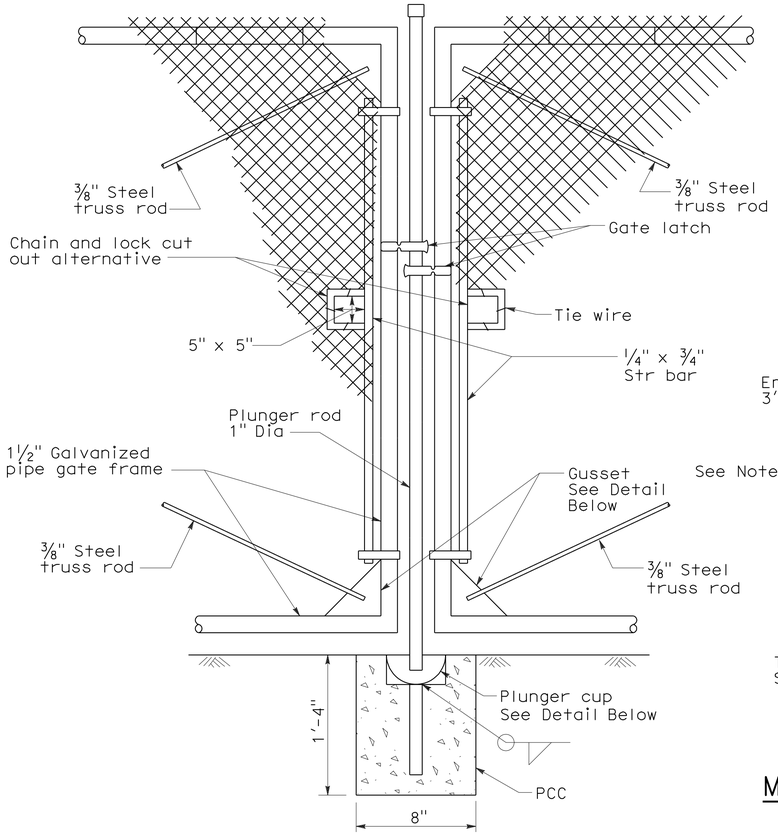
June 5, 2009
PLANS APPROVAL DATE

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.

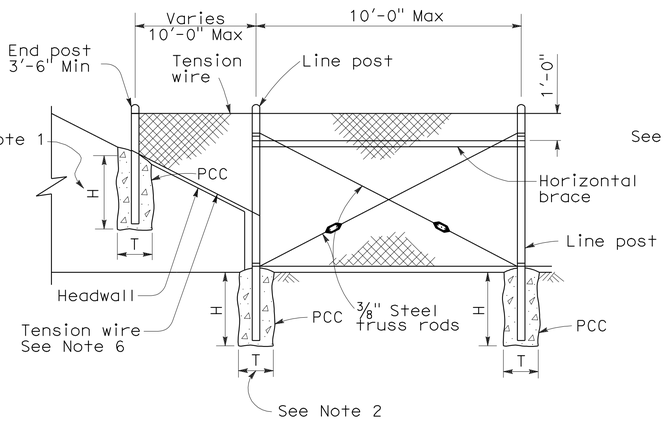
To accompany plans dated 11-1-10

NOTES:

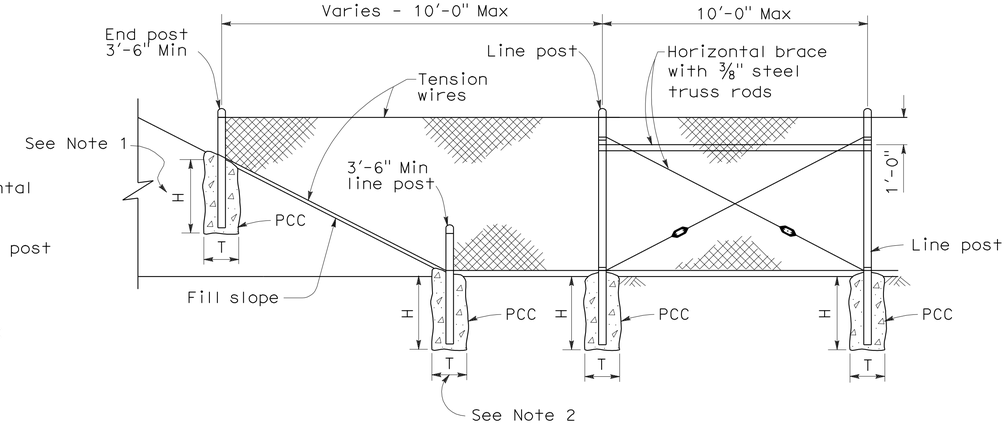
1. H is 2'-6" for fabric less than 5'-0" high. H is 3'-0" for fabric 5'-0" and over.
2. T is not less than 3 times maximum cross section of post with minimum of 8".
3. Arms with barbed wire to be used where shown on plans.
4. See Revised Standard Plan RSP A85 for Chain Link Fencing dimensions.
5. Reinforcing must comply with ASTM A 706.
6. See Detail A on New Standard Plan NSP A86B for connection at headwall.



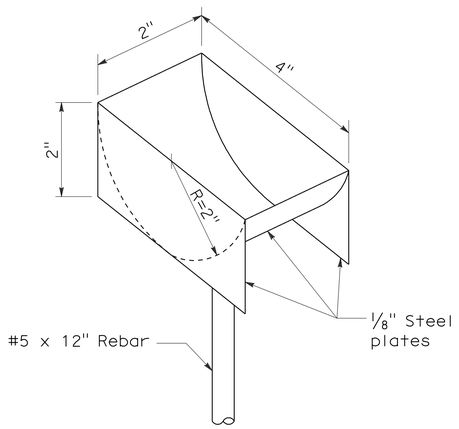
TYPICAL DOUBLE GATE
REMOVABLE CENTER POST



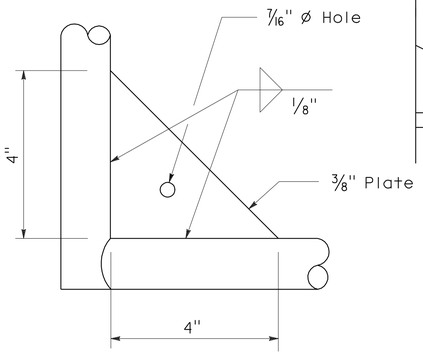
METHOD OF TYING FENCE TO HEADWALL



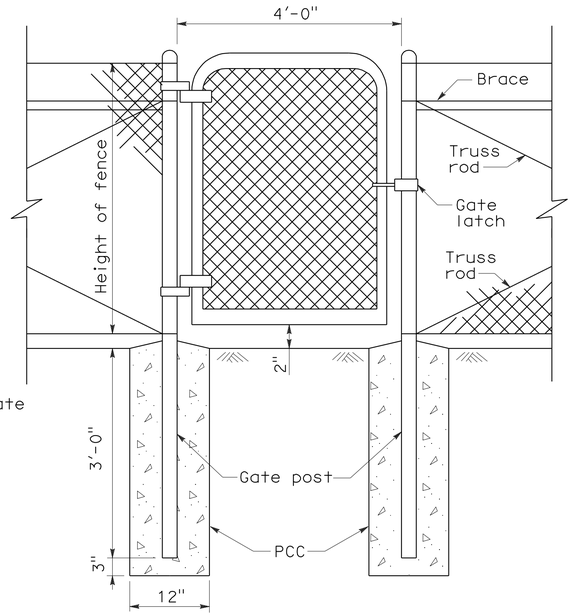
METHOD OF ERECTING FENCE FOR FILL SLOPE



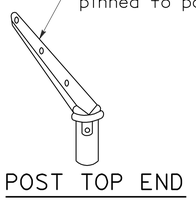
PLUNGER CUP DETAIL



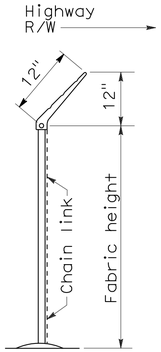
GUSSET DETAIL



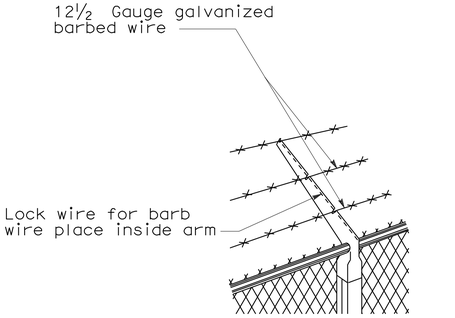
WALK GATE



POST TOP END



END ELEVATION



LINE POST TOP
Vertical arms when desired

BARBED WIRE POST TOP
See Note 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CHAIN LINK FENCE DETAILS

NO SCALE

NSP A85A DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A85A

2006 NEW STANDARD PLAN NSP A85A

5-7-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	470	607

Glenn DeCou
REGISTERED CIVIL ENGINEER

June 5, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Glenn DeCou
No. C34547
Exp. 9-30-09
CIVIL
STATE OF CALIFORNIA

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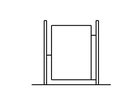
To accompany plans dated 11-1-10

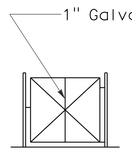


TYPE "A"

3′ and 6′ Single
6′ and 12′ Double

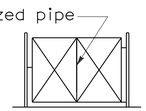
TYPE "B"

Over 6′ to 12′ Single.
Over 12′ to 24′ Double



TYPE "C"

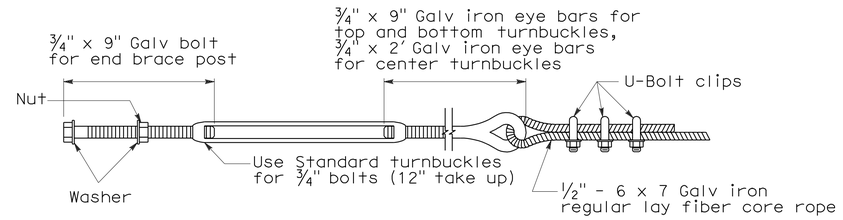
Over 12′ to 18′ Single
Over 24′ to 36′ Double.



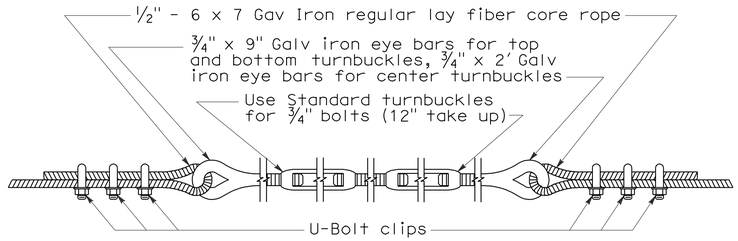
TYPE "D"

Over 18′ to 24′ Single
Over 36′ to 48′ Double

TYPICAL FRAMEWORK SHOWING NUMBER OF BAYS IN GATE



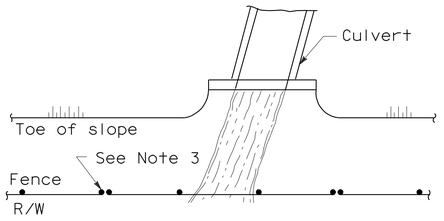
TURNBUCKLE A



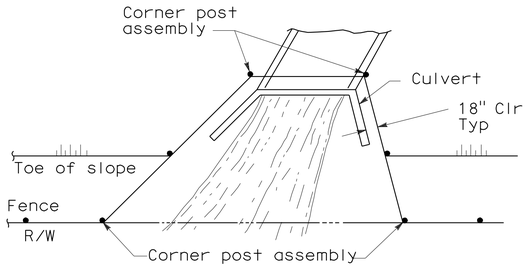
TURNBUCKLE B

NOTES:

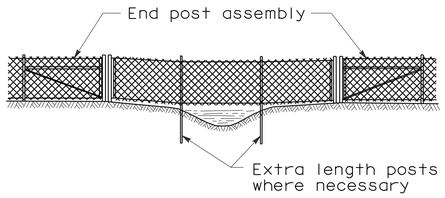
1. All material for abutment connection to be galvanized.
2. The chain link fabric shall be replaced by barbed wire strands at 12" maximum centers between the double posts.
3. When the width of the culvert makes it necessary to anchor a post to the top of the culvert, a cast iron shoe or other device approved by the Engineer shall be used.
4. Fencing over stream and around headwall may also use Barbed Wire or Wire Mesh fencing with either wood post or steel post installation.
5. See Revised Standard Plan RSP A85 for Chain Link fence dimensions. See Standard Plan A86 for Barbed Wire and Wire Mesh fence dimensions and for wood post and steel post installation.



PLAN

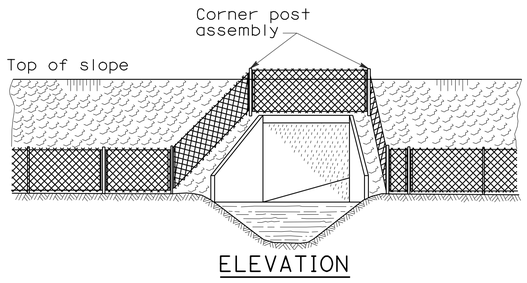


PLAN



ELEVATION

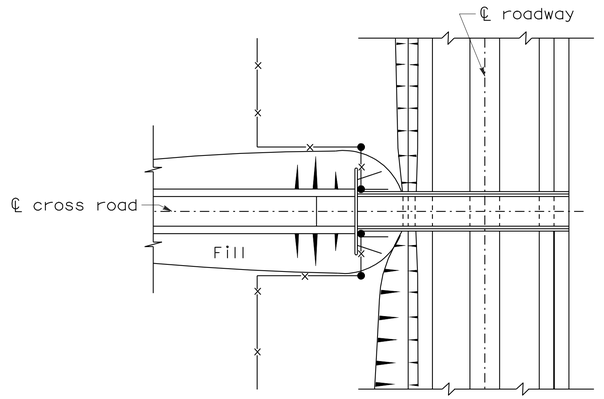
INSTALLATION OVER STREAM



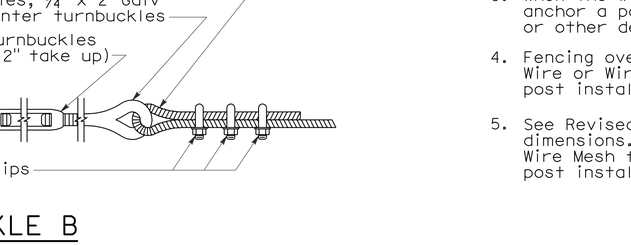
ELEVATION

INSTALLATION AROUND HEADWALL

See Note 4

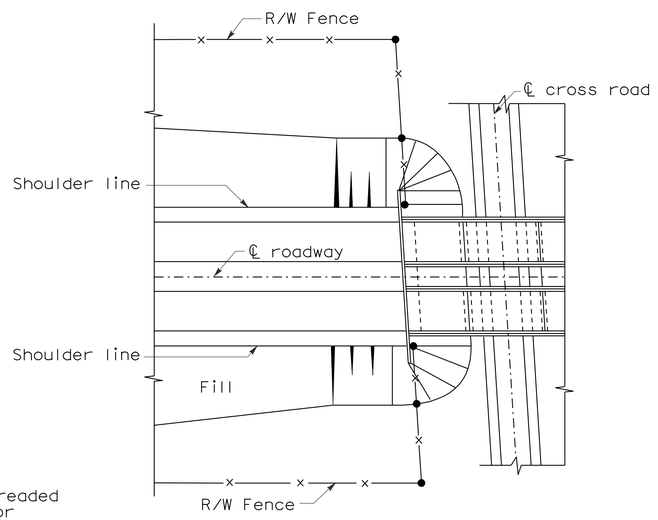


PLAN OF ROADWAY - UNDERPASS



ABUTMENT CONNECTION

TYPICAL INSTALLATION AT BRIDGES



PLAN OF ROADWAY - OVERPASS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CHAIN LINK FENCE DETAILS

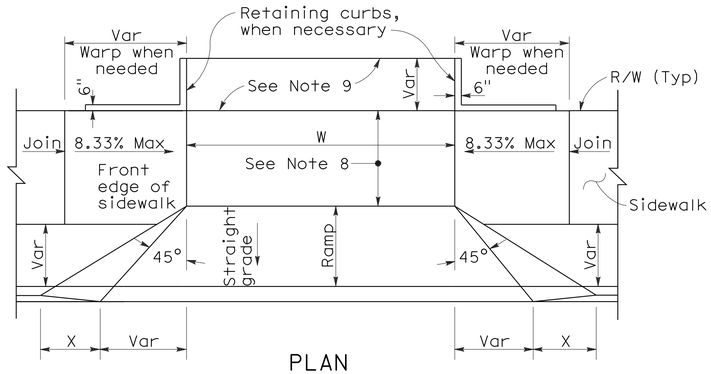
NO SCALE

NSP A85B DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

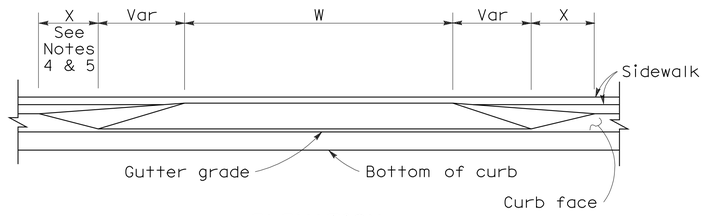
NEW STANDARD PLAN NSP A85B

2006 NEW STANDARD PLAN NSP A85B

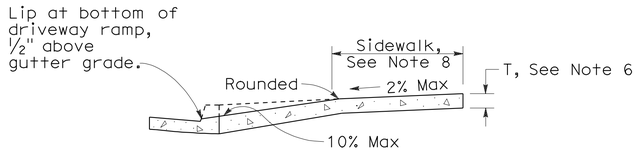
5-12-09



PLAN

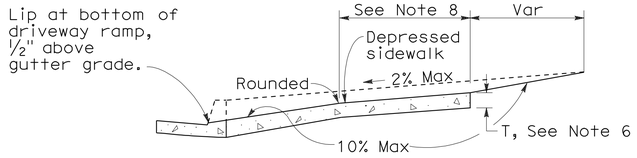


ELEVATION



CASE A

Typical driveway, sidewalk not depressed



CASE B

Driveway with depressed sidewalk

SECTIONS

CURB QUANTITIES

TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	471	607

REGISTERED CIVIL ENGINEER

November 17, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Michael Janzen — No. 44788 — Exp. 03-31-08 CIVIL — STATE OF CALIFORNIA

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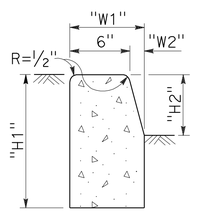
To accompany plans dated 11-1-10

TABLE A

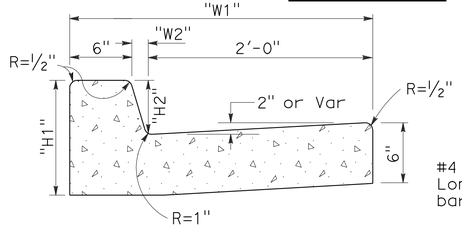
CURB TYPE	DIMENSIONS "H1"	"H2"	"W1"	"W2"
A1-6	1′-2"	6"	7½"	1½"
A1-8	1′-4"	8"	8"	2"
A2-6	1′-0"	6"	2′-7½"	1½"
A2-8	1′-2"	8"	2′-8"	2"
A3-6	6"	5"	7¼"	1¼"
A3-8	8"	7"	7¾"	1¾"
B1-4	1′-0"	4"	7½"	2½"
B1-6	1′-2"	6"	9"	4"
B2-4	10"	4"	2′-7½"	2½"
B2-6	1′-0"	6"	2′-9"	4"
B3-4	4"	3"	7"	2"
B3-6	6"	5"	8½"	3½"
D-4	10"	4"	1′-6"	1′-1"
D-6	1′-0"	6"	2′-2"	1′-8"

DRIVEWAYS



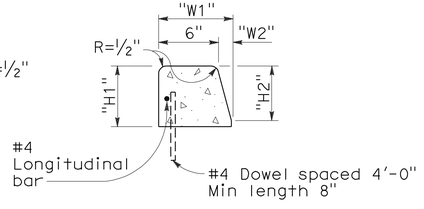
TYPE A1 CURBS

See Table A



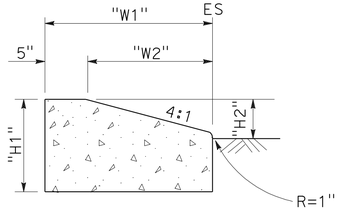
TYPE A2 CURBS

See Table A



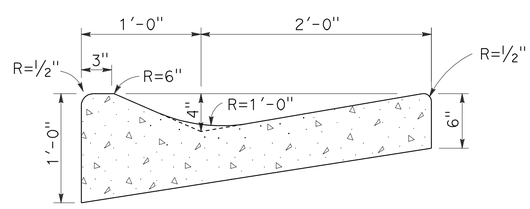
TYPE A3 CURBS

Superimposed on existing pavement
See Table A

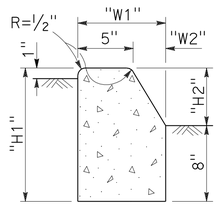


TYPE D CURBS

See Table A

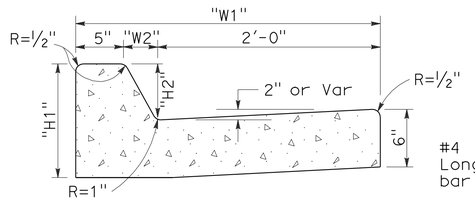


TYPE E CURB



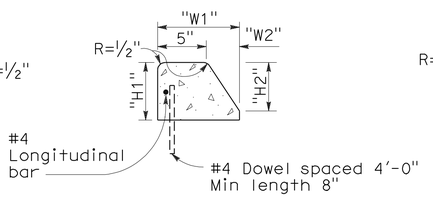
TYPE B1 CURBS

See Table A



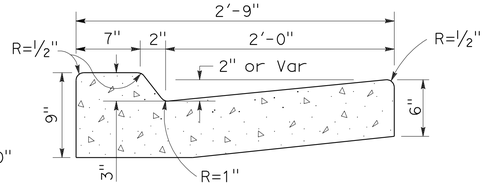
TYPE B2 CURBS

See Table A

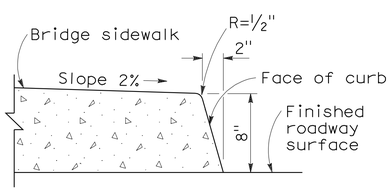


TYPE B3 CURBS

Superimposed on existing pavement
See Table A



TYPE B4 CURBS



TYPE H CURB

On Bridges

NOTES:

1. Case A driveway section typically applies.
2. Use Case B driveway section when ramp slopes would exceed 10% in Case A.
3. Use Case B driveway section when sidewalk cross slope would exceed 2% in Case A.
4. X=3′-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.

CURBS

5. X is a variable when sidewalk is located where wheelchairs may traverse the surface. Slopes shall not exceed 8.33%.
6. Sidewalk and ramp thickness "T" at driveway shall be 4" for residental and 6" for commercial.
7. Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5′-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
8. Minimum width of clear passageway for sidewalk shall be 4′-0".
9. Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
10. Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2′-0" of width.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURBS AND DRIVEWAYS

NO SCALE

RSP A87A DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN A87A
DATED MAY 1, 2006 - PAGE 113 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A87A

2006 REVISED STANDARD PLAN RSP A87A

10-25-06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	472	607

William K. Farnbach
REGISTERED CIVIL ENGINEER

May 15, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. C49042 — Exp. 9-30-10 CIVIL — STATE OF CALIFORNIA

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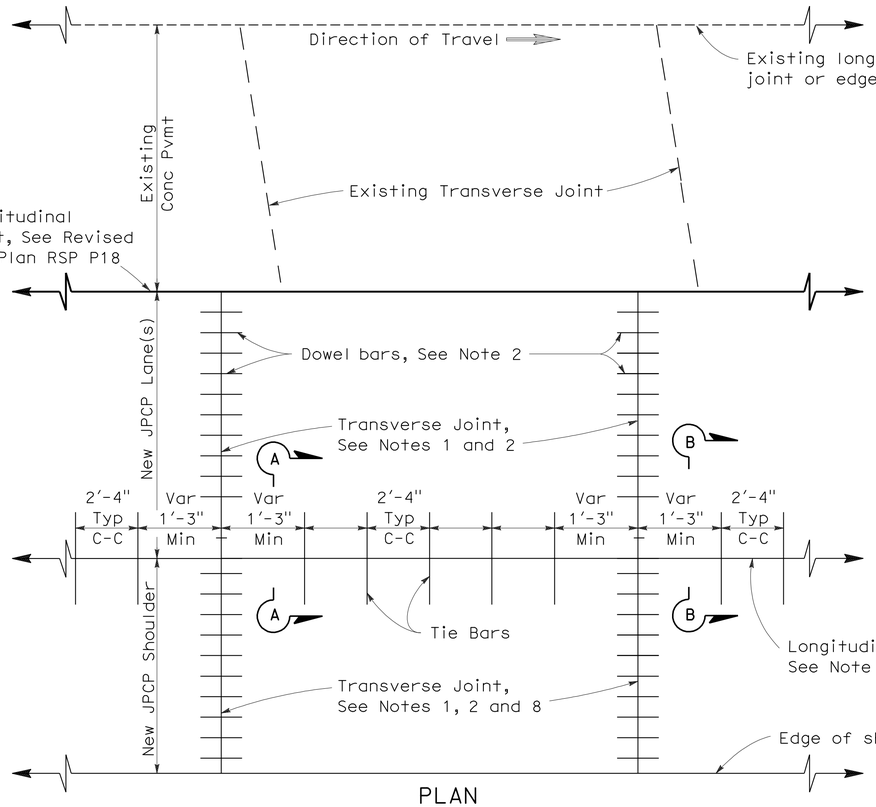
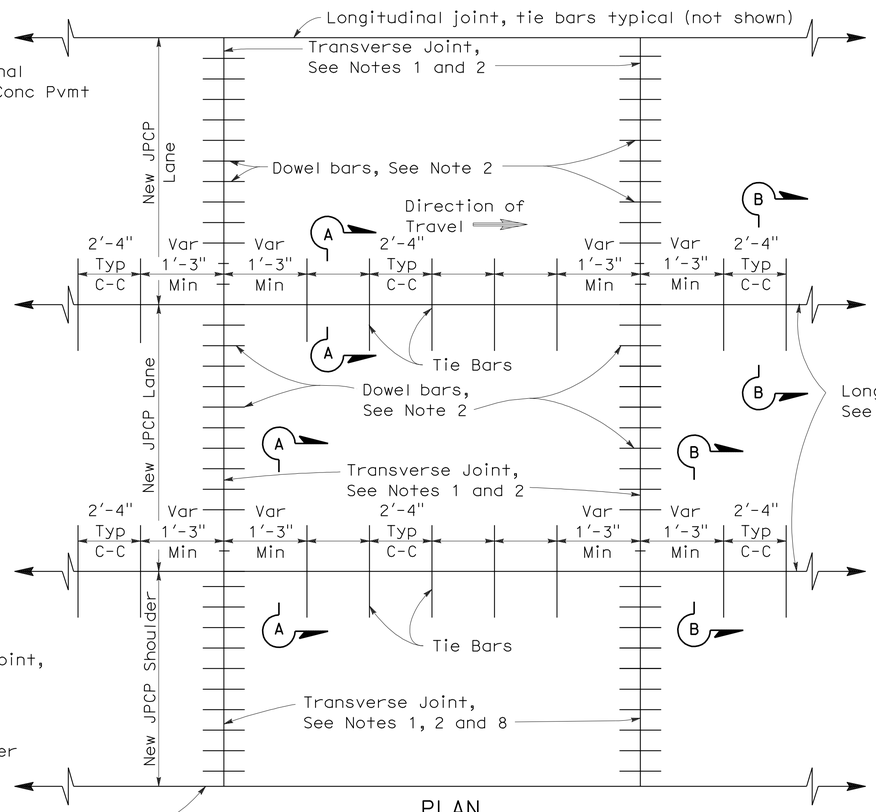
To accompany plans dated 11-1-10



PLAN

LANE/SHOULDER ADDITION OR RECONSTRUCTION

See Notes 6 and 7



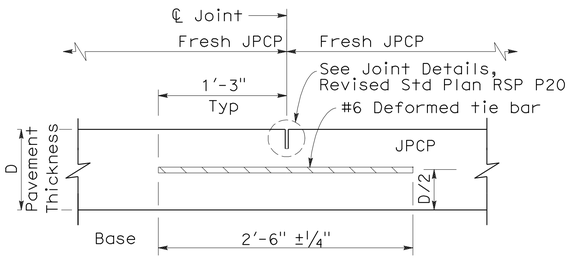
PLAN

NEW CONSTRUCTION

See Notes 6 and 7

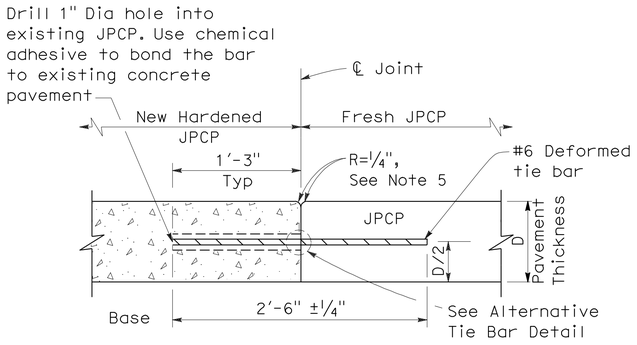
NOTES:

1. Transverse joints shall be constructed at right angles to the longitudinal pavement joints in new jointed plain concrete pavement and spaced at successive repeated intervals of 12', 15', 13' and 14'.
2. For transverse joint and dowel bar details not shown, See Revised Standard Plan RSP P10.
3. Construct longitudinal contraction joints as shown in Section A-A when more than one lane or shoulder widths are placed at one time. If constructing one lane at a time, use longitudinal construction joint, as shown in Section B-B.
4. For additional longitudinal joint details, see Revised Standard Plan RSP P18.
5. If fresh concrete is placed adjacent to existing concrete, the top corner of the new hardened concrete does not need to be rounded to the 1/4" radius as shown.
6. Joint spacing patterns do not apply to intersections.
7. Details can also apply to inside widening.
8. Dowel bars may be omitted from shoulders when the shoulder cross slope is not the same as the adjacent traffic lane.



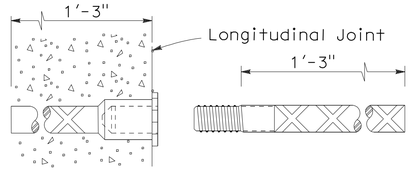
SECTION A-A

LONGITUDINAL CONTRACTION JOINT



SECTION B-B

LONGITUDINAL CONSTRUCTION JOINT



ALTERNATIVE TIE BAR SPLICE DETAIL

(Splice Coupler)

TIE BAR DETAILS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

JOINTED PLAIN CONCRETE PAVEMENT

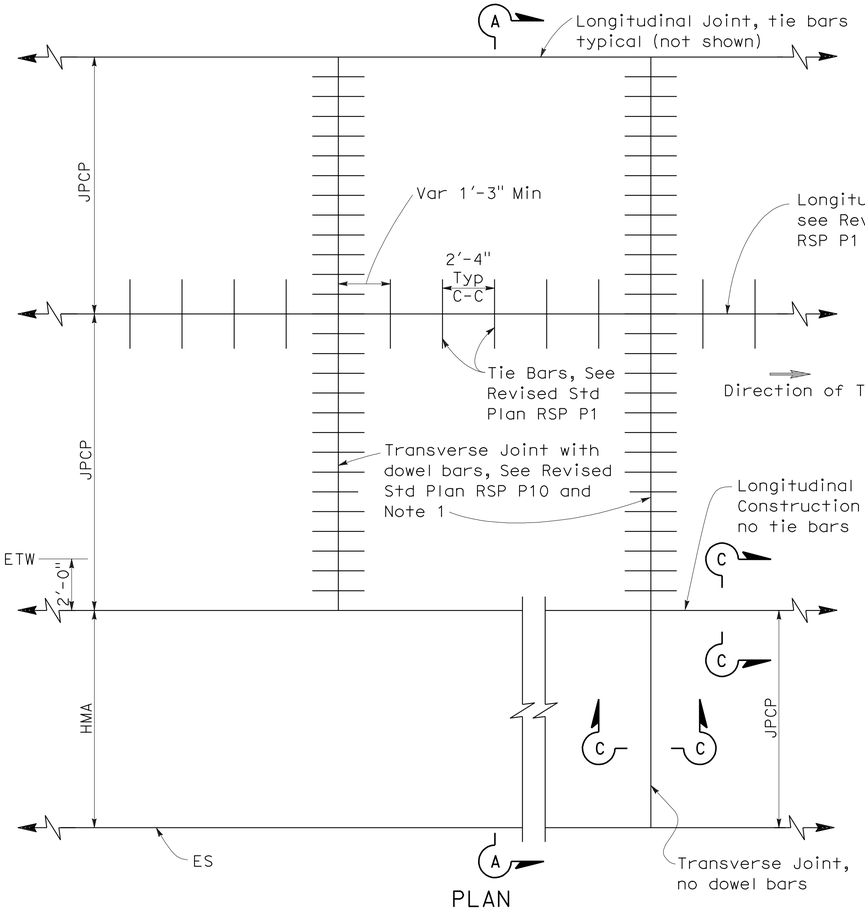
NO SCALE

RSP P1 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P1
DATED MAY 1, 2006 - PAGE 119 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P1

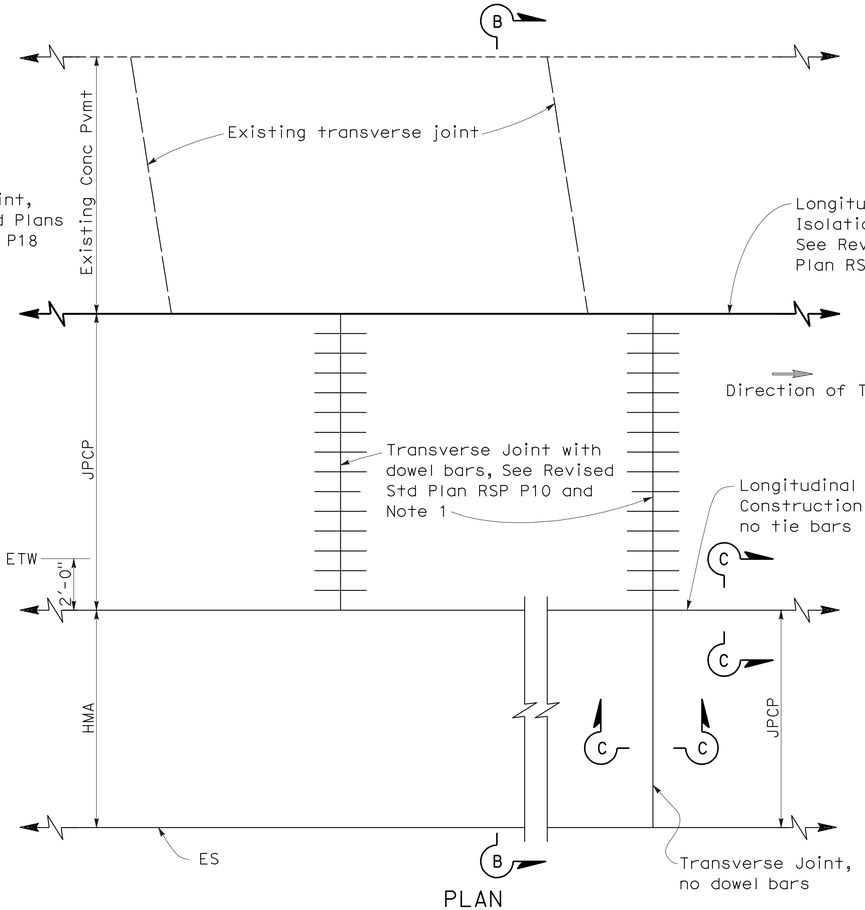
2006 REVISED STANDARD PLAN RSP P1

5-8-09



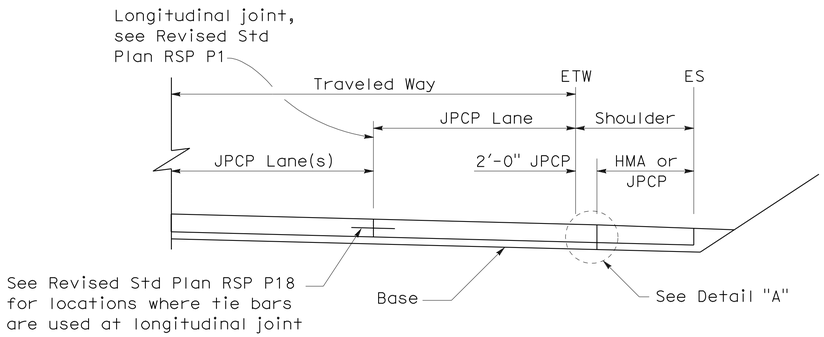
PLAN

NEW CONSTRUCTION

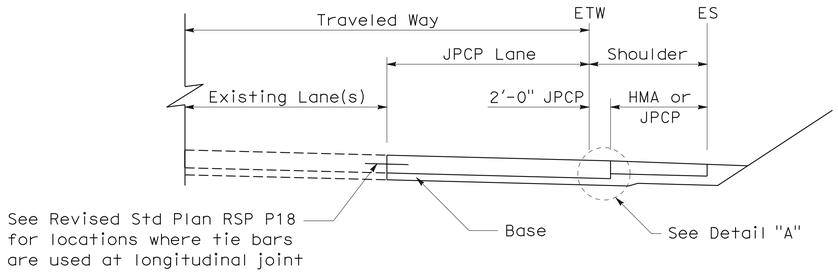


PLAN

LANE/SHOULDER ADDITION OR RECONSTRUCTION



SECTION A-A



SECTION B-B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	473	607

William K. Farnbach
REGISTERED CIVIL ENGINEER

June 5, 2009
PLANS APPROVAL DATE

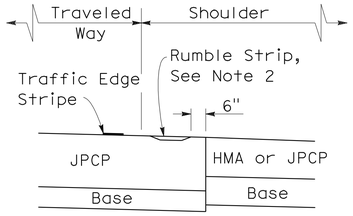
REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. C49042 — Exp. 9-30-10 CIVIL — STATE OF CALIFORNIA

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.

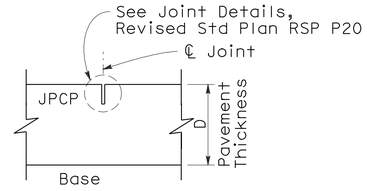
To accompany plans dated 11-1-10

NOTES:

1. Transverse joints shall be constructed at right angles to the longitudinal pavement joints in new Jointed Plain Concrete Pavement and spaced at successive repeated intervals of 12', 15', 13' and 14'.
2. For locations of rumble strips, see project plans. For rumble strip details not shown, see Standard Plans A40A and A40B.
3. Joint spacing patterns do not apply to intersections.



DETAIL "A"



SECTION C-C

TRANSVERSE/LONGITUDINAL JOINT

(no dowel bars/tie bars)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

JOINTED PLAIN CONCRETE PAVEMENT-WIDENED SLAB DETAILS

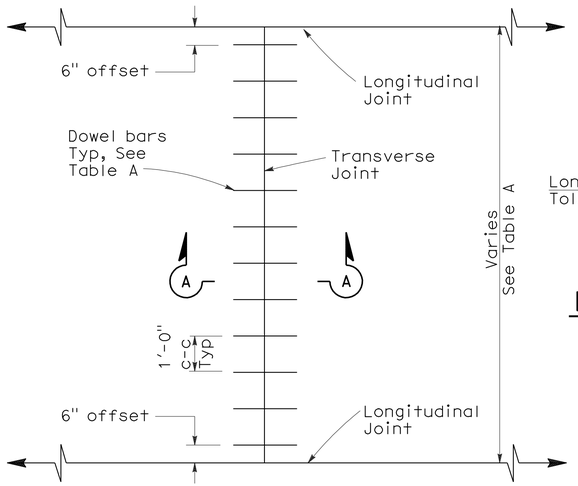
NO SCALE

RSP P2 DATED JUNE 5, 2009 SUPERCEDES STANDARD PLAN P2
DATED MAY 1, 2006 - PAGE 120 OF THE STANDARD PLANS BOOK DATED MAY 2006.

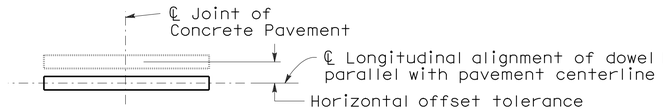
REVISED STANDARD PLAN RSP P2

2006 REVISED STANDARD PLAN RSP P2

5-19-09

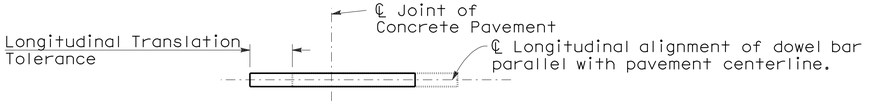


TRANSVERSE JOINT DOWEL BAR LAYOUT



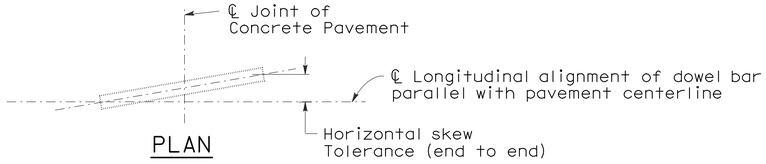
PLAN

HORIZONTAL OFFSET TOLERANCE



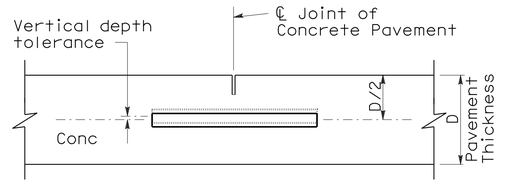
PLAN

LONGITUDINAL TRANSLATION TOLERANCE



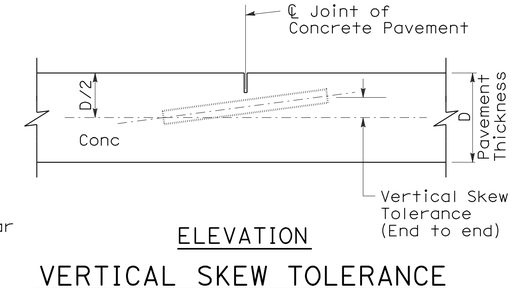
PLAN

HORIZONTAL SKEW TOLERANCE



ELEVATION

VERTICAL DEPTH TOLERANCE



ELEVATION

VERTICAL SKEW TOLERANCE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	474	607

William K. Farnbach
REGISTERED CIVIL ENGINEER

May 15, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. C49042 — Exp. 9-30-10 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.

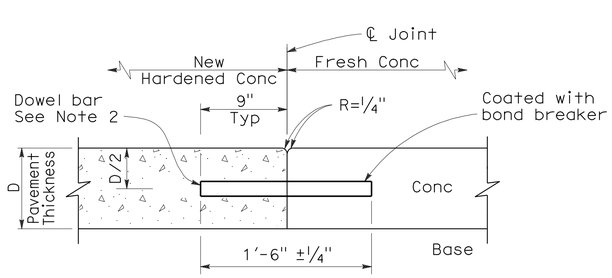
To accompany plans dated 11-1-10

NOTES:

1. See Revised Standard Plan RSP P1 for typical dowel bar placement and locations.
2. 1½" Dia smooth dowel bars are to be used with a pavement thickness, D, equal to or greater than 0.70 feet. For pavement thickness, D, less than 0.70 feet, use 1¼" Dia smooth dowel bars.
3. For widths not shown, see Project Plans.
4. If fresh concrete pavement is placed adjacent to existing concrete pavement, the top corner of the existing concrete pavement does not need to be rounded to the ¼" radius, as shown.

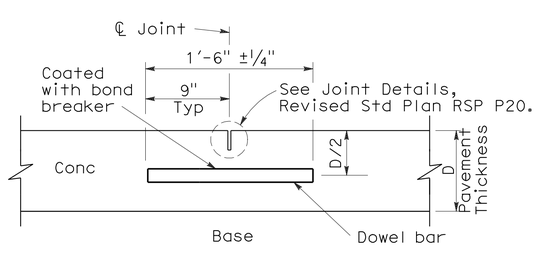
TABLE A (See Note 3)

Dowel Bar Transverse Spacing Table	
Width between Longitudinal Joints	Number of Dowels between Longitudinal Joints
14'-0"	14
13'-0"	13
12'-0"	12
11'-0"	11
10'-0"	10
8'-0"	8
5'-0"	5
4'-0"	4

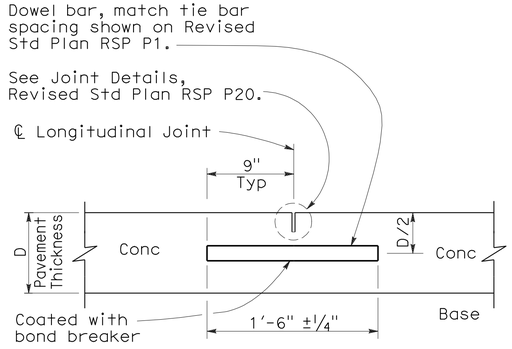


SECTION A-A

TRANSVERSE CONSTRUCTION JOINT DETAIL

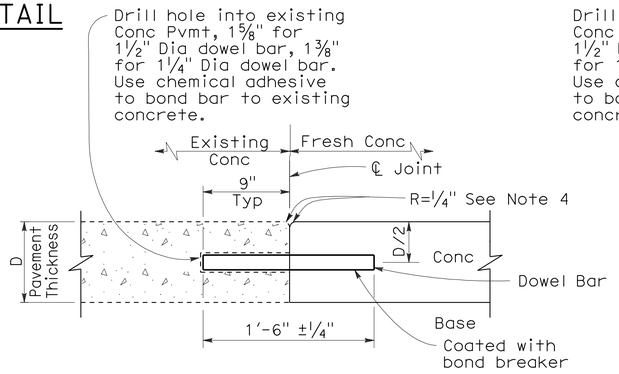


TRANSVERSE CONTRACTION JOINT



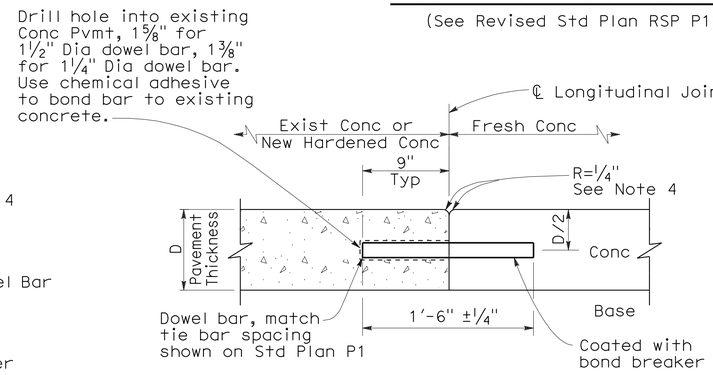
LONGITUDINAL CONTRACTION JOINT WITH DOWEL BARS

(See Revised Std Plan RSP P18)



TRANSVERSE CONSTRUCTION JOINT FOR EXISTING CONCRETE PAVEMENT

(Drill and bond locations)



LONGITUDINAL CONSTRUCTION JOINT WITH DOWEL BARS

(See Revised Std Plan RSP P18)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-DOWEL BAR DETAILS

NO SCALE

RSP P10 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P10
DATED MAY 1, 2006 - PAGE 124 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P10

2006 REVISED STANDARD PLAN RSP P10

5-8-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	475	607

William K. Farnbach
REGISTERED CIVIL ENGINEER

May 15, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. C49042 — Exp. 9-30-10 CIVIL — STATE OF CALIFORNIA

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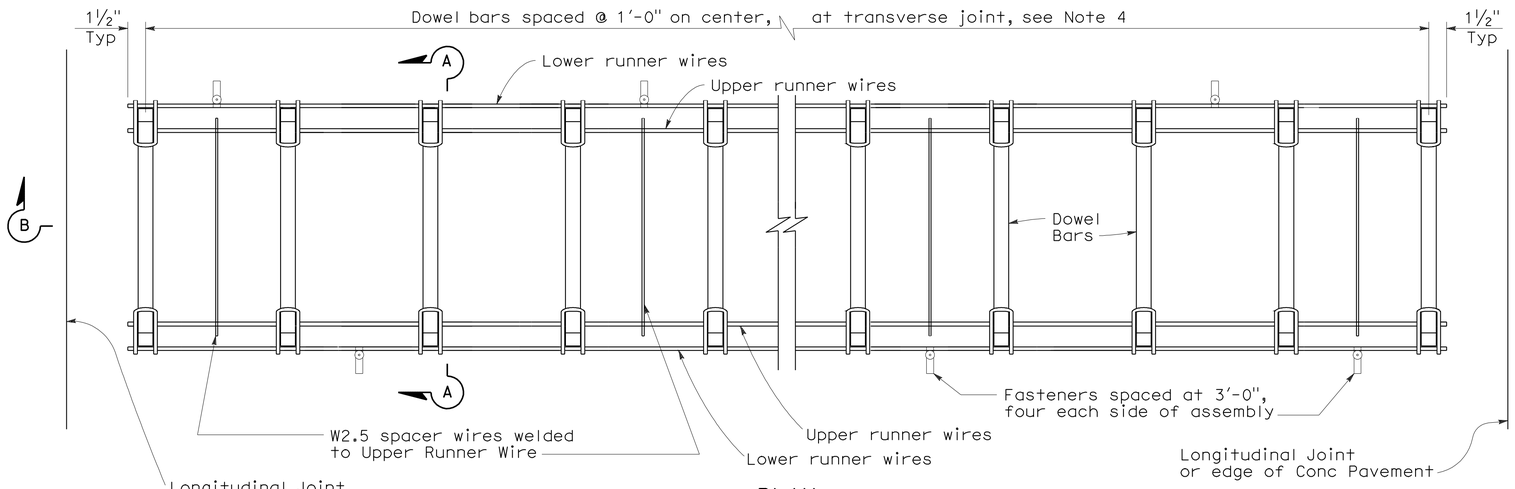
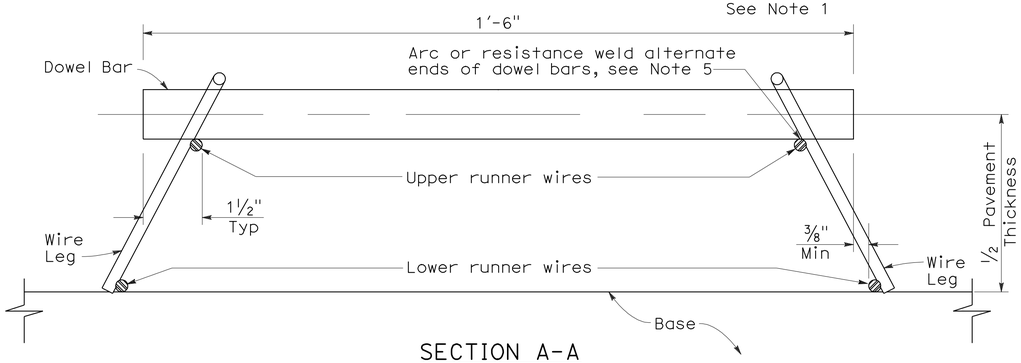
To accompany plans dated 11-1-10



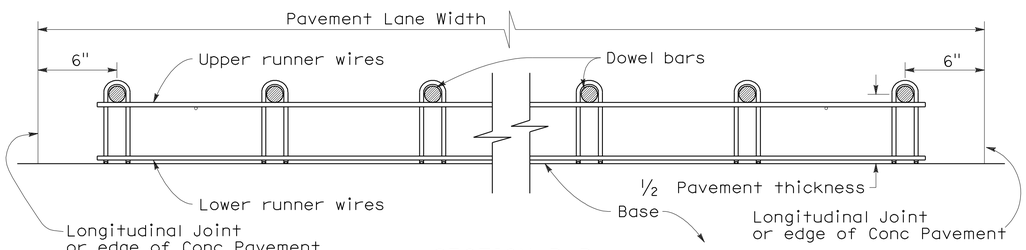
PLAN

DOWEL BAR BASKET (TRANSVERSE JOINT)

See Note 1

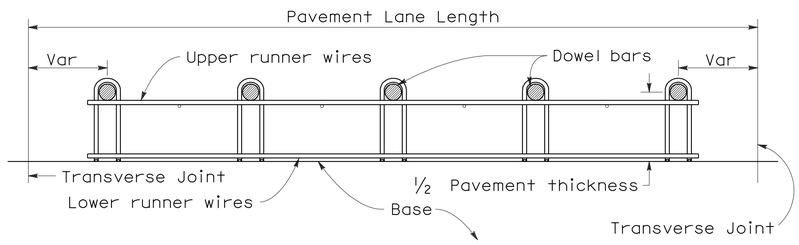


SECTION A-A



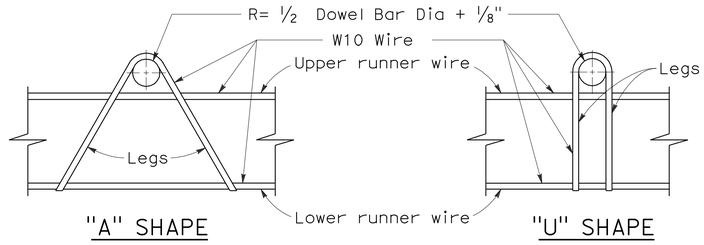
SECTION B-B

See Note 1



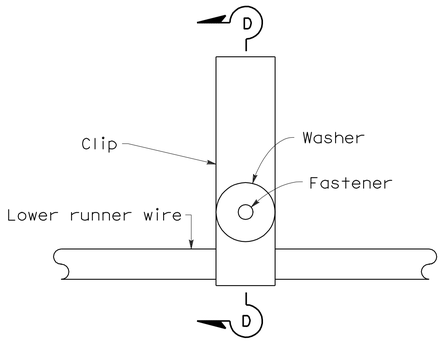
SECTION C-C

See Notes 1 and 4

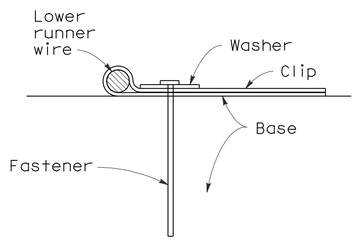


"A" SHAPE "U" SHAPE

ASSEMBLY FRAME DETAILS

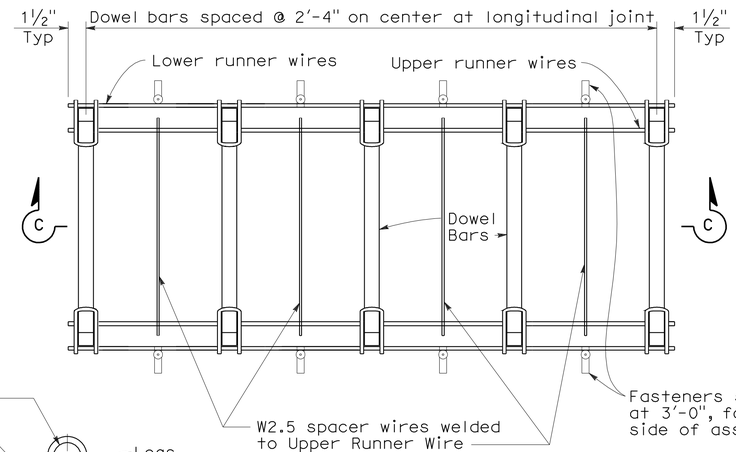


PLAN



SECTION D-D

FASTENER DETAIL



PLAN

DOWEL BAR BASKET (LONGITUDINAL JOINT)

See Note 1

NOTES:

1. "U" frame shape assembly shown. "U" frame shape or "A" frame shape are acceptable.
2. Wire sizes shown are minimum required.
3. All wire intersections are to be resistance welded.
4. Use tie bar spacing for longitudinal dowel bar locations. See Revised Std Plans RSPs P1, P2, and P3 for tie bar requirements.
5. Weld may be at top or bottom of dowel bar.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-DOWEL BAR BASKET DETAILS

NO SCALE

RSP P12 DATED MAY 15, 2009 SUPERSEDES RSP P12 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P12 DATED MAY 1, 2006 - PAGE 125 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P12

2006 REVISED STANDARD PLAN RSP P12

5-8-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	476	607

William K. Farnbach
REGISTERED CIVIL ENGINEER

May 15, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. C49042 — Exp. 9-30-10 CIVIL — STATE OF CALIFORNIA

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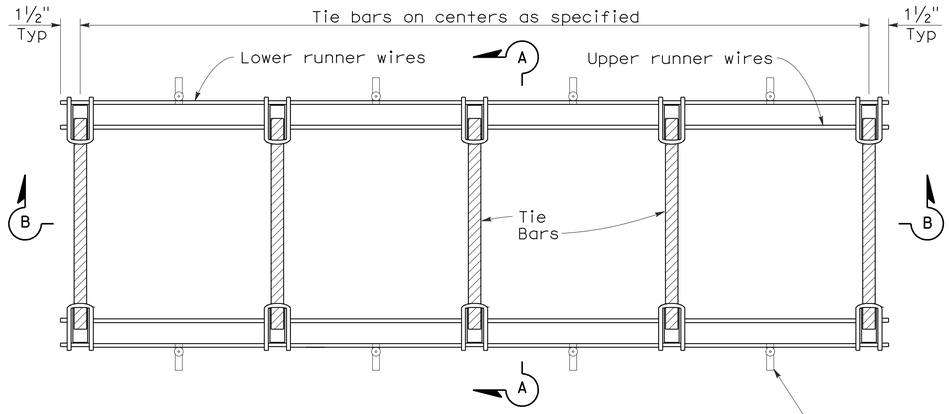
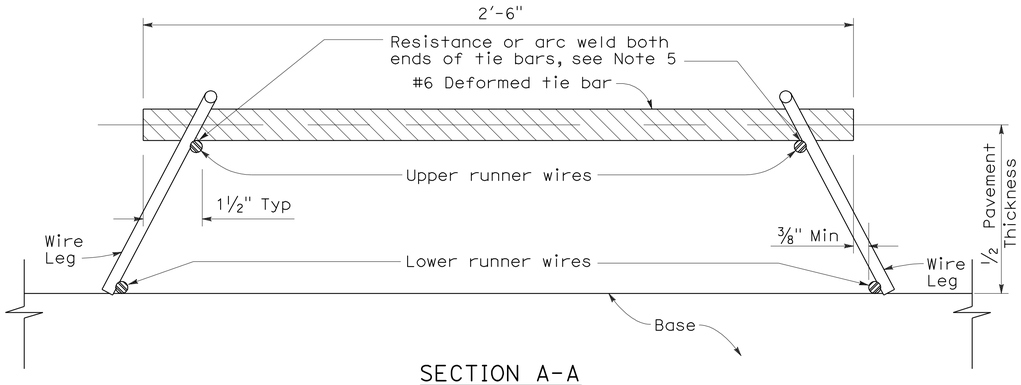
To accompany plans dated 11-1-10



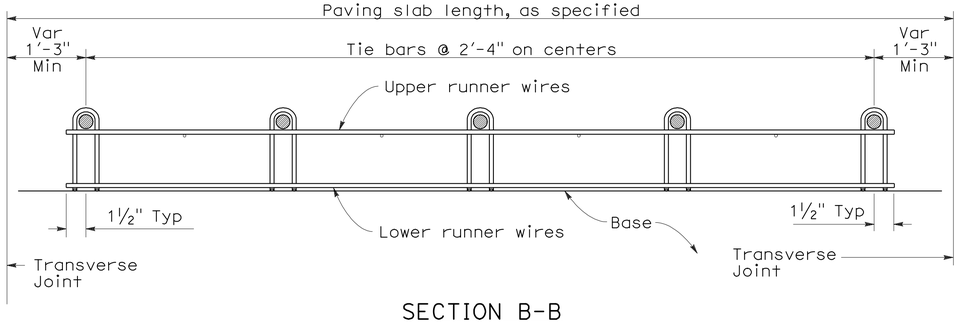
PLAN

TIE BAR BASKET

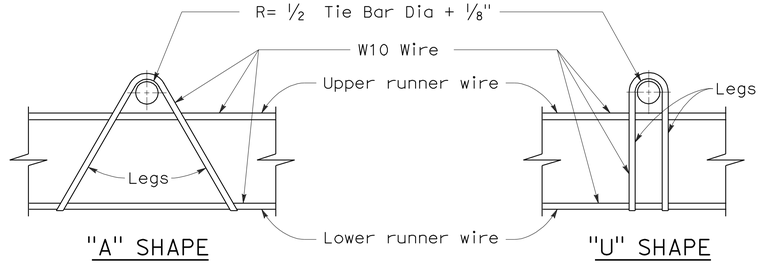
(TIE BARS AT LONGITUDINAL JOINT)
See Note 1



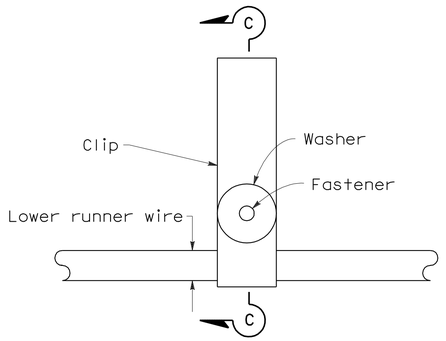
SECTION A-A



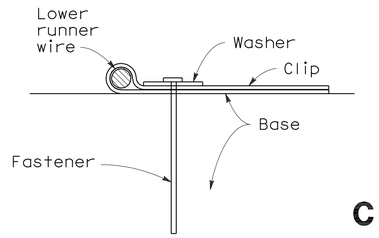
SECTION B-B
See Note 1



ASSEMBLY FRAME DETAILS



PLAN



SECTION C-C

FASTENER DETAIL

NOTES:

1. "U" frame shape assembly shown. "U" frame shape or "A" frame shape are acceptable.
2. Wire sizes shown are minimum required.
3. All wire intersections are to be resistance welded.
4. Not for use on nondoweled skewed jointed plain concrete pavement.
5. Weld may be at top or bottom of tie bar.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-TIE BAR BASKET DETAILS

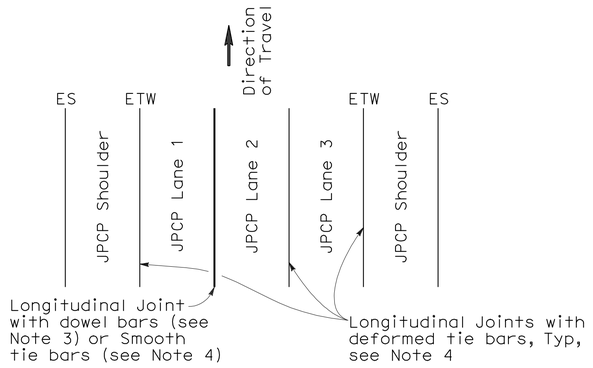
NO SCALE

RSP P17 DATED MAY 15, 2009 SUPERSEDES RSP P17 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P17 DATED MAY 1, 2006 - PAGE 126 OF THE STANDARD PLANS BOOK DATED MAY 2006.

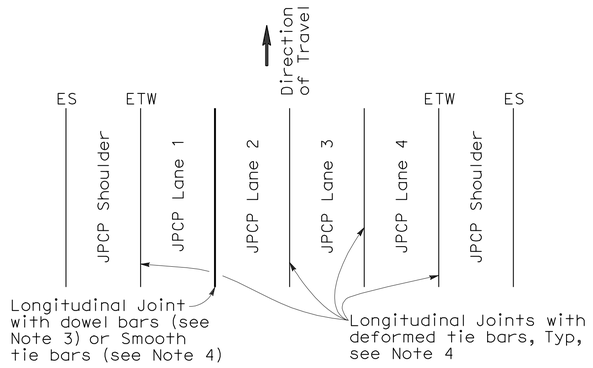
REVISED STANDARD PLAN RSP P17

2006 REVISED STANDARD PLAN RSP P17

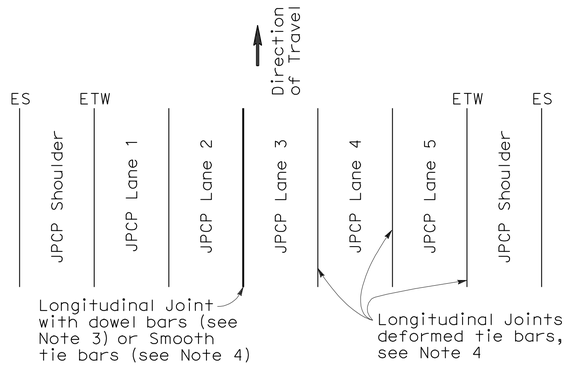
5-8-09



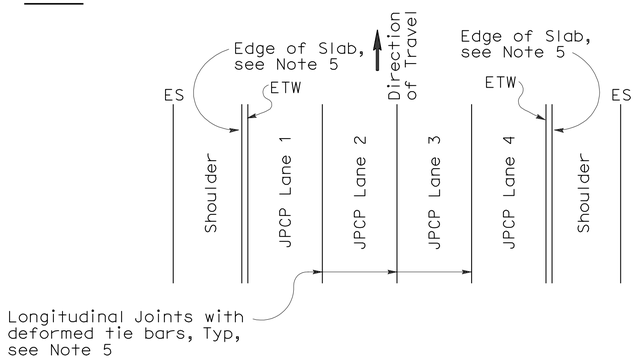
3 LANES WITH TIED CONCRETE SHOULDERS
PLAN



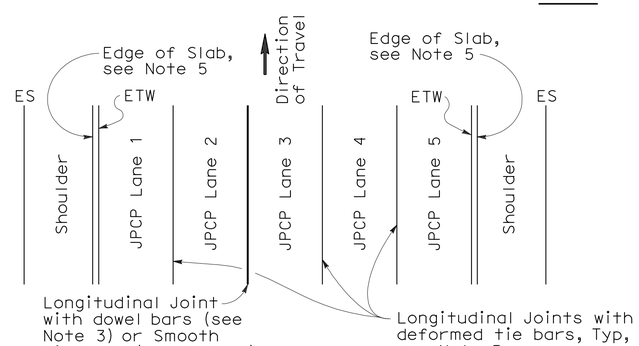
4 LANES WITH TIED CONCRETE SHOULDERS
PLAN



5 LANES WITH TIED CONCRETE SHOULDERS
PLAN



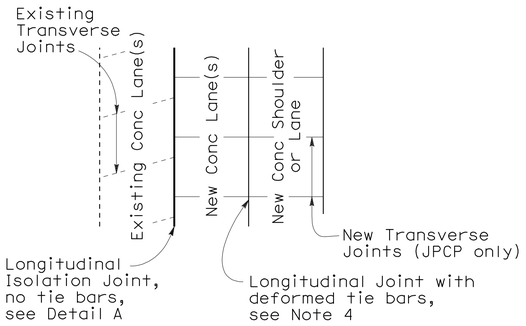
4 LANES OR LESS WITH WIDENED SLAB
PLAN



5 LANES WITH WIDENED SLAB
PLAN

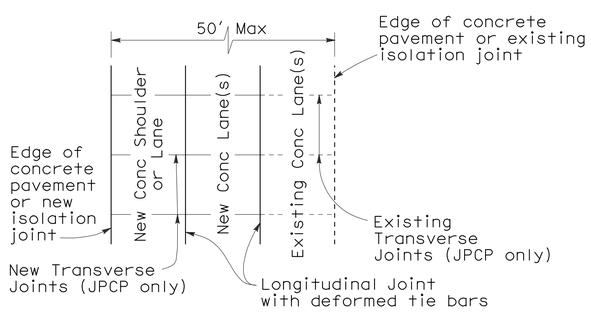
NEW CONSTRUCTION

Location of Longitudinal Joints
(For JPCP)



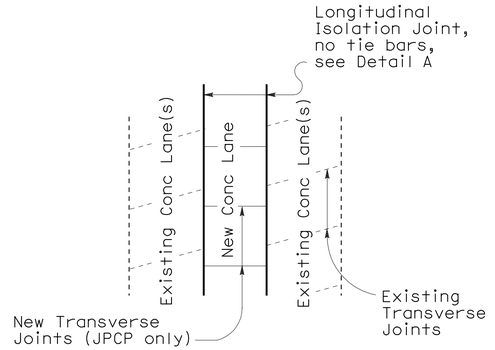
CASE 1
PLAN

Transverse Joints do not align between new and existing



CASE 2
PLAN

Transverse Joints align between new and existing

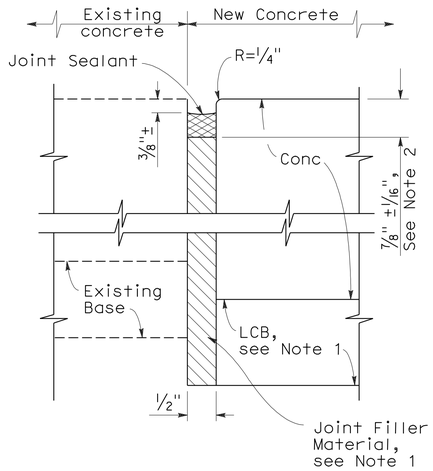


CASE 3 (INTERIOR LANE REPLACEMENT)
PLAN

Transverse Joints do not align between new and existing

LANE/SHOULDER ADDITION OR RECONSTRUCTION

(For JPCP and CRCP)



DETAIL A

ISOLATION JOINT

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	477	607

William K. Farnbach
REGISTERED CIVIL ENGINEER

June 5, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. C49042 — Exp. 9-30-10 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.

To accompany plans dated 11-1-10

NOTES:

1. Where Lean Concrete Base is not used as base material, the joint filler material used for the longitudinal isolation joint shall only extend to the bottom of the new concrete slab. See Detail A.
2. Use 5/8" ±1/16" dimension for silicone sealant.
3. See Revised Standard Plan RSP P10 for longitudinal joint with dowel bars.
4. See Revised Standard Plan RSP P1.
5. See Revised Standard Plan RSP P2.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-LANE SCHEMATICS AND ISOLATION JOINT DETAIL

NO SCALE

RSP P18 DATED JUNE 5, 2009 SUPERSEDES RSP P18 DATED MAY 15, 2009, RSP P18 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P18 DATED MAY 1, 2006 - PAGE 127 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P18

2006 REVISED STANDARD PLAN RSP P18

5-14-09

NOTE:

1. Tie bars, dowel bars, and reinforcement are not shown in joint seal details, see Revised Standard Plans RSP P1, RSP P3, RSP P10, RSP P35, RSP P45, or RSP P46 as applicable.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	478	607

William K. Farnbach
REGISTERED CIVIL ENGINEER

May 15, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. C49042 — Exp. 9-30-10 CIVIL — STATE OF CALIFORNIA

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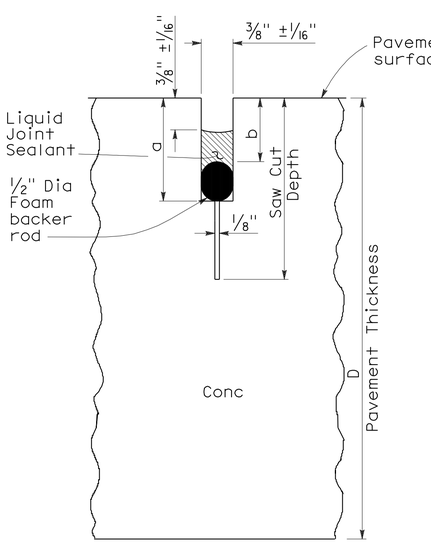
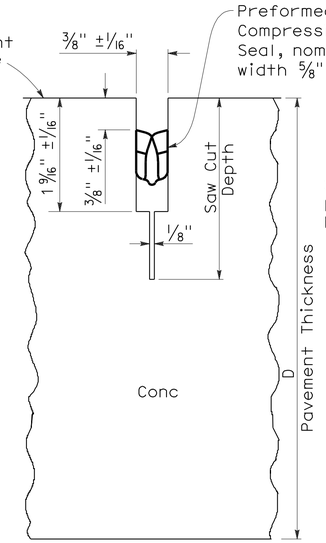
To accompany plans dated 11-1-10



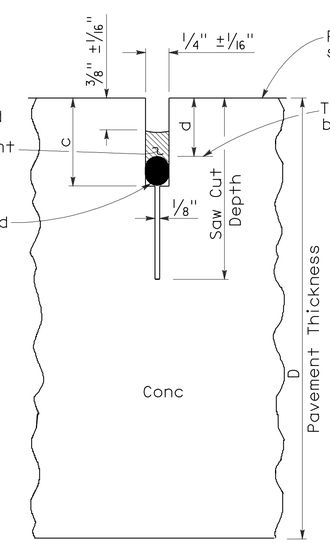
LIQUID SEALANT



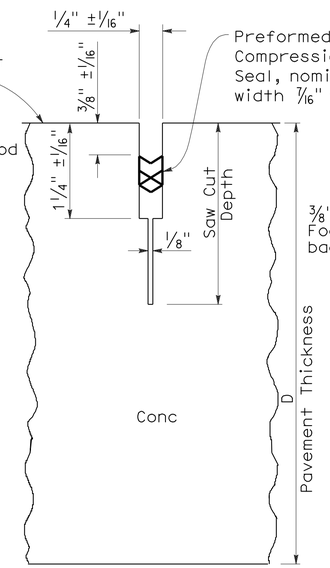
COMPRESSION SEAL

TYPE A1

Transverse Contraction Joints



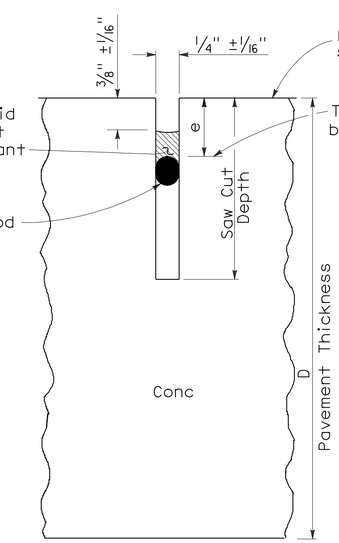
LIQUID SEALANT



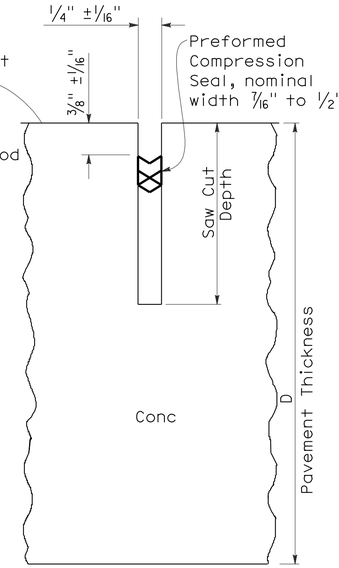
COMPRESSION SEAL

TYPE A2

Longitudinal Contraction Joints



LIQUID SEALANT



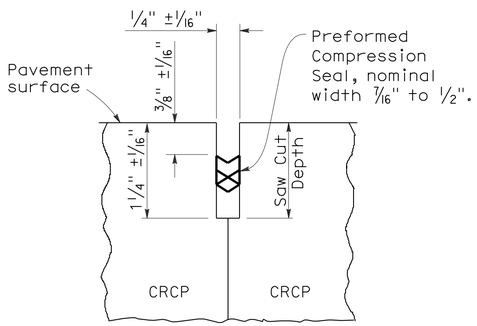
COMPRESSION SEAL

TYPE B

Longitudinal or Transverse Contraction Joint

LIQUID SEALANT RESERVOIR DEPTH

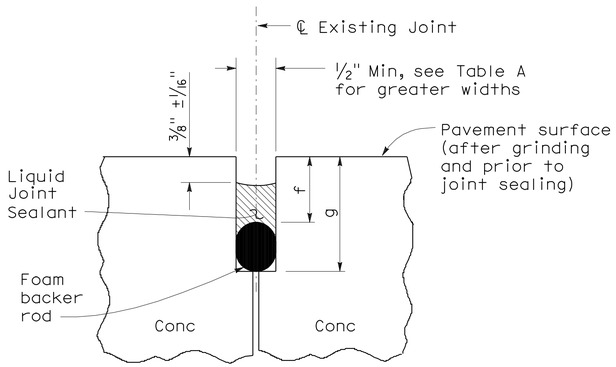
LIQUID SEALANT MATERIAL	3/8" Joint Width Type A1		1/4" Joint Width Type A2		1/4" Joint Width Type B
	DIMENSION		DIMENSION		DIMENSION
	a	b	c	d	e
SILCONE	1" ±1/16"	5/8" ±1/16"	15/16" ±1/16"	9/16" ±1/16"	9/16" ±1/16"
ASPHALT RUBBER	1 3/16" ±1/16"	3/4" ±1/16"	1 1/16" ±1/16"	11/16" ±1/16"	11/16" ±1/16"



COMPRESSION SEAL

TYPE C

Transverse and Longitudinal Construction Joints (For CRCP)



LIQUID SEALANT

TYPE R

Retrofit Transverse and Longitudinal Joints

TABLE A (TYPE R JOINT)

Sawn Joint Width	Backer Rod Diameter ± 1/16"	DIMENSION "f"	DIMENSION "g"
1"	1 5/16"	7/8"	2 1/4"
7/8"	1 3/16"	13/16"	2"
3/4"	1"	3/4"	1 3/4"
5/8"	7/8"	11/16"	1 1/2"
1/2"	11/16"	5/8"	1 1/4"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-JOINT DETAILS

NO SCALE

RSP P20 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P20
DATED MAY 1, 2006 - PAGE 128 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P20

2006 REVISED STANDARD PLAN RSP P20

5-8-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	479	607

William K. Farnbach
REGISTERED CIVIL ENGINEER

May 15, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. C49042 — Exp. 9-30-10 CIVIL — STATE OF CALIFORNIA

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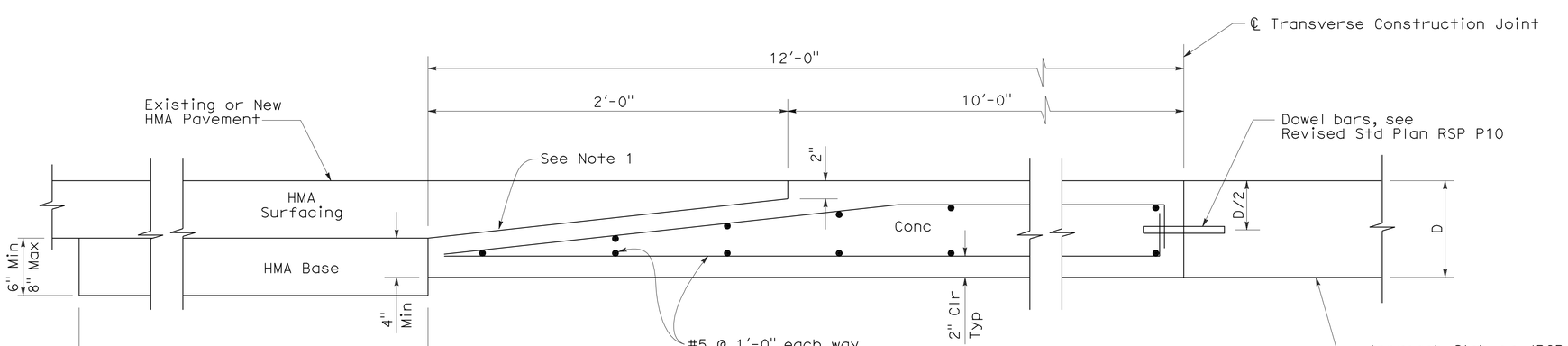
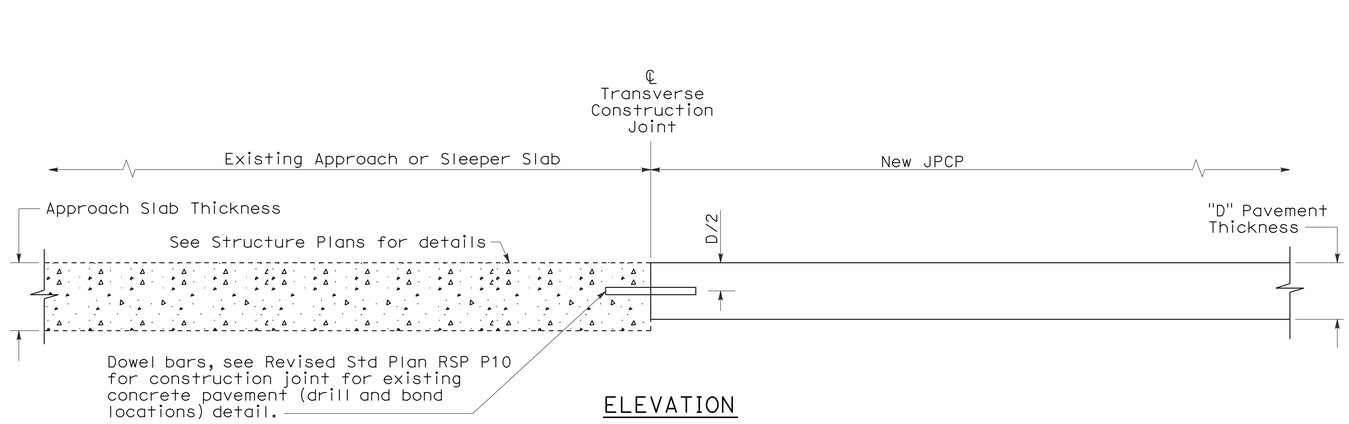
To accompany plans dated 11-1-10

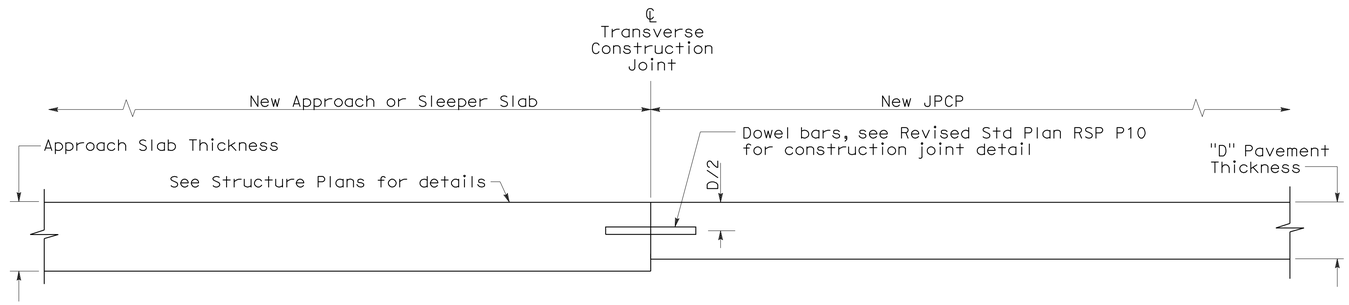


ELEVATION

CONCRETE PAVEMENT TO HOT MIXED ASPHALT PAVEMENT TRANSITION PANEL

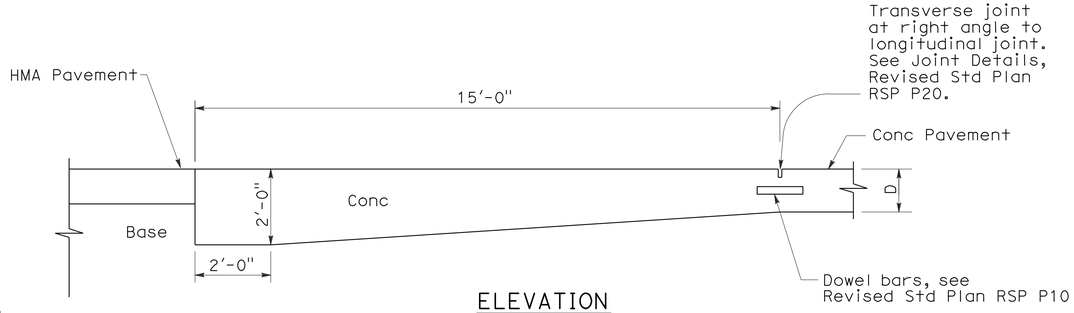


ELEVATION



ELEVATION

CONCRETE PAVEMENT TRANSITION TO APPROACH OR SLEEPER SLAB



ELEVATION

PAVEMENT END ANCHOR

NOTE:

1. Heavy broom finish.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

JOINTED PLAIN CONCRETE PAVEMENT - END PANEL PAVEMENT TRANSITIONS

NO SCALE

RSP P30 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P30
DATED MAY 1, 2006 - PAGE 129 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P30

2006 REVISED STANDARD PLAN RSP P30

5-8-09

NOTES:

1. Details for gore area paving are applicable to both exit and entrance ramps.
2. Transverse Joint Layouts are not shown. Refer to Revised Standard Plan RSP P1 or Project Plans for details regarding joint layouts, tie bars, and dowel bars not shown.
3. WWF 4 x 4 - W4.0 x W4.0 can be used in place of steel reinforcement for gore area paving only.
4. Omit longitudinal joint when concrete on ramp shoulder is less than 3'-0".
5. Place joint perpendicular to ramp longitudinal joints. Match location of joint with ramp transverse joints.
6. Place joint perpendicular to ramp longitudinal joints. Match location of joint with mainline transverse joints.
7. Isolation joint detail shown on Revised Standard Plan RSP P18.
8. For jointed plain concrete pavement, transverse joints to be spaced from fixed transverse joint and shall follow spacing pattern on Revised Standard Plan RSP P1. Minimum spacing shall be 6 feet.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	480	607

William K. Farnbach
REGISTERED CIVIL ENGINEER

May 15, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. C49042 — Exp. 9-30-10 CIVIL — STATE OF CALIFORNIA

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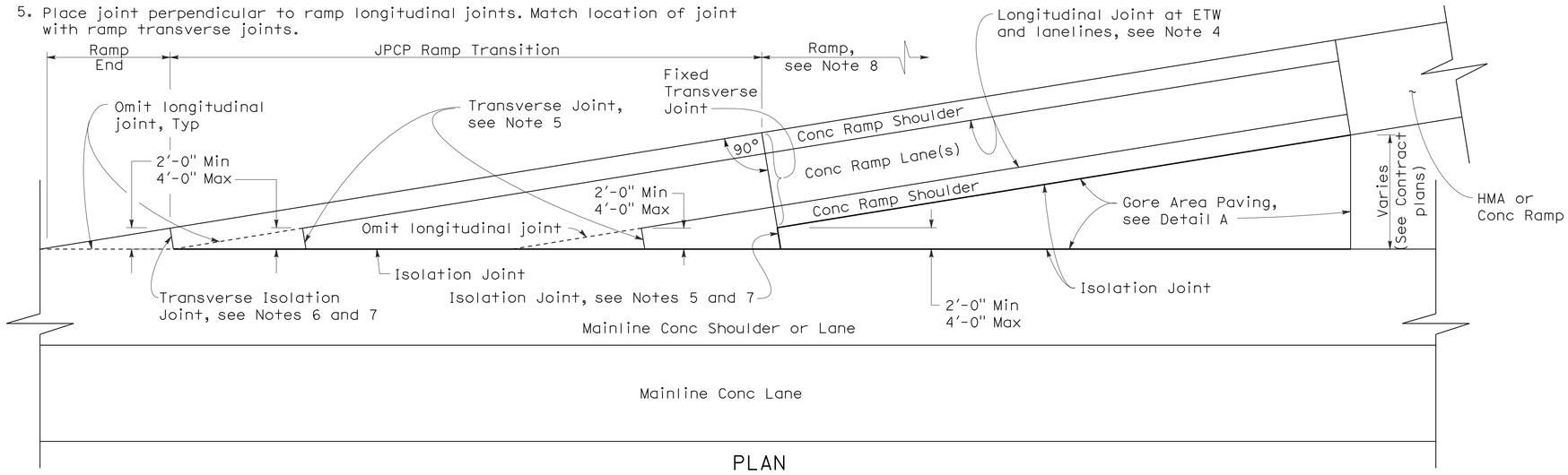
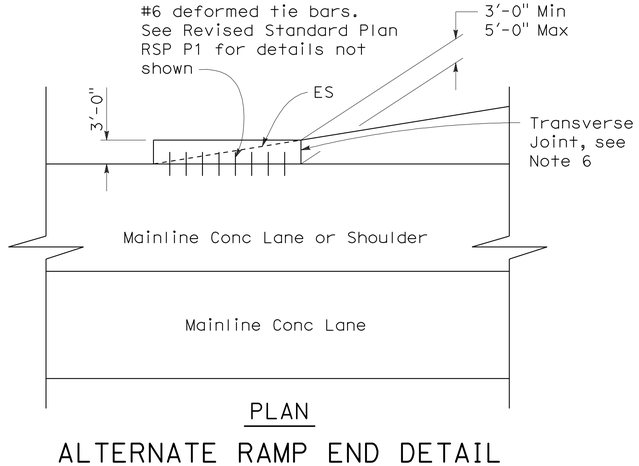
To accompany plans dated 11-1-10



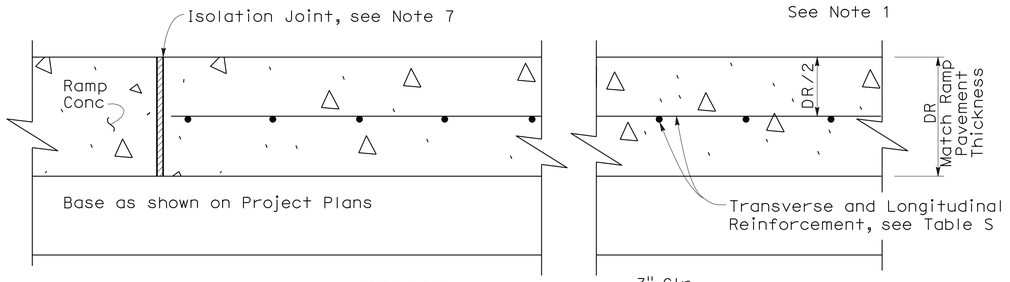
PLAN

RAMP TRANSITION DETAIL

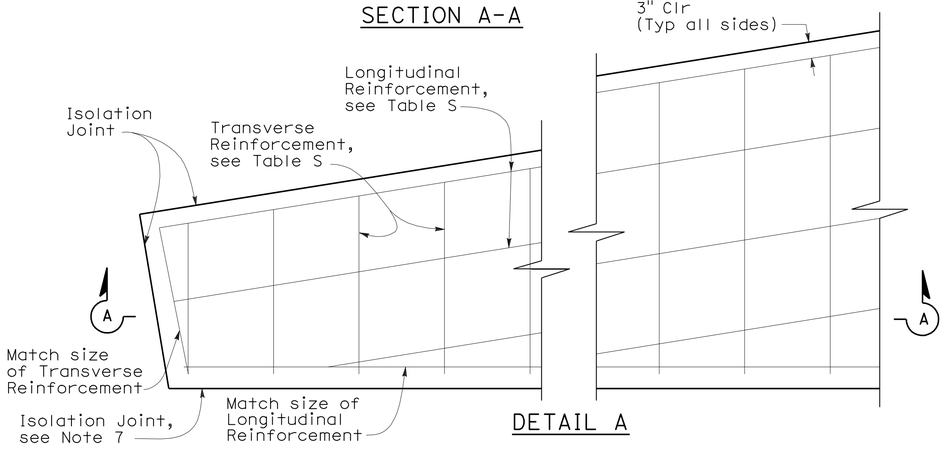


PLAN

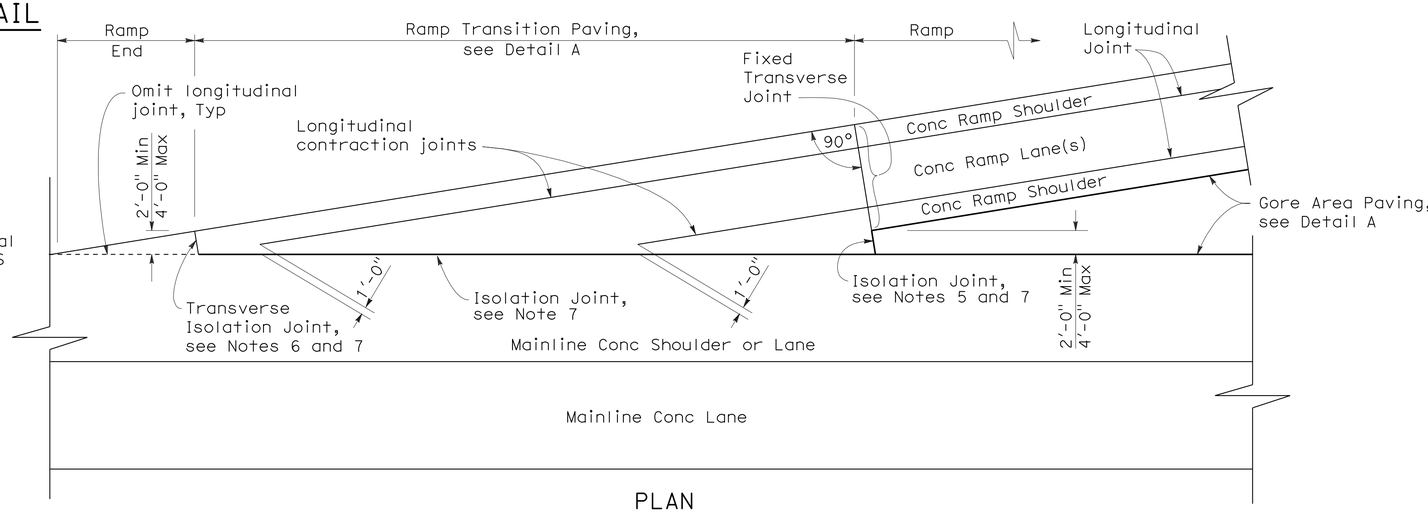
ALTERNATE RAMP END DETAIL



SECTION A-A



DETAIL A



PLAN

ALTERNATE RAMP TRANSITION DETAIL

(For JPCP and CRCP)

TABLE S

Location	Transverse Reinf	Longitudinal Reinf
Gore Area Paving	#4 @ 1'-0" *	#4 @ 1'-0" *
Ramp Transition (JPCP)	#6 @ 1'-6"	#6 @ 9"
Ramp Transition (CRCP)	See NSP P4, Table No. 2	See NSP P4, Table No. 1

* See Note 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-RAMP TRANSITION PAVING DETAILS

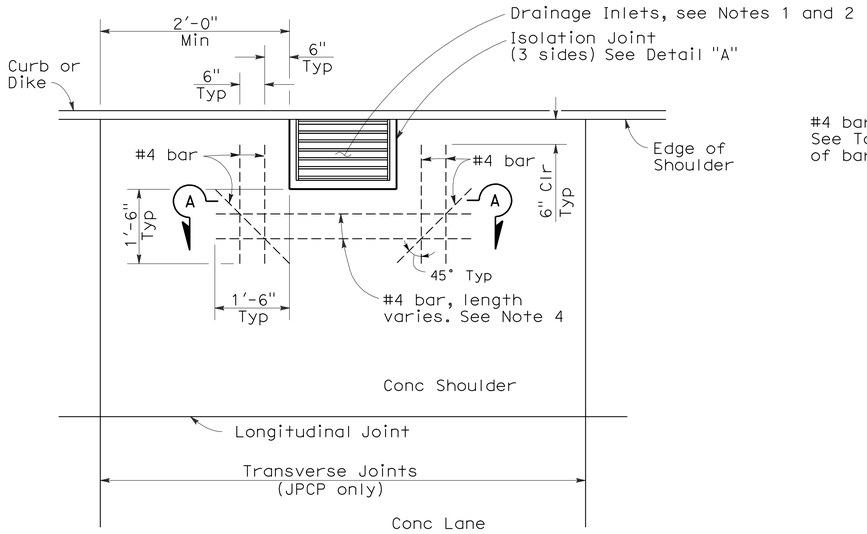
NO SCALE

RSP P35 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P35 DATED MAY 1, 2006 - PAGE 131 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P35

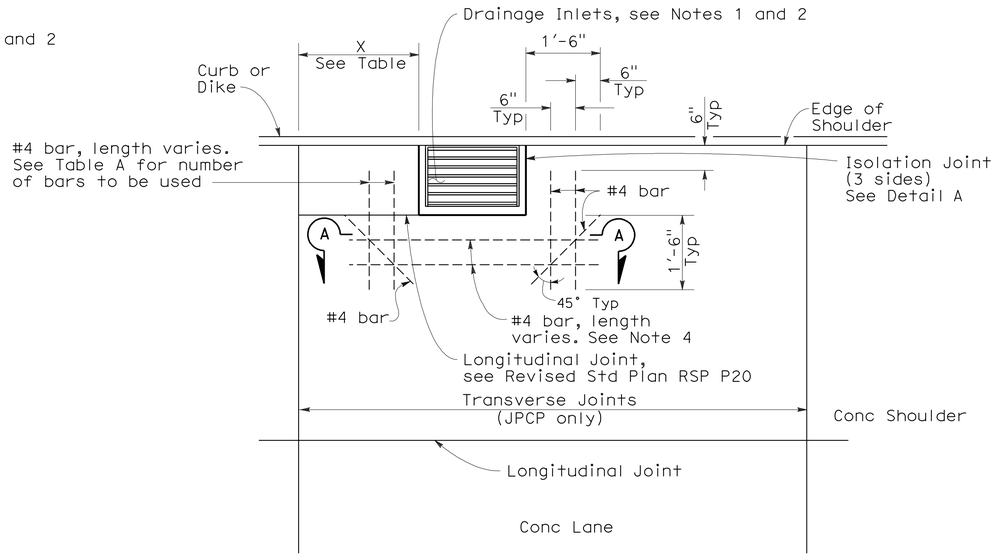
2006 REVISED STANDARD PLAN RSP P35

5-8-09



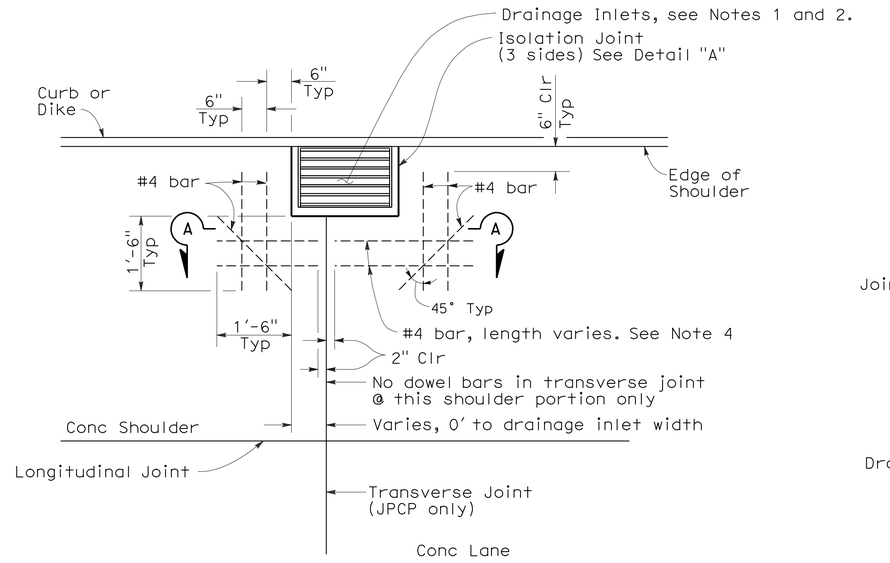
CASE 1

Transverse joint more than 2'-0" clear of drainage inlet wall or no transverse joint



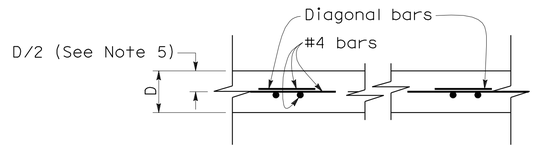
CASE 3

Transverse joint within 2'-0" of drainage inlet wall, or matches drainage inlet wall.



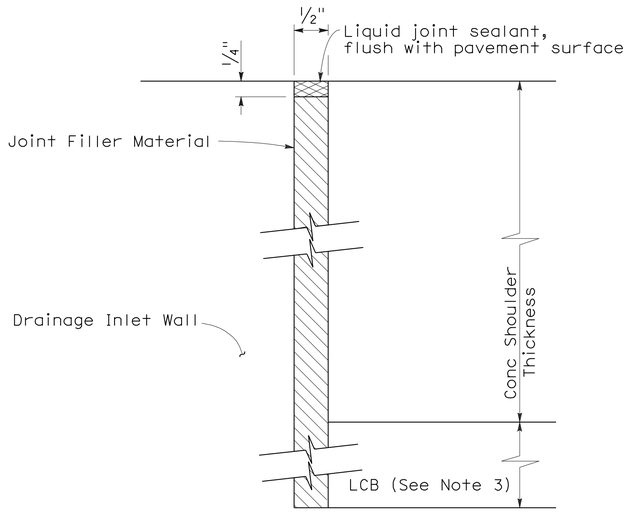
CASE 2

Transverse joint intersects drainage inlet, or matches drainage inlet wall.



SECTION A-A

D = Pavement Thickness



DETAIL "A"

ISOLATION JOINT AROUND DRAINAGE INLET

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	481	607

William K. Farnbach
REGISTERED CIVIL ENGINEER

May 15, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. C49042 — Exp. 9-30-10 — CIVIL — STATE OF CALIFORNIA

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To accompany plans dated 11-1-10

NOTES:

1. Refer to Project Plans for location and Type of drainage inlets.
2. Top of inlet shall be flush with shoulder surface.
3. Extend joint filler material to bottom of Lean Concrete Base. Where Lean Concrete Base is not used as base material, the joint filler material shall only extend to the bottom of the new concrete pavement.
4. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, terminate pavement steel reinforcement 2" clear from all outside edges of isolation joint.
5. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, see New Standard Plan NSP P4.
6. Dowel and tie bars not shown, see Revised Standard Plan RSP P1.

TABLE A

DISTANCE X	BARS REQUIRED
2'-0" to 1'-6"	2
1'-6" to 9"	1 @ X/2
9" or less	None

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-DRAINAGE INLET DETAILS No. 1

NO SCALE

RSP P45 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P45
DATED MAY 1, 2006 - PAGE 132 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P45

2006 REVISED STANDARD PLAN RSP P45

4-2-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	482	607

William K. Farnbach
REGISTERED CIVIL ENGINEER

May 15, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. C49042 — Exp. 9-30-10 CIVIL — STATE OF CALIFORNIA

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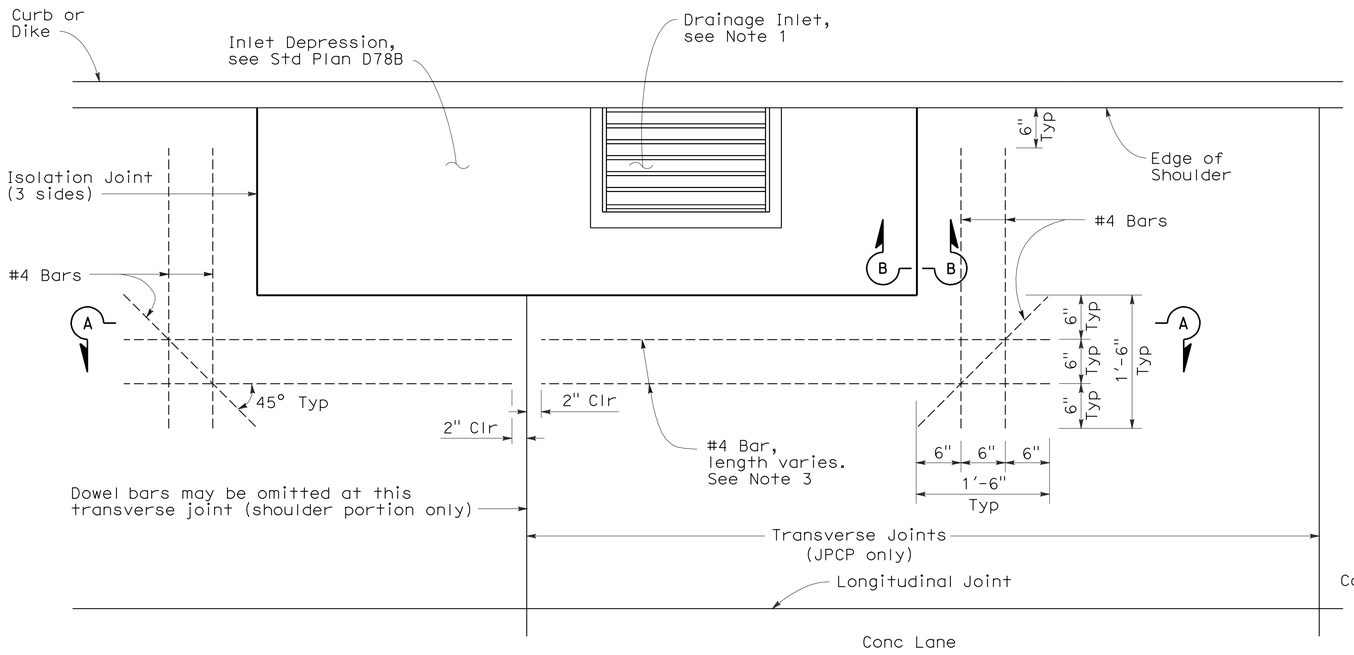
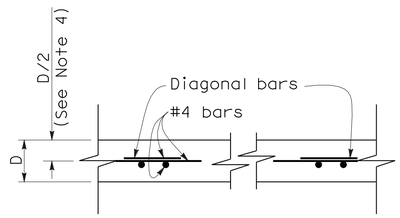
To accompany plans dated 11-1-10



CASE A

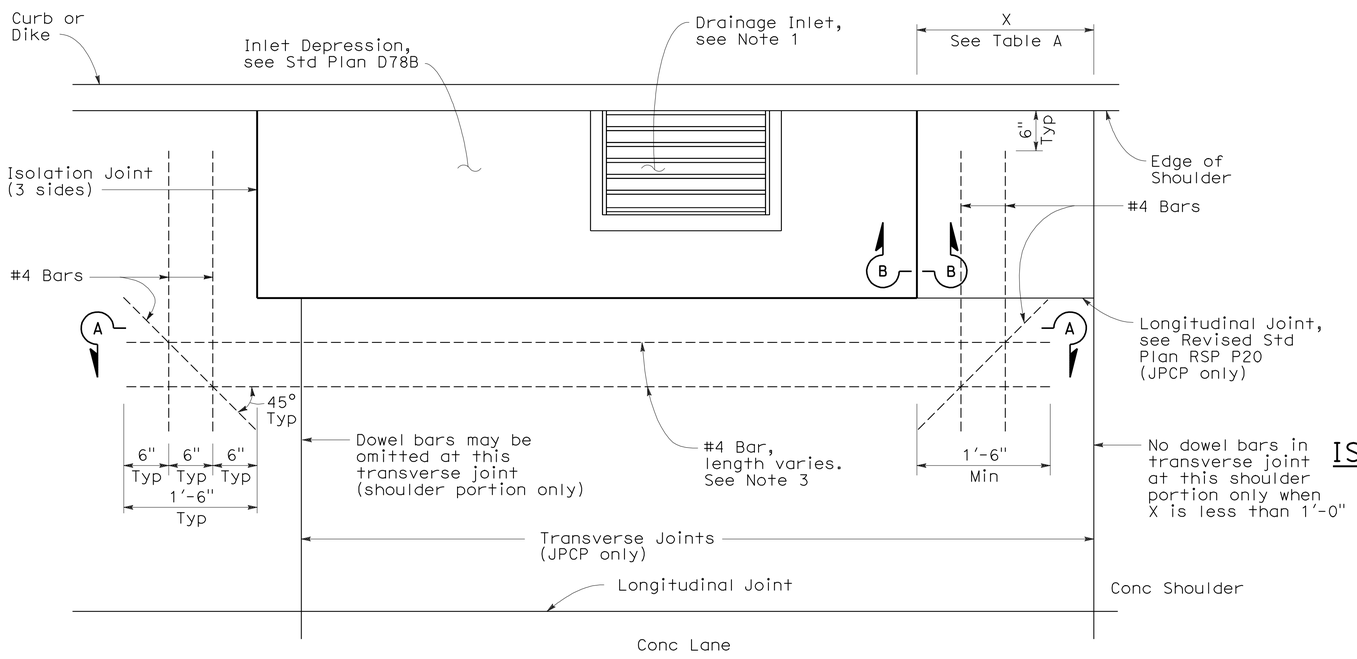
Transverse Joint intersects inlet depression or no transverse joints.



SECTION A-A
D = Pavement Thickness

TABLE A

DISTANCE X	BARS REQUIRED
2'-0" to 1'-6"	2
1'-6" to 1'-0"	1
1'-0" or less	None



CASE B

Transverse Joint within 2'-0" of edge of inlet depression.

SECTION B-B

ISOLATION JOINT AROUND INLET DEPRESSION

NOTES:

1. Refer to Project Plans for location and type of drainage inlets.
2. Extend joint filler material to bottom of Lean Concrete Base. Where Lean Concrete Base is not used as base material, the joint filler material shall only extend to the bottom of the new concrete pavement.
3. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, terminate pavement steel reinforcement 2" clear from all outside edges of isolation joint.
4. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, see New Standard Plan NSP P4.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-DRAINAGE INLET DETAILS No. 2

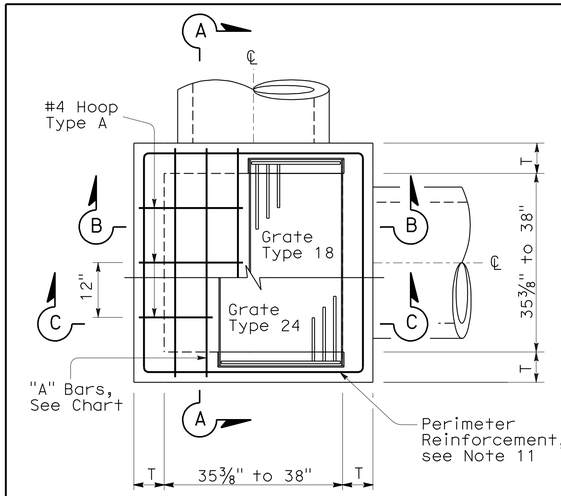
NO SCALE

RSP P46 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P46
DATED MAY 1, 2006 - PAGE 133 OF THE STANDARD PLANS BOOK DATED MAY 2006.

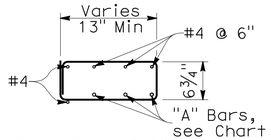
REVISED STANDARD PLAN RSP P46

2006 REVISED STANDARD PLAN RSP P46

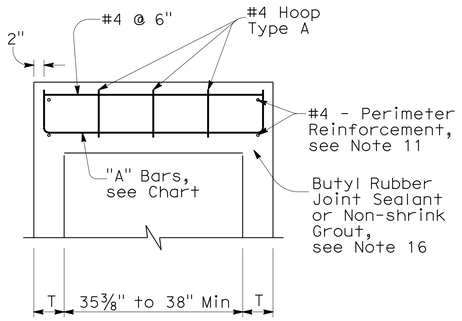
4-2-09



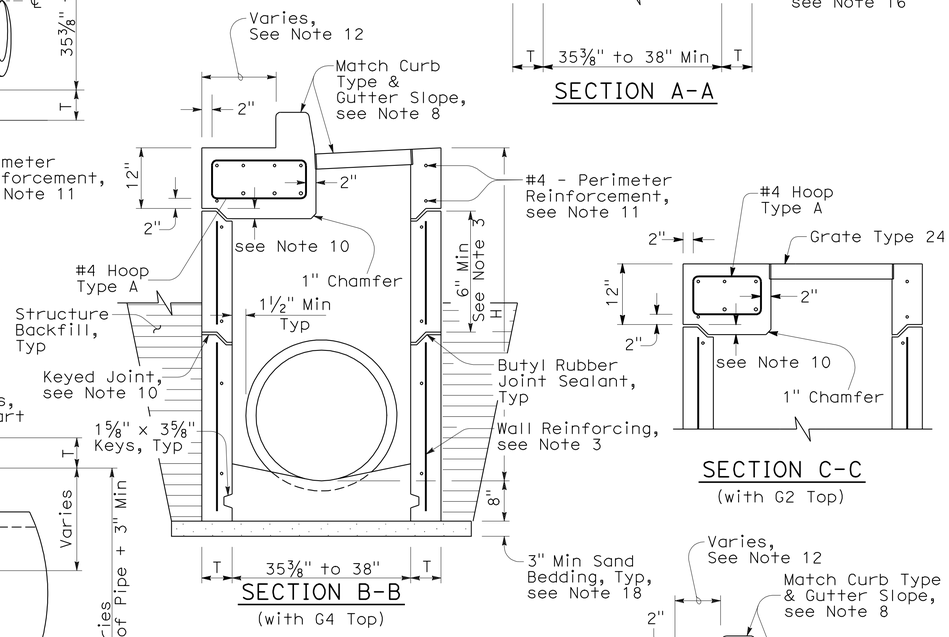
STANDARD TYPE G2 OR G4



TYPICAL SECTION
(HOOP TYPE A)

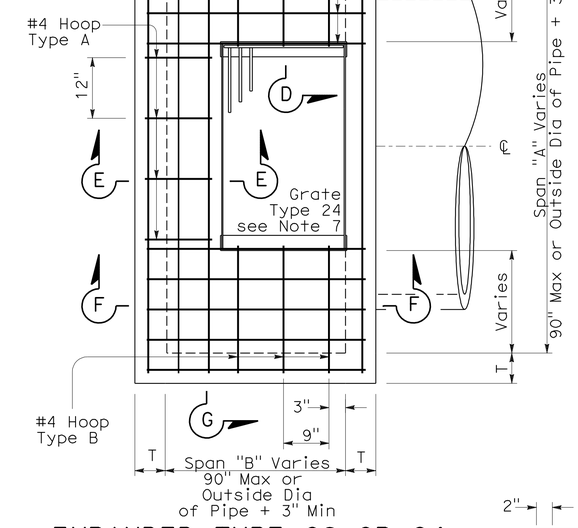


SECTION A-A



SECTION B-B
(with G4 Top)

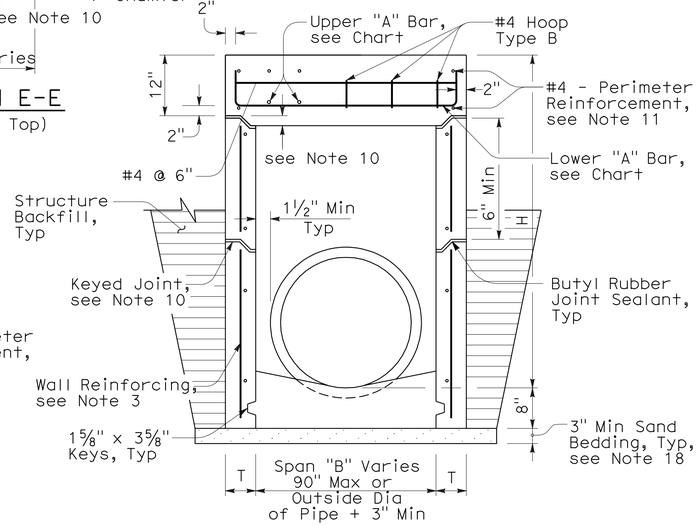
SECTION C-C
(with G2 Top)



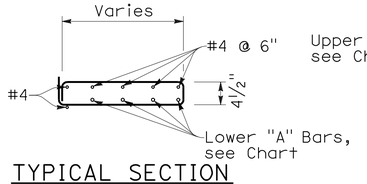
EXPANDED TYPE G2 OR G4
(Top Rebar Not Shown)

SECTION E-E
(with G4 Top)

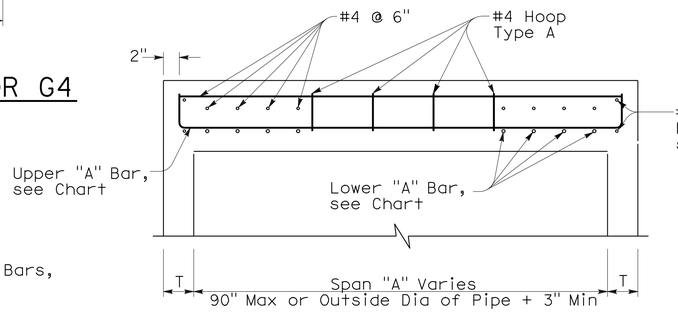
SECTION D-D



SECTION F-F
(with G2 Top)



TYPICAL SECTION
(HOOP TYPE B)



SECTION G-G

To accompany plans dated 11-1-10

NOTES:

1. "H" is the difference in elevation between the outlet pipe flow line and the normal gutter grade line undepressed.
2. For "T" wall thickness: T=6" when "H" is 8' or less. T=8" when "H" is over 8'.
3. Wall reinforcing not required when "H" is 8' or less and the unsupported width or length is 6'-0" or less. Reinforce wall exceeding these limits with #4 bars @ 1'-6" ± centers placed 2" clear to the inside of inlet unless otherwise shown. Short independent wall sections or height adjustment rings 6" to 24" high must have a minimum of two #4 horizontal bars.
4. Seal pre-cast inlets connection openings between wall and pipe with non-shrink grout or resilient connectors as specified in the Special Provisions.
5. Steps - None required where "H" is less than 2'-6". Where "H" is 2'-6" or more, install steps with lowest rung 1'-0" above the floor and highest rung not more than 6" below bottom of lid. The distance between steps must not exceed 1'-0" and be uniform throughout the length of the wall. Place steps in the wall without an opening. Steps inserts may be substituted for the bar steps. Step inserts must comply with State Industrial Safety Requirements. See Standard Plan D74C for step details.
6. Pipe(s) can be placed in any wall.
7. Set inlet so that grate bars are parallel to direction of principal surface flow.
8. Type G4 inlet can use Grate Type 18 or 24. Type G2 inlet uses Grate Type 24. See Revised Standard Plan RSP D77A and Standard Plan D77B for grate and frame details and weights of miscellaneous Iron and Steel.
9. G4 inlet details are the same as the G2 with the addition of a curb and sloped grate that matches the adjacent curb and gutter depression. See Standard Plans D78A & D78B for gutter and inlet depresssion details. See Revised Standard Plan RSP A87A & Standard Plan A87B for Curb and Dike Details.
10. Provide pre-cast inlets with separate top sections for final grade adjustment under Standard Specifcation Section 51-1.02. Provide keyed joints between the top and wall and multiple wall sections. Joint design may vary but must be 1" to 3" in depth.
11. Perimeter reinforcement serves as a rigid frame to position and attach the required structural reinforcement and may be tack welded at outer corners when using ASTM A706 weldable bars.
12. This dimension will vary with different grates, curbs types, box width and wall thickness.
13. 2" unless inlet is expanded in the Span "A" direction, then clearance is 2" plus the diameter of the lower "A" bar.
14. Place "A" Bars at an angle so hooked ends will maintain 2" clear coverage.
15. Refer to Standard Plan D73, Table A for concrete quantities.
16. Non-shrink grout can be used for upper most joint to facilitate final top grade adjustment.
17. Slope inlet floors 4:1 towards the outlet pipe. Pre-cast inlets may have monolithic sloped floors, flat floors, or no floors in which case a sloped floor must be cast in the field. Inlet floors do not require reinforcing.
18. Extend sand bedding under all structure backfill.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	483	607

Glenn DeCou
REGISTERED CIVIL ENGINEER

June 5, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Glenn DeCou
No. C34547
Exp. 9-30-09
CIVIL
STATE OF CALIFORNIA

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TOP REINFORCEMENT CHART

16 Bar Diameters — "A" Bars — See Note 14 — Varies

Span	"A" Bars	Required steel area per foot (in^2/ft)
Under 38" with Type 24 Grate	#5 @ 7" C-C 2-#5 Min	0.525
Under 38" with Type 18 Grate	#5 @ 7" C-C 3-#5 Min	0.525
38"-60"	#5 @ 6" C-C	0.621
61"-72"	#5 @ 5" C-C	0.744
73"-90"	#6 @ 6" C-C	0.811

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DRAINAGE INLETS (PRECAST)

NO SCALE

NSP D73A DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP D73A

2006 NEW STANDARD PLAN NSP D73A

3-16-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	484	607

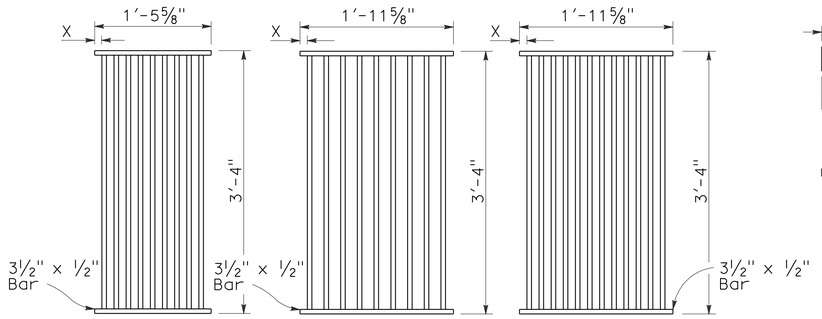
Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

January 18, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Raymond Don Tsztoo — No. C37332 — Exp. 6-30-08 — 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.

To accompany plans dated 11-1-10

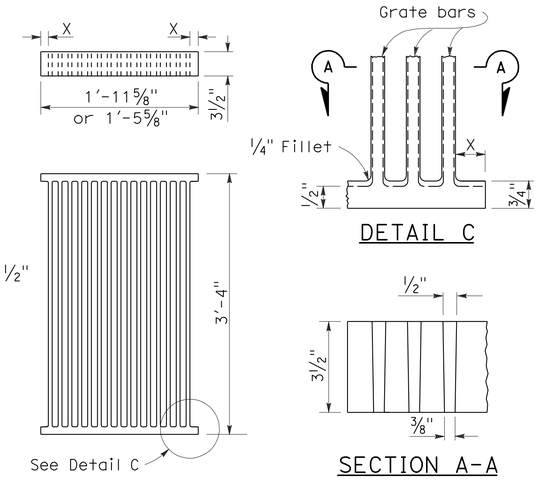


TYPE 18-9
1⅜" Clear spacing. Use within the roadbed on highways where bicycles and pedestrians are excluded.

TYPE 24-9
2" Clear spacing. Use in locations off the roadbed on all types of highways.

TYPE 24-12
1⅜" Clear spacing. Use within the roadbed on highways where bicycles and pedestrians are excluded.

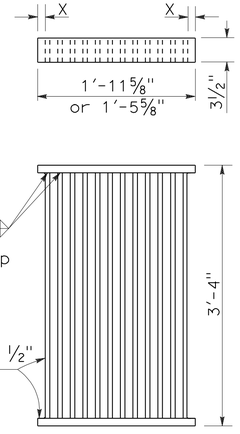
RECTANGULAR GRATE DETAILS
(See table below)



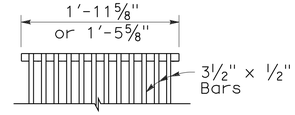
DETAIL C

SECTION A-A

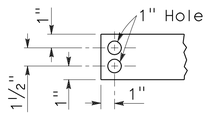
ALTERNATIVE CAST NODULAR IRON GRATE OR CAST STEEL GRATE



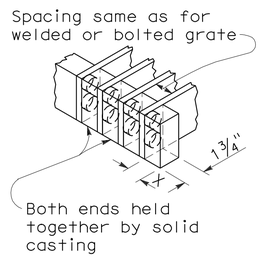
ALTERNATIVE WELDED GRATE



CAST END BLOCK



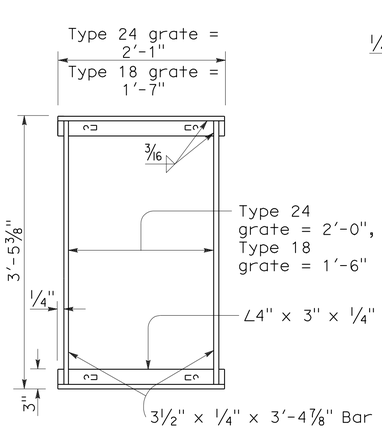
END OF BAR



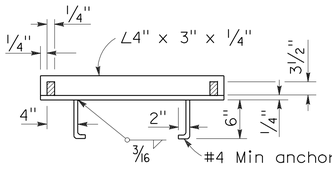
ALTERNATIVE CAST NODULAR IRON OR CAST STEEL END BLOCK GRATE

NOTES:

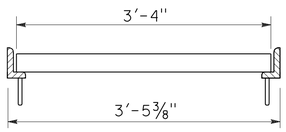
1. Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
2. Contractor has the option of using cast nodular iron, cast steel, welded, bolted, or cast end block grate.
3. See Special Provisions for requirements pertaining to galvanizing or asphalt dipping of grates and frames.
4. Rounded top of bars optional on all grates.
5. Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
6. Full penetration butt welds may be substituted for the fillet welds on all anchors.
7. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
8. Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).



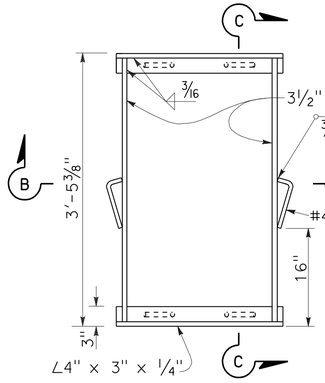
TYPICAL FRAME



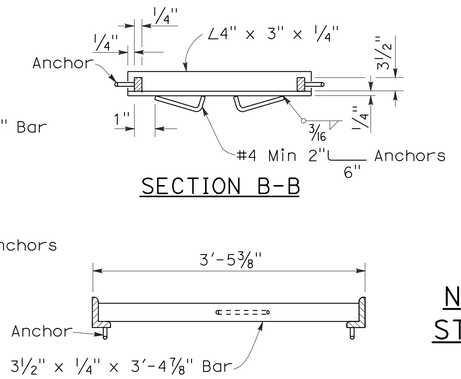
CROSS SECTION
(Thru frame)



LONGITUDINAL SECTION
(Thru frame and grate)



TYPICAL FRAME

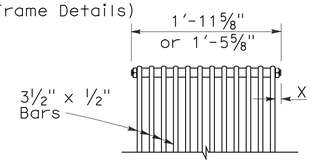


SECTION B-B

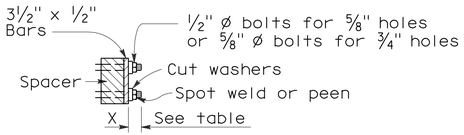
SECTION C-C

RECTANGULAR FRAME DETAILS
(For all rectangular grates)

ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME
(For details not shown, See Rectangular Frame Details)

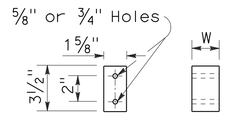


BOLTED END BLOCK

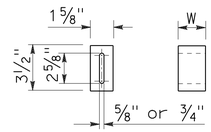


BOLTING DETAIL

ALTERNATIVE BOLTED GRATE



BAR SPACER



ALTERNATIVE SPACER
W = 1⅜" or 2"

GRATE BAR SPACING TABLE

TYPE	No. OF BARS	CLEAR BAR SPACING	X
18-9	9	1⅜"	1 1⁄16"
24-9	9	2"	1⅜16"
24-12	12	1⅜"	1¼"

INLET TYPE	COVER TYPE	WEIGHT LB
OS	PLATE	174
OL-7	PLATE	170
OL-10	PLATE	170
OL-14	PLATE	170
OL-21	PLATE	170
OCP	PLATE	112
OCPI	PLATE	112
OCPI	REDWOOD	42
OMP	PLATE	177
OMPI	PLATE	177

INLET TYPE	GRATE TYPE	No. OF GRATES	WEIGHT LB
GDO	24-12	2	634
GOL-7	24-12	1	326
GOL-10	24-12	1	326
GO,G1,G2,G3,G4 (TYPE 24)	24-9	1	263
	24-12	1	326
G4 (TYPE 18),G5,G6	18-9	1	249
GT1	18-9	2	498
GT2	18-9	2	498
GT3	24-12	2	652
GT4	24-12	2	652
TRASH RACK			22

BASIS FOR MISC IRON & STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS
(See General Notes, No 8)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

GRATE DETAILS

NO SCALE

RSP D77A DATED JANUARY 18, 2008 SUPERSEDES STANDARD PLAN D77A
DATED MAY 1, 2006 - PAGE 155 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D77A

2006 REVISED STANDARD PLAN RSP D77A

12-14-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	485	607

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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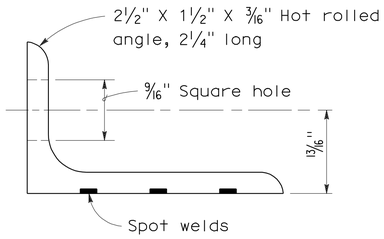
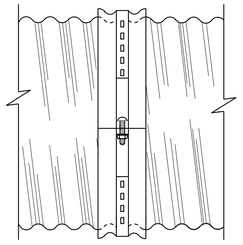
To accompany plans dated 11-1-10



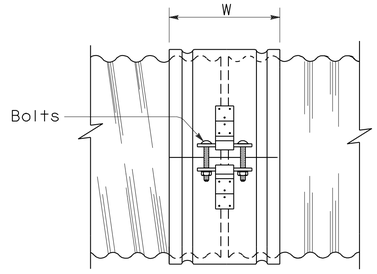
ANGLE

NOTES:

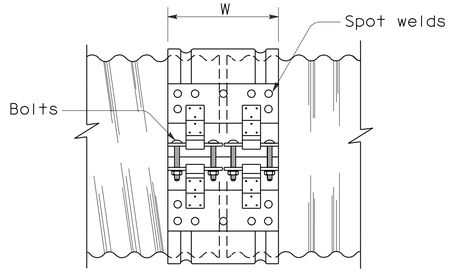
1. All ferrous metal coupling band connection hardware shall be galvanized or electroplated in accordance with the Standard Specifications.
2. Dimensions and thicknesses shown are minimum.
3. Spot welds shall develop minimum required strength of strap.
4. Fillet welds of equivalent strength may be substituted for spot welds or rivets.
5. Dimension depends upon whether end condition is lips up or lips down.



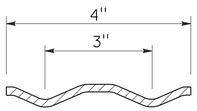
SIDE VIEW
ANGLE



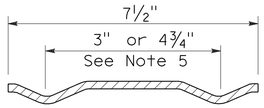
SIDE VIEW
SINGLE BAR AND STRAP



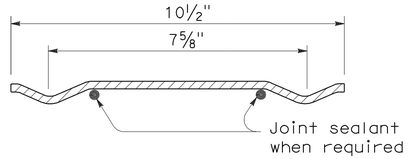
SIDE VIEW
DOUBLE BAR AND STRAP



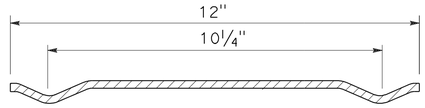
SECTION
H-4 HUGGER BAND



SECTION
H-7 HUGGER BAND



SECTION
H-10 HUGGER BAND



SECTION
H-12 HUGGER BAND

HUGGER COUPLING BANDS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CORRUGATED METAL PIPE COUPLING DETAILS No. 4 HUGGER COUPLING BANDS

NO SCALE

RSP D97D DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97D
DATED MAY 1, 2006 - PAGE 186 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97D

2006 REVISED STANDARD PLAN RSP D97D

3-24-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	486	607

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS		BAND THICKNESS		BAR AND STRAP (CSP ONLY)				ANGLE DIMENSIONS		ANGLE BOLTS (No.- Dia)		ANGLE RIVETS ANGLE TO BAND		ANGLE SPOT WELDS ANGLE TO BAND
				CSP	CAP	CSP	CAP	STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	CSP	CAP	CSP	CAP	CSP	CAP	CSP
TWO PIECE INTEGRAL FLANGE	1½′ × ¼"	6"-10"	7"	0.052"-0.079"	0.048"-0.060"	0.052"	0.060"							2-⅜"	2-⅜"			
		12"-18"	7"	0.052"-0.079"		0.064"								2-½"				
	2⅔" × ½"	12"-24"	7"	0.052"-0.079"	0.060"-0.105"	0.064"	0.060"							2-½"	2-½"			
UNIVERSAL	2⅔" × ½"	THROUGH 36"	12"	0.052"-0.138"	0.060"-0.135"	0.052"	0.060"					2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	3-½"
		42"-60"	12"	0.052"-0.168"	0.075"-0.164"	0.052"	0.060"					2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"
		THROUGH 72"	12"	0.052"-0.168"	0.164"	0.052"	0.105"	0.079"	½"	⅞"	32 ksi	2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"
		78"-84"	16¼"	0.168"		0.079"		DOUBLE 0.079"	½"	⅞"	32 ksi							
ANNULAR	2⅔" × ½"	THROUGH 36"	7"	0.064"-0.138"	0.060"-0.135"	0.052"	0.060"	0.079"	½"	⅞"	32 ksi	2" × 2" × 3/16"	2" × 2" × 3/16"	2-½"	2-½"	3-⅜"	3-⅜"	3-½"
		42"-72"	12"	0.064"-0.168"	0.075"-0.164"	0.052"	0.105"	0.079"	½"	⅞"	32 ksi	2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"
		78"-84"	12"	0.168"		0.079"		0.109"	½"	⅞"	45 ksi	2" × 2" × 3/16"		3-½"		3-⅜"		5-½"
	3" × 1"	48"-90"	14"	0.064"-0.109"		0.052"		0.079"	½"	⅞"	32 ksi	2" × 2" × 3/16"		3-½"		3-⅜"		5-½"
		96"-120"	14"	0.079"-0.109"		0.052"		0.109"	½"	⅞"	45 ksi	2" × 2" × 3/16"		3-½"		4-⅜"		
		42"-108"	14"		0.060"-0.135"		0.060"						2" × 2" × 3/16"		3-½"		3-⅜"	
HELICAL	2⅔" × ½"	THROUGH 36"	12"	0.052"-0.138"	0.060"-0.135"	0.052"	0.060"	0.079"	½"	⅞"	32 ksi	2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	3-½"
		42"-72"	12"	0.052"-0.168"	0.075"-0.164"	0.052"	0.060"	0.079"	½"	⅞"	32 ksi	2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"
		78"-84"	12"	0.168"		0.079"		0.109"	½"	⅞"	45 ksi	2" × 2" × 3/16"		3-½"		3-⅜"		5-½"
	3" × 1"	48"-90"	14"	0.064"-0.109"		0.052"		0.079"	½"	⅞"	32 ksi	2" × 2" × 3/16"		3-½"		3-⅜"		5-½"
		96"-120"	14"	0.079"-0.109"		0.052"		0.109"	½"	⅞"	45 ksi	2" × 2" × 3/16"		3-½"		4-⅜"		
		42"-108"	14"		0.060"-0.135"		0.060"						2" × 2" × 3/16"		3-½"		3-⅜"	
HUGGER	2⅔" × ½" REROLLED END	12"-54"	4"	0.052"-0.109"		0.052"						2½" × 1½" × 3/16"	2½" × 1½" × 3/16"	1-½"				3-½"
		60"-66"	4"	0.109"		0.064"						2½" × 1½" × 3/16"	2½" × 1½" × 3/16"	1-½"				3-½"
		36"-48"	4"	0.138"		0.064"						2½" × 1½" × 3/16"	2½" × 1½" × 3/16"	1-½"				3-½"
		THROUGH 72"	10½"	0.052"-0.168"		0.052"		0.079"	½"	⅞"	32 ksi							
		78"-84"	10½"	0.168"		0.079"		0.109"	½"	⅞"	45 ksi							
	3" × 1" REROLLED END	48"-90"	10½"	0.064"-0.109"		0.052"		0.079"	½"	⅞"	32 ksi							
		96"-120"	10½"	0.079"-0.109"		0.052"		0.109"	½"	⅞"	45 ksi							
	5" × 1" REROLLED END	48"-66"	7½"	0.064"-0.109"		0.064"		0.079"	½"	⅞"	32 ksi	2½" × 1½" × 3/16"	2½" × 1½" × 3/16"	1-½"				3-½"
		72"-90"	7½"	0.064"-0.079"		0.064"		0.079"	½"	⅞"	32 ksi	2½" × 1½" × 3/16"	2½" × 1½" × 3/16"	1-½"				3-½"
		48"-90"	7½"	0.064"-0.138"		0.064"		0.079"	½"	⅞"	32 ksi							
		48"-120"	12" SEE NOTE 11	0.064"-0.109"		0.064"		0.079"	½"	⅞"	32 ksi							
		48"-84"		0.138"		0.064"		0.079"	½"	⅞"	32 ksi							
		90"-120"		0.138"		0.064"		DOUBLE 0.079"	½"	⅞"	32 ksi							

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	PIPE WALL THICKNESS		BAND THICKNESS		BAR AND STRAP (SSRP ONLY)				ANGLE DIMENSIONS		ANGLE BOLTS (No.- Dia)		ANGLE RIVETS ANGLE TO BAND		ANGLE SPOT WELDS ANGLE TO BAND
				SSRP	ASRP	SSRP	ASRP	STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP
ANNULAR	2⅔" × ½" * REROLLED END	24"-36"	12"	0.064"-0.109"	0.060"-0.105"	0.052"	0.060"	0.079"	½"	⅞"	32 ksi	2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"
		42"-60"	12"	0.064"-0.109"	0.075"-0.105"	0.052"	0.105"	0.079"	½"	⅞"	32 ksi	2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"
		66"-72"	12"	0.064"-0.109"		0.052"		0.079"	½"	⅞"	32 ksi	2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"
		78"-114"	12"	0.079"-0.109"		0.079"		0.109"	½"	⅞"	45 ksi	2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"
HUGGER	2⅔" × ½" * REROLLED END	24"-72"	10½"	0.064"-0.109"		0.052"		0.079"	½"	⅞"	32 ksi							
		78"-84"	10½"	0.109"		0.079"		0.109"	½"	⅞"	45 ksi							

* See Note 14.

NOTES:

To accompany plans dated 11-1-10

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 1¼" 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 0.060" 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 2⅔" × ½" 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 2⅔" × ½" corrugations.
11. In the case of H-12 huggerbands, two piece bands are required for diameters through 96" and three piece bands are required for diameters 102" through 120".
12. Two piece bands are required for pipes greater than 42" diameter.
13. The 2¼" × 2" × 0.109" thick galvanized die-formed angle connector may be used in lieu of the 2" × 2" × 3/16" angle connector for standard joints only on pipes through 72" diameter.
14. All profiles of Spiral Rib Pipe (¾" × ¾" ribs at 7½" pitch and ¾" × 1" ribs at 11½" pitch in both steel and aluminum and ¾" × 1" ribs at 8½" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2⅔" × ½" annual corrugations with a minimum of two full corrugations at each end.

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 MAY 1, 2006 - PAGE 187 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97E

2006 REVISED STANDARD PLAN RSP D97E

4-2-08

ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS		BAND THICKNESS		BAR AND STRAP (CSP ONLY)				ANGLE						
												DIMENSIONS		BOLTS (No. - Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND
				CSP	CAP	CSP	CAP	STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	CSP	CAP	CSP	CAP	CSP	CAP	CSP
TWO PIECE INTEGRAL FLANGE	1½" × ¼"	6"-10"	7"	0.064"-0.079"	0.060"	0.064"	0.060"							2-⅜"	2-⅜"			
	2⅔" × ½"	12"-24"	12"		0.060"-0.105"		0.060"								3-½"			
UNIVERSAL	2⅔" × ½"	THROUGH 36"	12"	0.064"-0.138"	0.060"-0.135"	0.064"	0.060"	0.079"	½"	⅞"	32 ksi	2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"
		42"-60"	16¼"	0.064"-0.168"	0.060"-0.164"	0.064"	0.060"	DOUBLE 0.079"	½"	⅞"	32 ksi	2" × 2" × ¼"	2" × 2" × ¼"	4-½"	4-½"	5-⅜"	5-⅜"	
ANNULAR	2⅔" × ½"	THROUGH 36"	12"	0.064"-0.138"	0.060"-0.135"	0.064"	0.060"					2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"
		42"-60"	12"	0.064"-0.079"		0.064"						2" × 2" × 3/16"		3-½"		3-⅜"		5-½"
		42"-60"	12"	0.109"-0.168"	0.135"-0.164"	0.064"	0.075"					2" × 2" × ¼"	2" × 2" × ¼"	3-½"	3-½"	5-⅜"	5-⅜"	
		66"-72"	24"		0.164"		0.105"						2" × 2" × ¼"		5-½"		5-½"	
		66"-84"	24"	0.109"-0.168"		0.064"						2" × 2" × ¼"		5-½"		7-⅜"		
		42"-54"	12"		0.060"-0.105"		0.060"						2" × 2" × 3/16"		3-½"		3-⅜"	
	3" × 1"	48"-60"	14"	0.064"-0.079"		0.064"						2" × 2" × 3/16"		3-½"		3-⅜"		5-½"
		48"-60"	14"	0.109"		0.064"						2" × 2" × 3/16"		3-½"		5-⅜"		
		66"-120"	25"	0.064"-0.109"		0.064"						2" × 2" × 3/16"		5-½"		9-⅜"		
		42"-60"	14"		0.060"-0.105"		0.060"						2" × 2" × 3/16"		3-½"		5-⅜"	
		42"-60"	14"		0.135"		0.075"						2" × 2" × ¼"		3-½"		5-⅜"	
		66"-96"	25"		0.060"-0.135"		0.060"						2" × 2" × ¼"		5-½"		7-⅜"	
		96"-108"	25"		0.135"		0.075"						2" × 2" × ¼"		5-½"		7-⅜"	
HELICAL	2⅔" × ½"	THROUGH 36"	12"	0.064"-0.138"	0.060"-0.135"	0.064"	0.060"					2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"
		42"-54"	12"		0.060"-0.105"		0.060"						2" × 2" × 3/16"		3-½"		3-⅜"	
		42"-60"	12"	0.064"-0.079"		0.064"						2" × 2" × 3/16"		3-½"		3-⅜"		5-½"
		42"-60"	12"	0.109"-0.168"	0.135"-0.164"	0.064"	0.075"					2" × 2" × ¼"	2" × 2" × ¼"	3-½"	3-½"	5-⅜"	5-⅜"	
		66'-84"	24"	0.109"-0.168"		0.064"						2" × 2" × ¼"		5-½"		7-⅜"		
		66"-72"	24"		0.164"		0.105"						2" × 2" × ¼"		5-½"		5-⅜"	
	3" × 1"	48"-60"	14"	0.064"-0.079"		0.064"						2" × 2" × 3/16"		3-½"		3-⅜"		5-½"
		48"-60"	14"	0.109"		0.064"						2" × 2" × 3/16"		3-½"		5-⅜"		
		66"-120"	25"	0.064"-0.109"		0.064"						2" × 2" × 3/16"		5-½"		9-⅜"		
		42"-60"	14"		0.060"-0.105"		0.060"						2" × 2" × 3/16"		3-½"		5-⅜"	
		42"-60"	14"		0.135"		0.075"						2" × 2" × ¼"		3-½"		5-⅜"	
		66"-96"	25"		0.060"-0.135"		0.060"						2" × 2" × ¼"		5-½"		7-⅜"	
		96"-108"	25"		0.135"		0.075"						2" × 2" × ¼"		5-½"		7-⅜"	
HUGGER	2⅔" × ½" REROLLED END	THROUGH 48"	10½"	0.109"		0.064"		0.079"	½"	⅞"	32 ksi							
		54"- 66"	10½"	0.109"		0.064"		DOUBLE 0.079"	½"	⅞"	32 ksi							
		THROUGH 54"	10½"	0.064"-0.079"		0.064"		0.079"	½"	⅞"	32 ksi							
		THROUGH 60"	10½"	0.138"		0.079"		DOUBLE 0.079"	½"	⅞"	32 ksi							
		66"-72"	10½"	0.138"		0.109"		DOUBLE 0.079"	½"	⅞"	32 ksi							
		THROUGH 72"	10½"	0.168"		0.109"		DOUBLE 0.109"	½"	⅞"	45 ksi							
	3" × 1" REROLLED END	48"-84"	10½"	0.109"		0.079"		DOUBLE 0.079"	½"	⅞"	32 ksi							
		48"-90"	10½"	0.064"-0.079"		0.064"		DOUBLE 0.079"	½"	⅞"	32 ksi							
		96"-102"	10½"	0.079"		0.079"		DOUBLE 0.079"	½"	⅞"	32 ksi							
		90"-120"	10½"	0.109"		0.109"		DOUBLE 0.109"	½"	⅞"	45 ksi							

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	PIPE WALL THICKNESS		BAND THICKNESS		BAR AND STRAP (SSRP ONLY)				ANGLE						
												DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND
				SSRP	ASRP	SSRP	ASRP	STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP
ANNULAR	2⅔" × ½" * REROLLED END	24"-36"	12"	0.064"-0.109"	0.060"-0.105"	0.064"	0.060"	0.079"	½"	⅞"	32 ksi	2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"
		42"-60"	12"	0.064"-0.079"	0.075"-0.105"	0.064"	0.075"	0.079"	½"	⅞"	32 ksi	2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	5-½"
		42"-60"	12"	0.109"		0.064"		0.079"	½"	⅞"	32 ksi	2" × 2" × ¼"		3-½"		5-⅜"		
		66"-84"	24"	0.109"		0.064"		0.079"	½"	⅞"	32 ksi	2" × 2" × ¼"		5-½"		7-⅜"		
HUGGER	2⅔" × ½" * REROLLED END	24"-54"	10½"	0.064"-0.079"		0.064"		0.079"	½"	⅞"	32 ksi							
		24"-48"	10½"	0.109"		0.064"		0.079"	½"	⅞"	32 ksi							
		54"-66"	10½"	0.109"		0.064"		Double 0.079"	½"	⅞"	32 ksi							

* See Note 13.

13. All profiles of Spiral Rib Pipe (¾" × ¾" ribs at 7½" pitch and ¾" × 1" ribs at 11½" pitch in both steel and aluminum and ¾" × 1" ribs at 8½" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2⅔" × ½" annual corrugations with a minimum of two full corrugations at each end.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	487	607

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

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

June 6, 2008
PLANS APPROVAL 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.

To accompany plans dated 11-1-10

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 1¼" 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 0.060" 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 2⅔" × ½" 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 2⅔" × ½" corrugations.
11. In the case of H-12 huggerbands, two piece bands are required for diameters through 96" and three piece bands are required for diameters 102" through 120".
12. Two piece bands are required for pipes greater than 42" 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 MAY 1, 2006 - PAGE 188 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97F

2006 REVISED STANDARD PLAN RSP D97F

4-2-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	488	607

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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To accompany plans dated 11-1-10

ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS		BAND THICKNESS		BAR AND STRAP (CSP ONLY)			ANGLE						
											DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND
				CSP	CAP	CSP	CAP	STRAP THICKNESS	BOLTS Dia	BAR Dia	CSP	CAP	CSP	CAP	CSP	CAP	CSP
TWO PIECE INTEGRAL FLANGE	1½′ × ¼"	6"	7"	0.064"-0.168"		0.052"							3-⅜"				
	1½′ × ¼"	8"-10"	7"	0.064"-0.168"	0.060"-0.164"	0.064"	0.060"						3-⅜"	3-⅜"			
ANNULAR	2⅔" × ½"	THROUGH 24"	12"	0.064"-0.168"	0.060"-0.164"	0.064"	0.060"				2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	3-½"
HUGGER	2⅔" × ½" REROLLED END	THROUGH 24"	10½"	0.064"-0.168"		0.064"		0.079"	½"	⅞"							

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	PIPE WALL THICKNESS		BAND THICKNESS		BAR AND STRAP (SSRP ONLY)			ANGLE						
											DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND
				SSRP	ASRP	SSRP	ASRP	STRAP THICKNESS	BOLTS Dia	BAR Dia	SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP
ANNULAR	2⅔" × ½" * REROLLED END	24"	12"	0.064"-0.168"	0.060"-0.164"	0.064"	0.060"				2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	3-½"
HUGGER	2⅔" × ½" * REROLLED END	24"	10½"	0.064"-0.168"		0.064"		0.079"	½"	⅞"							

* See Note 12.

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 1¼" 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 0.060" 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 2⅔" × ½" 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 2⅔" × ½" corrugations.
11. For downdrain applications, two piece integral flange couplers shall have factory applied sleeve type rubber gaskets with a minimum length of 7" measured along the length of the pipe.
12. All profiles of Spiral Rib Pipe (¾" × ¾" ribs at 7½" pitch and ¾" × 1" ribs at 11½" pitch in both steel and aluminum and ¾" × 1" ribs at 8½" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2⅔" × ½" annual corrugations with a minimum of two full corrugations at each end.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CORRUGATED METAL PIPE COUPLING DETAILS No. 7 DOWNDRAIN

NO SCALE

RSP D97G DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97G
DATED MAY 1, 2006 - PAGE 189 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97G

2006 REVISED STANDARD PLAN RSP D97G

4-4-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	489	607

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT

June 5, 2009
PLANS APPROVAL 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.

LICENSED LANDSCAPE ARCHITECT — Gregory A. Balzer — 2576 — 10 Expiration Date 2-28-11 — Renewal Date 5-14-09 Date — STATE OF CALIFORNIA

To accompany plans dated 11-1-10

A

AB	aggregate base
ABS	acrylonitrile-butadiene-styrene
AC	asphalt concrete
Adj	adjacent/adjustable
AIC	auxiliary irrigation controller
Alt	alternative
AMEND	amendment
ARV	air release valve
AUTO	automatic
AUX	auxiliary
AVB	atmospheric vacuum breaker

B

B&B	balled and burlapped
B/B	brass/bronze
B/B/PL	brass/bronze/plastic
B/PL	brass/plastic
BFM	bonded fiber matrix
Bit Ctd	bituminous coated
BP	booster pump
BPA	backflow preventer assembly
BPAE	backflow preventer assembly in enclosure
BPE	backflow preventer enclosure
BV	ball valve

C

CAP	corrugated aluminum pipe
CARV	combination air release valve
CCA	cam coupler assembly
CEC	controller enclosure cabinet
CHDPE	corrugated high density polyethylene
CL	chain link
CNC	control and neutral conductors
Conc	concrete
Cond	conduit
CSP	corrugated steel pipe
CST	center strip
CV	check valve

D

Dia	diameter
DIP	ductile iron pipe
DN	diameter nominal

E

EA	each
Elect	electric/electrical
Elev	elevation
ENCL	enclosure
EP	edge of pavement
ES	edge of shoulder
EST	end strip
ESTB	establishment
ETW	edge of traveled way

F

F	full circle
F/P	full/part circle
FAU	filter assembly unit
FCV	flow control valve
FERT	fertilizer
FG	finished grade
FIPT	female iron pipe thread
FIS	fertilizer injector system
FL	flow line
FM	flow monitor
FS	flow sensor
Ft	foot/feet
FV	flush valve

G

GAL	Gallon(s)
Galv	galvanized
GARV	garden valve
GPH	gallons per hour
GPM	gallons per minute
GSP	galvanized steel pipe
GV	gate valve

H

H	half circle
HB	hose bib
HDPE	high density polyethylene
HP	horsepower/hinge point
HPL	high pressure line
Hwy	highway

I

IC	irrigation controller
ICC	irrigation controller(s) in controller enclosure cabinet
ID	inside diameter
In	inches
IFS	irrigation filtration system
IPS	iron pipe size
IPT	iron pipe thread
Irr	irrigation

L

L	length
LF	linear foot

M

Max	maximum
MBGR	metal beam guard railing
MCV	manual control valve
MIC	master irrigation controller
Min	minimum
MIPT	male iron pipe thread
Misc	miscellaneous
Mtl	material
MVP	maintenance vehicle pullout

N

NCN	no common name
NL	nozzle line
No.	number
NPT	national pipe thread

O

O/C	on center
OD	outside diameter
Oz	ounce

P

P	part circle
PB	pull box
PCC	portland cement concrete
PE	polyethylene
Pkt	packet
PL	plastic
PLT	plant/planting
PLT ESTB	plant establishment
PM	post mile
PR	pressure rated
PRLV	pressure relief valve
PSFM	polymer stabilized fiber matrix
PSI	pounds per square inch
PRV	pressure reducing valve
PVC	polyvinyl chloride
Pvmt	pavement

Q

Q	quarter circle
QCV	quick coupling valve

R

R	radius
RCP	reinforced concrete pipe
RCV	remote control valve
RCVM	remote control valve (master)
RCVMF	remote control valve (master) w/ flow meter
RCW	recycled/reclaimed water
RECP	rolled erosion control product
REQ	required
R/W	right of way

S

S	slip
SCC	sprinkler control conduit
SCH	schedule
SF	state-furnished
Shld	shoulder
SQFT	square foot/feet
SQYD	square yard(s)
SST	side strip
Sta	station
Std	standard
SW	sidewalk/sound wall

T

T	third circle/thread
TLS	truck loading standpipe
TQ	three quarter circle
TRM	turf reinforcement mat
TRVD	traveled
TT	two third circle
Typ	typical

U

UG	underground

V

VAU	valve assembly unit

W

W	width
W/	with
WM	water meter
WS	wye strainer
WSP	welded steel pipe
WWM	welded wire mesh

NOTE:

FOR ADDITIONAL ABBREVIATIONS, SEE STANDARD PLANS A10A AND A10B.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PLANTING AND IRRIGATION ABBREVIATIONS

NO SCALE

RSP H1 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H1
DATED MAY 1, 2006 - PAGE 201 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H1

2006 REVISED STANDARD PLAN RSP H1

5-28-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	490	607

Gregory A Balzer
LICENSED LANDSCAPE ARCHITECT

June 5, 2009
PLANS APPROVAL 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.

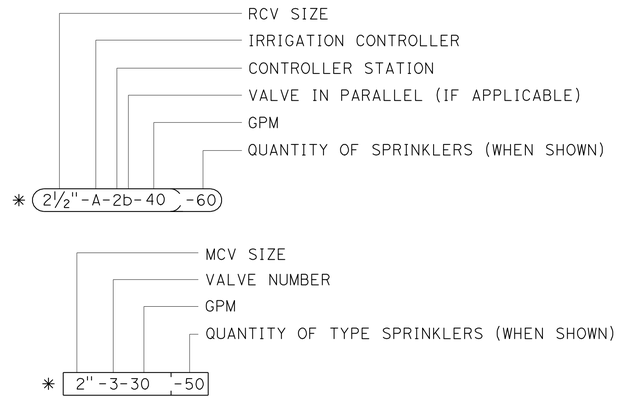
LICENSED LANDSCAPE ARCHITECT — Gregory A. Balzer — 2576 — Registration — 2-28-11 — Renewal Date — 5-14-09 — Date — STATE OF CALIFORNIA

To accompany plans dated 11-1-10

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	FLOW SENSOR (FS)
X	X	MASTER IRRIGATION CONTROLLER (MIC)
		AUXILIARY IRRIGATION CONTROLLER (AIC)
		IRRIGATION CONTROLLER (IC)/ IRRIGATION CONTROLLER (IC) (BATTERY) IRRIGATION CONTROLLER (IC) (SOLAR)
		IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
		CONTROL AND NEUTRAL CONDUCTORS (CNC)
SCC	SCC	SPRINKLER CONTROL CONDUIT (SCC)
		IRRIGATION CROSSOVER
		EXTEND IRRIGATION CROSSOVER
		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) REMOTE CONTROL VALVE (MASTER) W/FLOW METER (RCVMF)
		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 COUPLER 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
	C	CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING

VALVE CODE



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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PLANTING AND IRRIGATION SYMBOLS

NO SCALE

RSP H2 DATED JUNE 5, 2009 SUPERSEDES RSP H2 DATED MARCH 7, 2008 AND STANDARD PLAN H2 DATED MAY 1, 2006 - PAGE 202 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H2

2006 REVISED STANDARD PLAN RSP H2

5-11-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	491	607

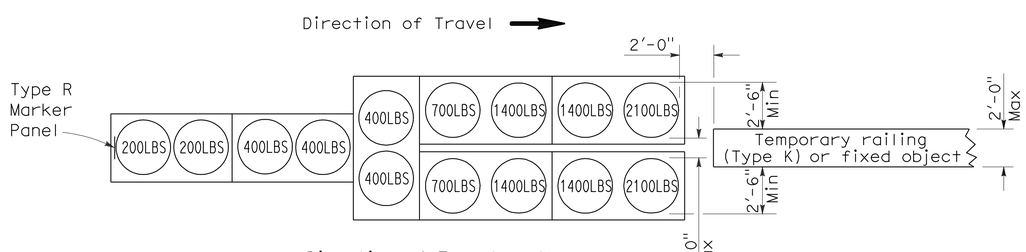
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

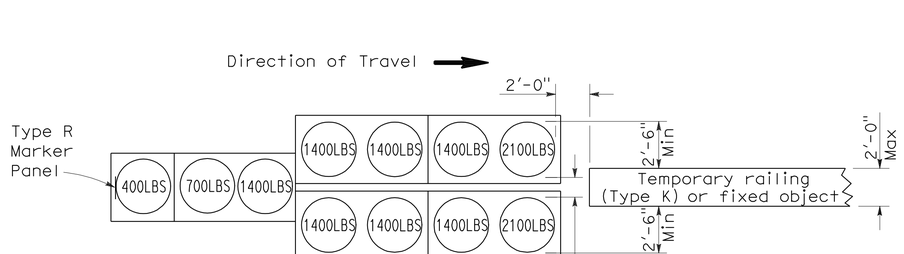
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 11-1-10



ARRAY 'TU14'

Approach speed 45 mph or more

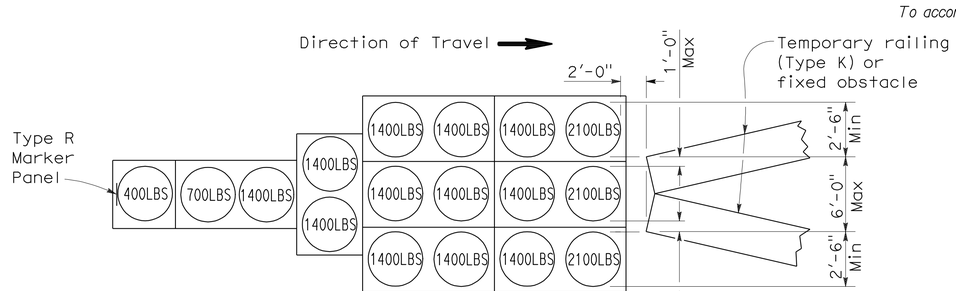


ARRAY 'TU11'

Approach speed less than 45 mph

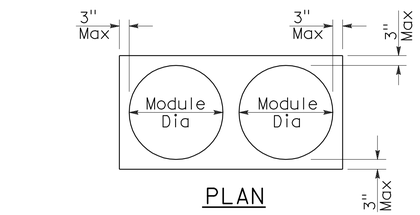
ARRAY 'TU21'

Approach speed 45 mph or more

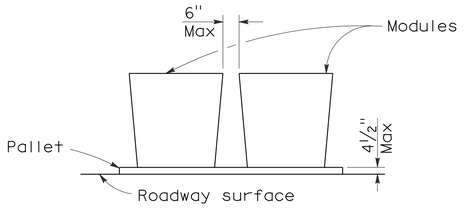


ARRAY 'TU17'

Approach speed less than 45 mph



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the top of Type R marker panel 1" 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

RSP T1A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1A
DATED MAY 1, 2006 - PAGE 211 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

5-15-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	492	607

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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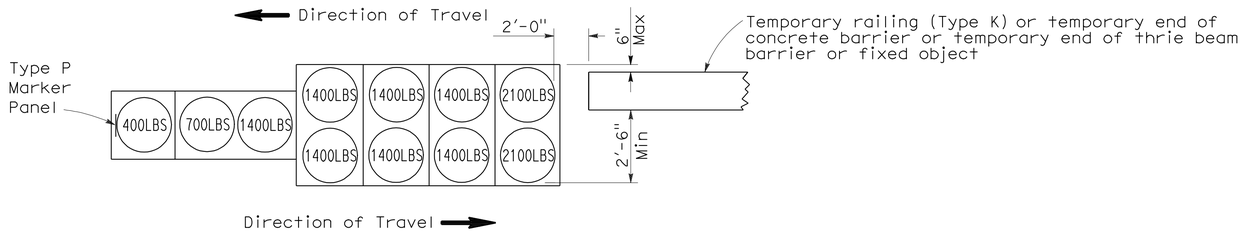
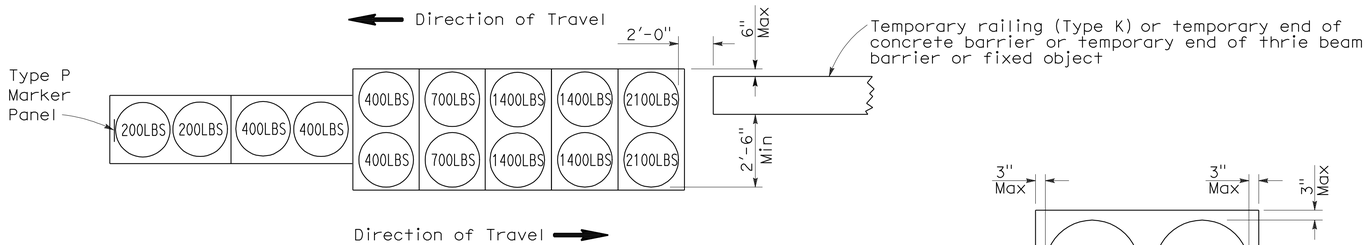
To accompany plans dated 11-1-10



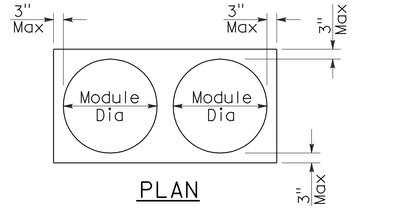
ARRAY 'TB11'

Approach speed less than 45 mph

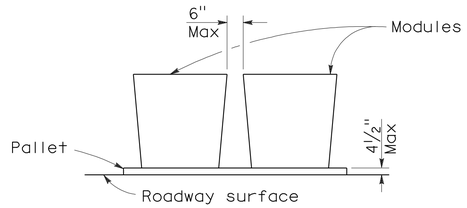


ARRAY 'TB14'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights 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

RSP T1B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1B
DATED MAY 1, 2006 - PAGE 212 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

5-15-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	493	607

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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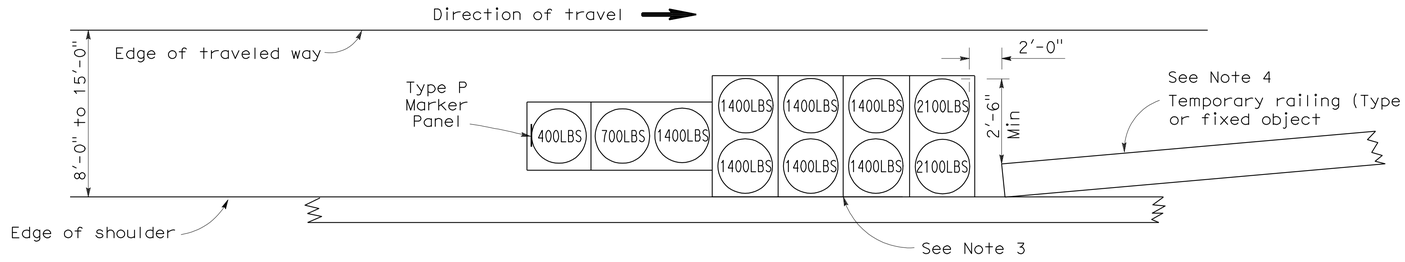
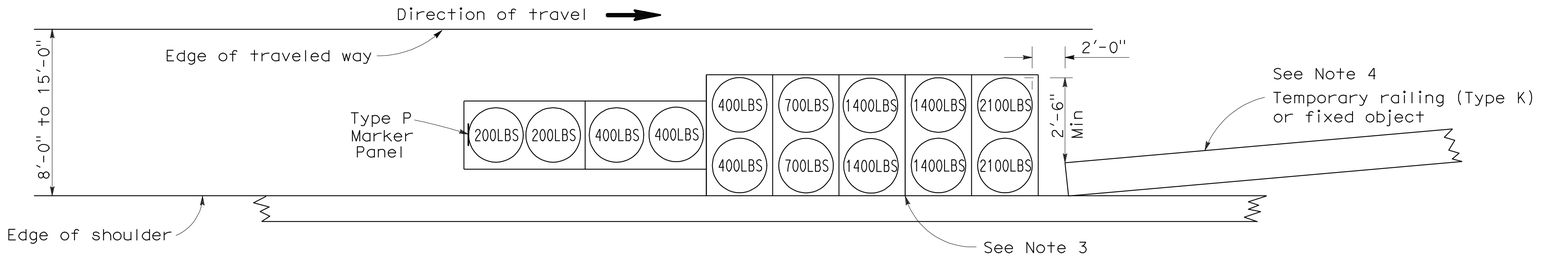
To accompany plans dated 11-1-10



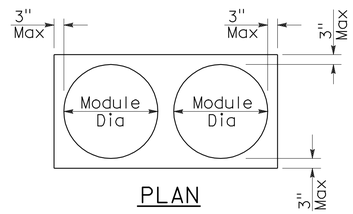
ARRAY 'TS11'

Approach speed less than 45 mph
See Note 9

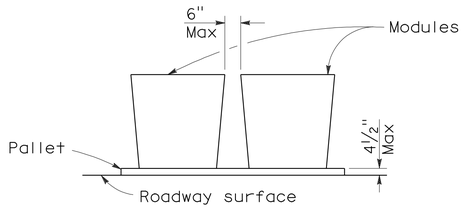


ARRAY 'TS14'

Approach speed 45 mph or more
See Note 9



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 11

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights 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 15'-0" from the edge of traveled way, a temporary crash cushion is required in a construction or work zone.
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 rests upon the pallet and faces traffic.
8. Refer to Standard Plan A73B for marker details.
9. For shoulder widths less than 8'-0", 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)

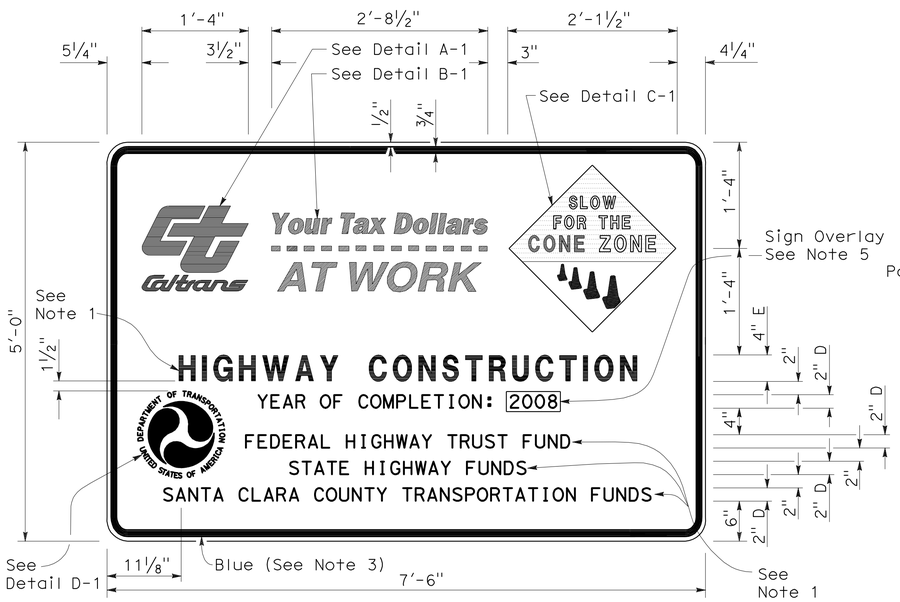
NO SCALE

RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

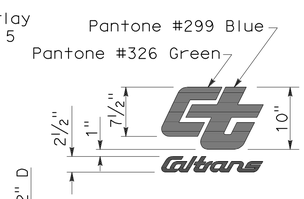
REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

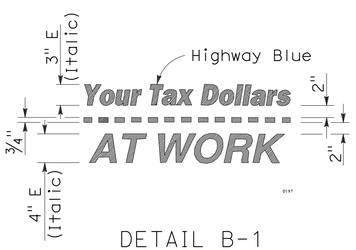
5-15-08



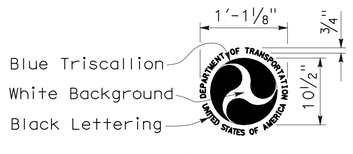
TYPE 1



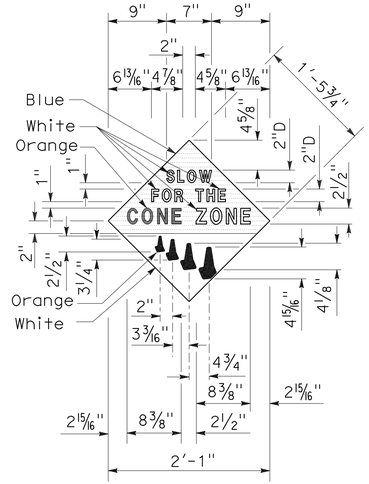
DETAIL A-1



DETAIL B-1
(See Note 3)



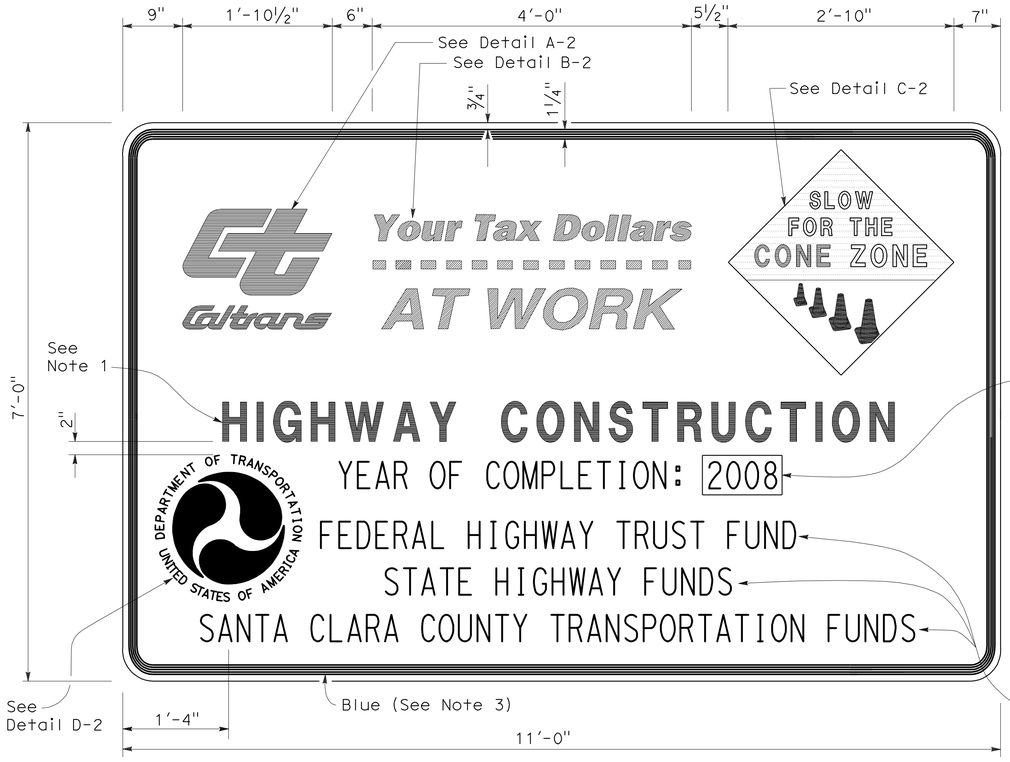
DETAIL D-1
(See Note 6)



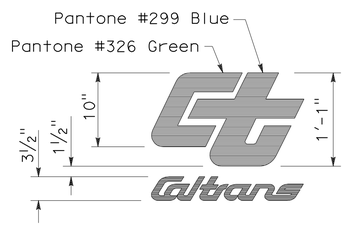
DETAIL C-1
(See Note 4)

NOTES:

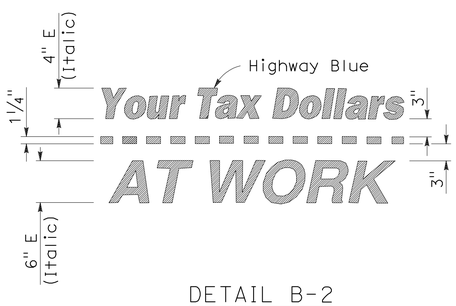
1. The sign messages shown for type of project and fund types are examples only. See the Special Provisions for the applicable type of project and fund type messages to be used.
2. Except as otherwise shown, the legend of sign shall be black on a white background (non-reflective).
3. The border of the 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.



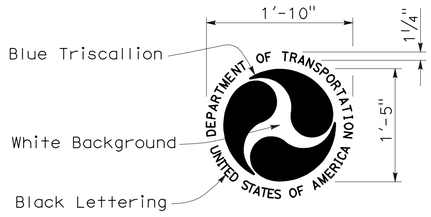
TYPE 2



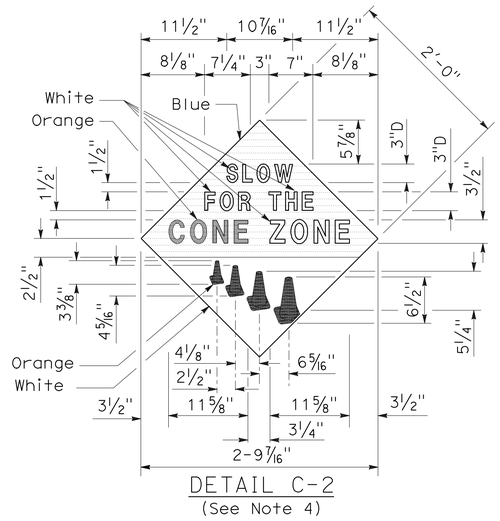
DETAIL A-2



DETAIL B-2
(See Note 3)



DETAIL D-2
(See Note 6)



DETAIL C-2
(See Note 4)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PROJECT FUNDING IDENTIFICATION SIGNS

NO SCALE

RSP T7 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN T7
DATED MAY 1, 2006 - PAGE 217 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	494	607

Greg W. Edwards
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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To accompany plans dated 11-1-10

2006 REVISED STANDARD PLAN RSP T7

9-7-06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	495	607

Robert B Schott
LICENSED LANDSCAPE ARCHITECT

April 3, 2009
PLANS APPROVAL DATE

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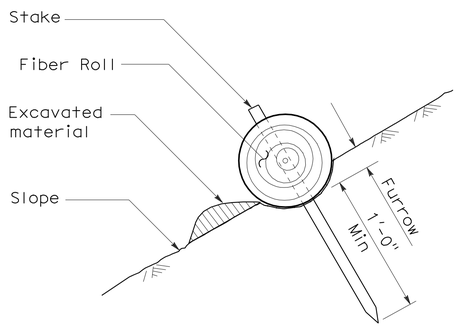
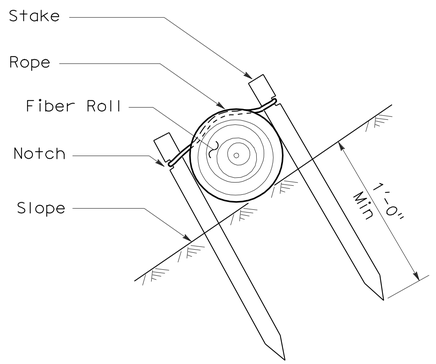
LICENSED LANDSCAPE ARCHITECT — Robert B. Schott 3035 — Registration Expiration 11-30-10 — Renewal Date 2-25-09 Date — STATE OF CALIFORNIA

To accompany plans dated 11-1-10

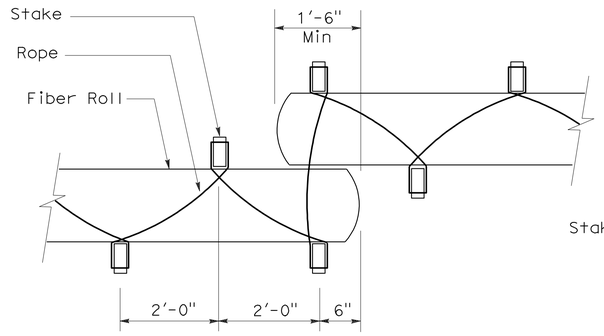


SECTION

TEMPORARY FIBER ROLL (TYPE 1)

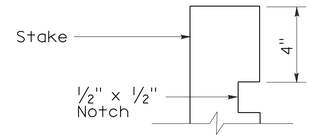


SECTION



PLAN

TEMPORARY FIBER ROLL (TYPE 2)

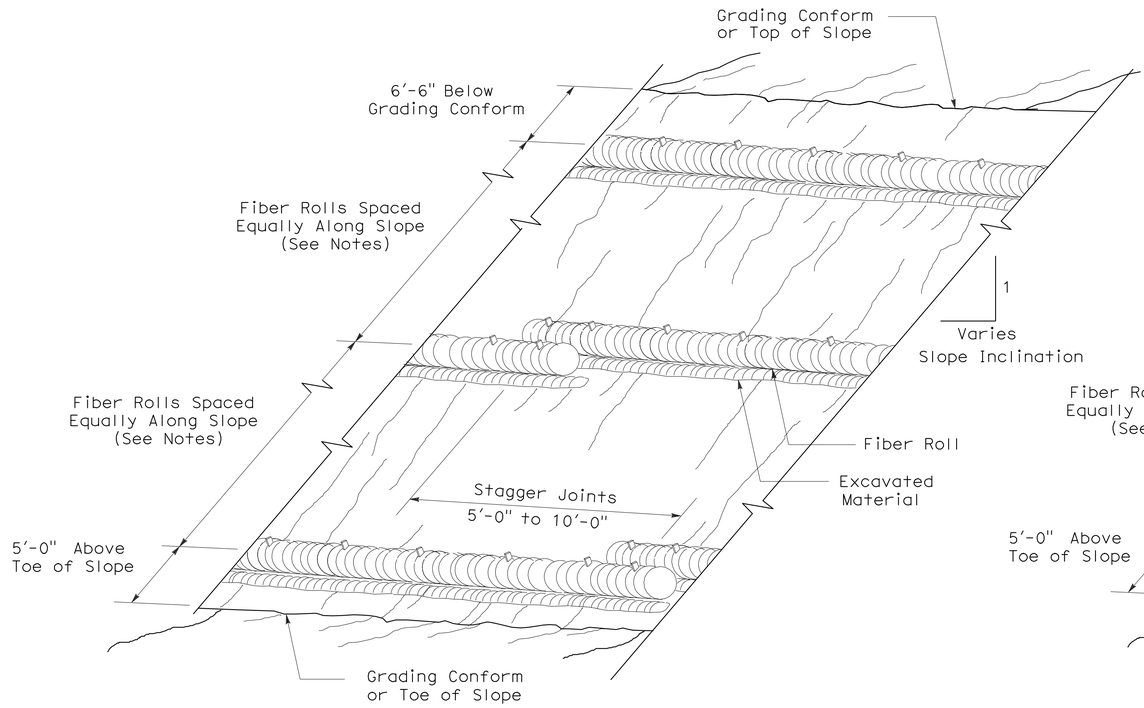


ELEVATION

STAKE NOTCH DETAIL

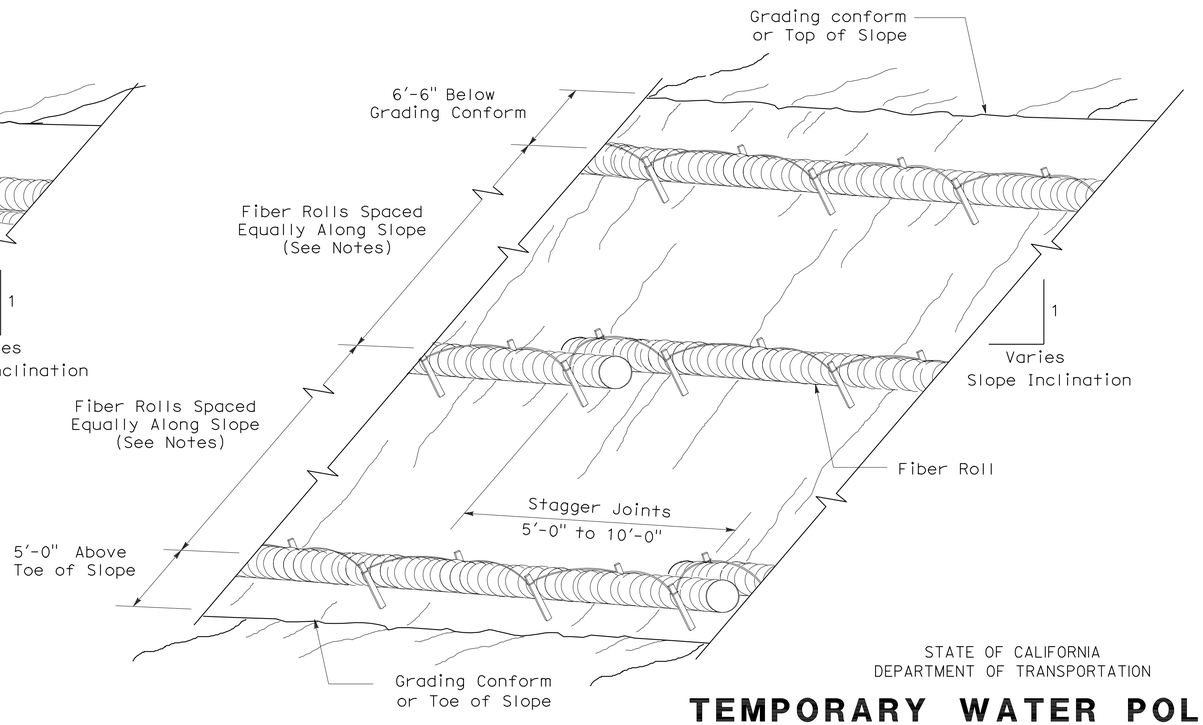
NOTES:

1. Temporary fiber roll spacing varies depending upon slope inclination.
2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



PERSPECTIVE

TEMPORARY FIBER ROLL (TYPE 1)



PERSPECTIVE

TEMPORARY FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FIBER ROLL)

NO SCALE

RSP T56 DATED APRIL 3, 2009 SUPERSEDES STANDARD PLAN T56
DATED MAY 1, 2006 - PAGE 232 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T56

2006 REVISED STANDARD PLAN RSP T56

2-23-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	496	607

Robert B Schott
LICENSED LANDSCAPE ARCHITECT

August 15, 2008
PLANS Approval DATE

LICENSED LANDSCAPE ARCHITECT — Robert B. Schott 3035 — Signature — 11-04-08 Renewal Date — 08-11-08 Date — STATE OF CALIFORNIA

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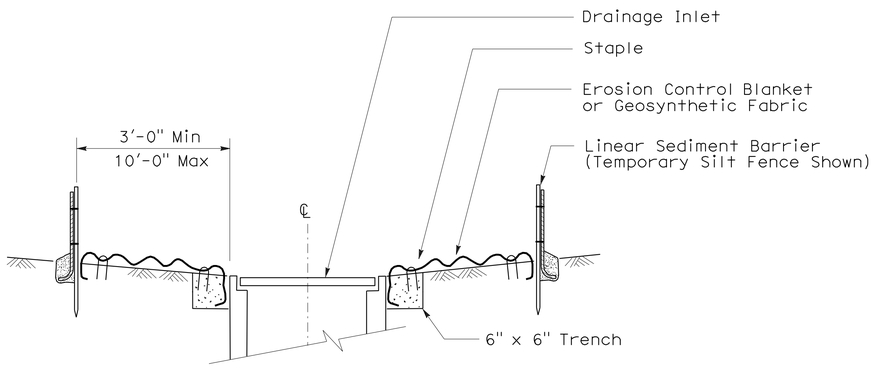
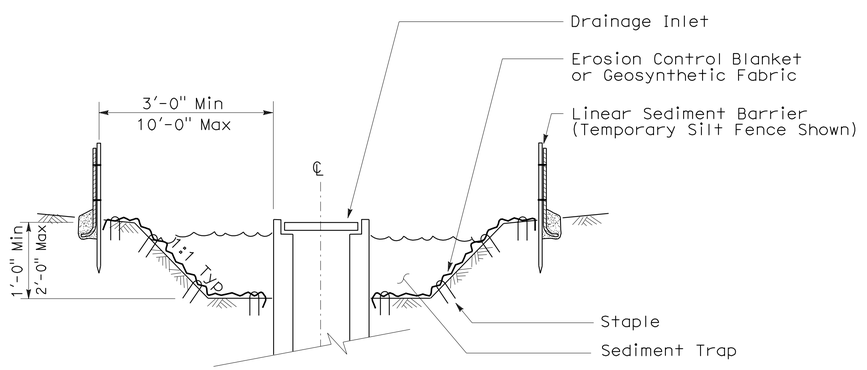
To accompany plans dated 11-1-10



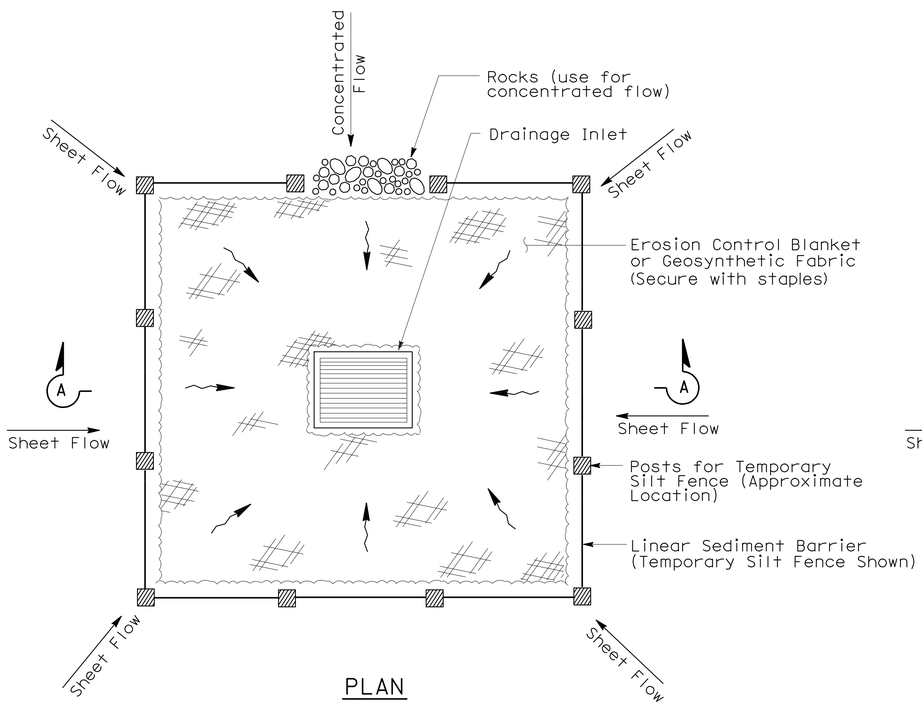
SECTION A-A



SECTION B-B

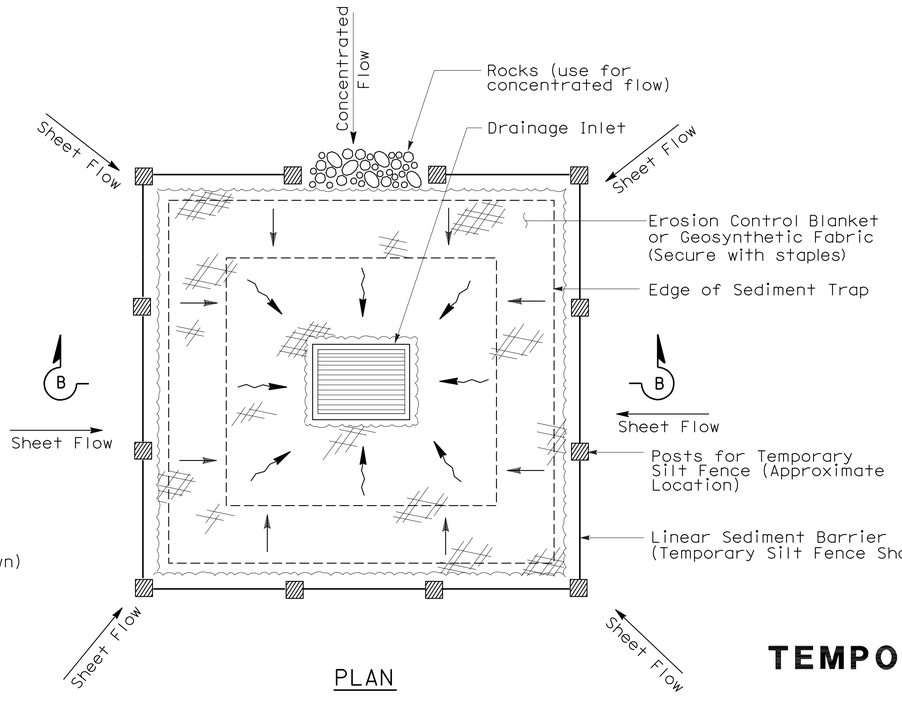
NOTES:

1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.



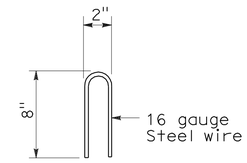
PLAN

TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 1)



PLAN

TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 2)
(EXCAVATED SEDIMENT TRAP)



STAPLE DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

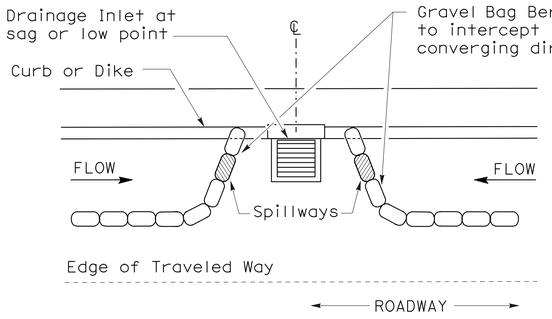
NO SCALE

NSP T61 DATED AUGUST 15, 2008 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP T61

2006 NEW STANDARD PLAN NSP T61

7-11-08



PLAN

CONFIGURATION FOR SAG POINT INLET (GRAVEL BAG BERM)

GRAVEL BAG BERM (TYPE 3A) SPACING TABLE

SLOPE OF ROADWAY (PERCENT)	1 to 3.9	4 to 5.9	6 to 7.9	8 to 10	10+
INTERVAL BETWEEN BERM	100′	75′	50′	25′	12′

For slope of less than 1%, install barriers only if erosion/sediment is prevalent

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	497	607

Robert B Schott
LICENSED LANDSCAPE ARCHITECT

August 15, 2008
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT Robert B. Schott 3035 Signature Date 11-04-08 Renewal Date 08-11-08 Date STATE OF CALIFORNIA

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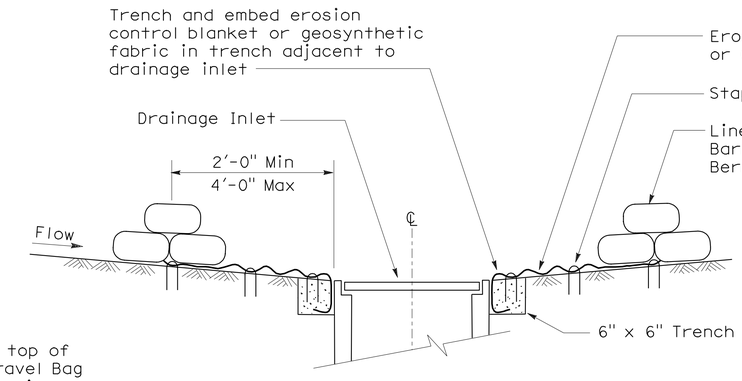
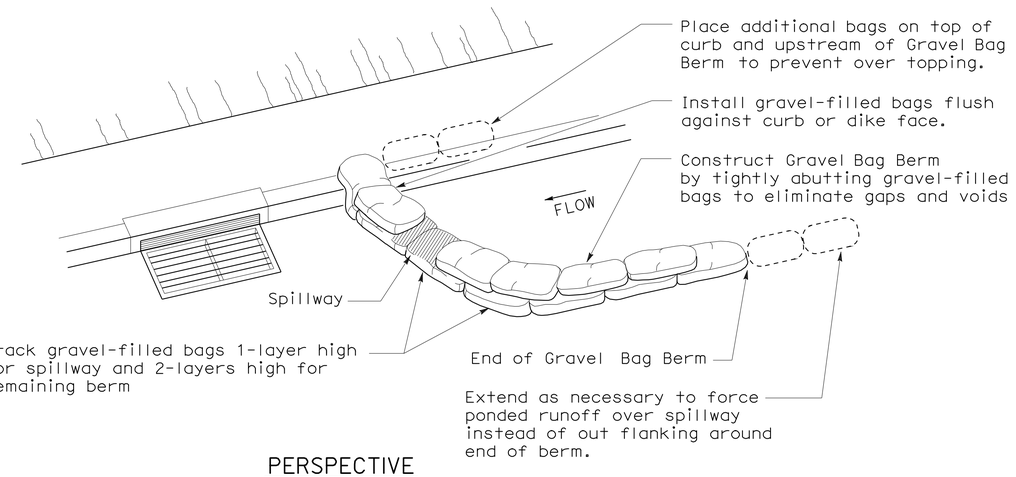
To accompany plans dated 11-1-10



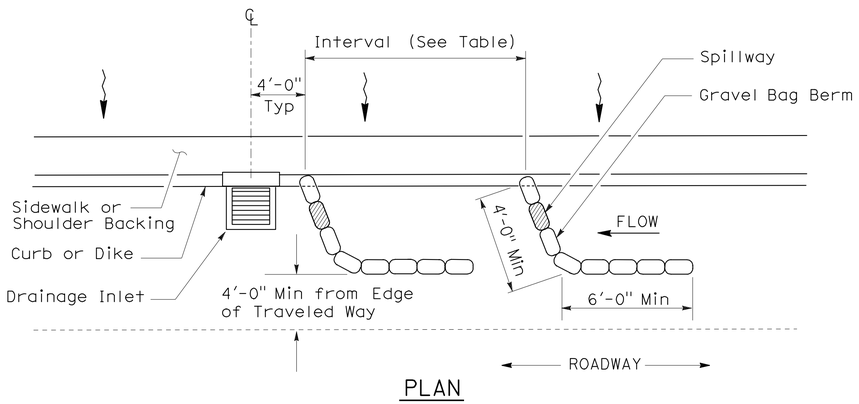
SECTION A-A

NOTES:

1. Place safety cones adjacent to drainage inlet protection.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 gravel bag berms upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated or paved.

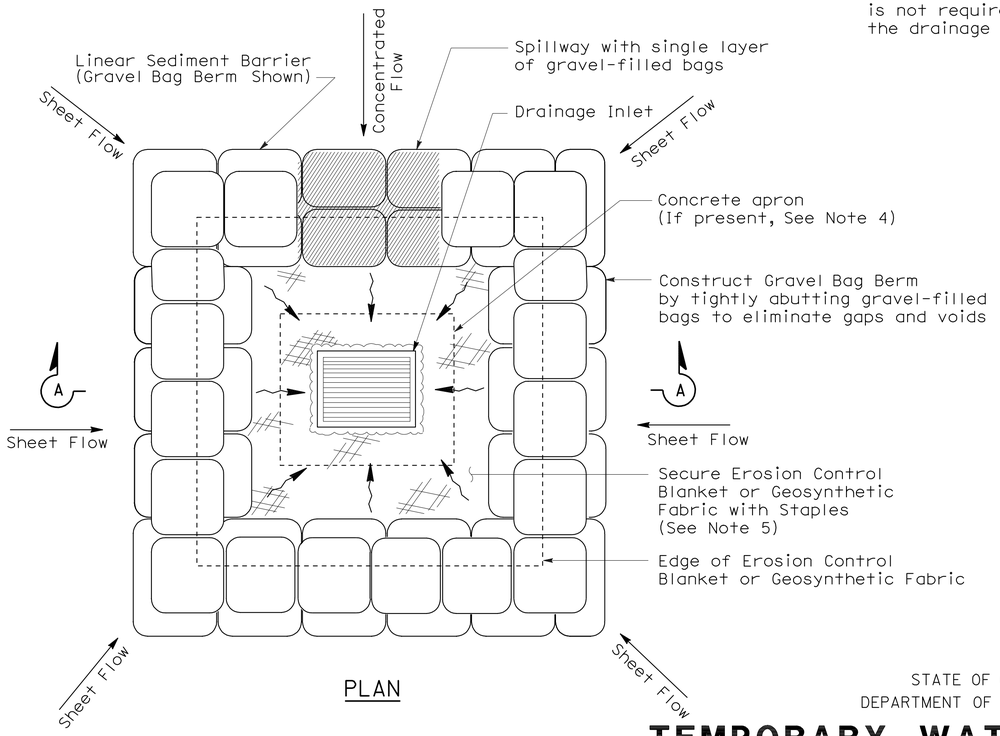


PERSPECTIVE



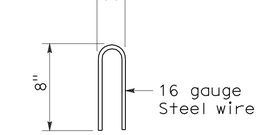
PLAN

TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3A) (GRAVEL BAG BERM)



PLAN

TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B)



STAPLE DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

NO SCALE

NSP T62 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP T62

2006 NEW STANDARD PLAN NSP T62

7-11-08

FLEXIBLE SEDIMENT BARRIER SPACING TABLE

SLOPE OF ROADWAY (PERCENT)	0 to 0.9	1 to 1.9	2 to 2.9	3 to 4	5+
INTERVAL BETWEEN BARRIERS	50′	35′	30′	25′	20′
ANGLE FROM FACE OF CURB	70°	70°	70°	45°	45°
SUGGESTED BARRIER LENGTH	6′	6′	6′	6′	6′

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	498	607

Robert B Schott
LICENSED LANDSCAPE ARCHITECT

August 15, 2008
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT — Robert B. Schott 3825 — Signature Date 11-04-08 — Renewal Date 08-11-08 — Date — STATE OF CALIFORNIA

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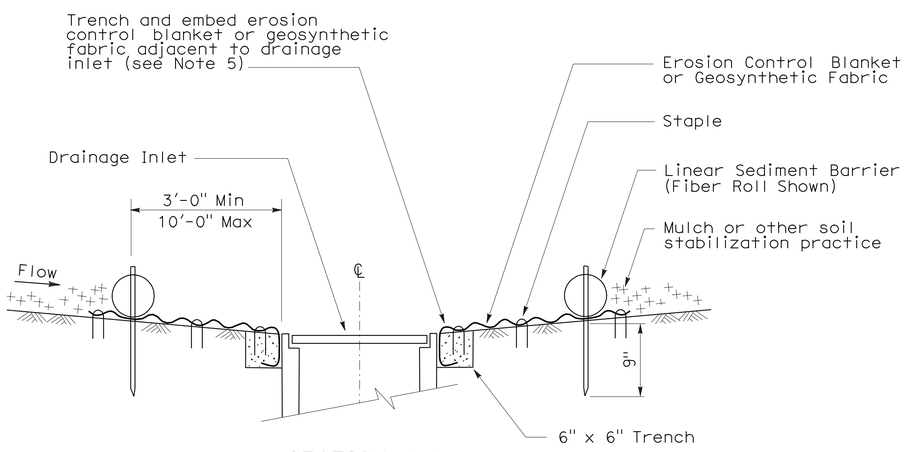
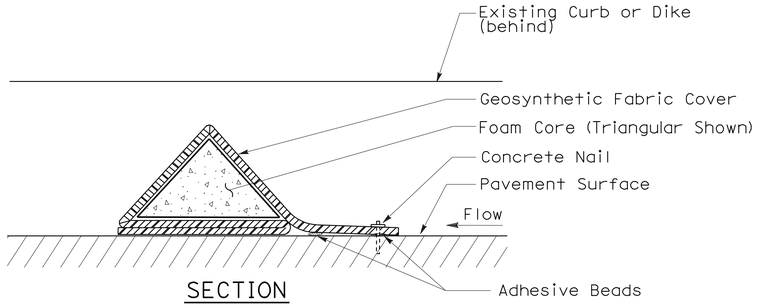
To accompany plans dated 11-1-10



SECTION A-A

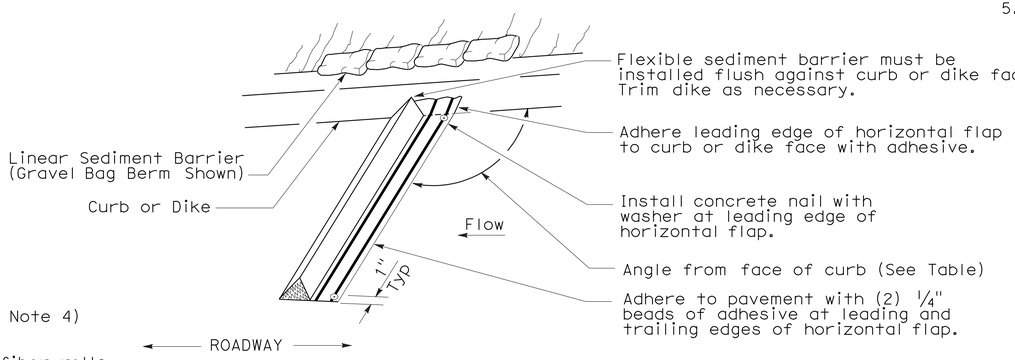


SECTION

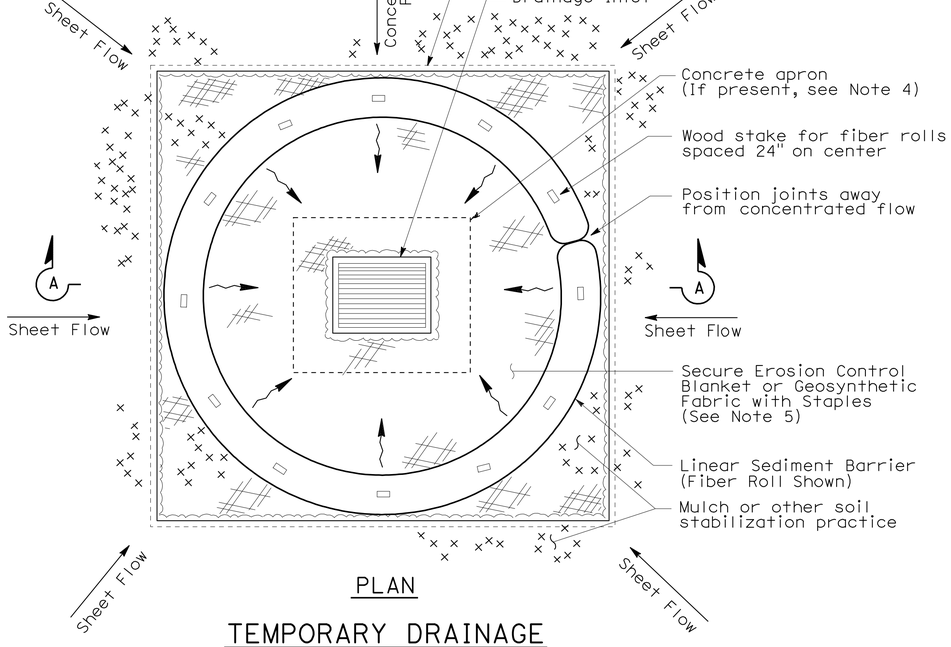
FLEXIBLE SEDIMENT BARRIER DETAIL (FOAM BARRIER SHOWN)

NOTES:

1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 flexible sediment barriers upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated.

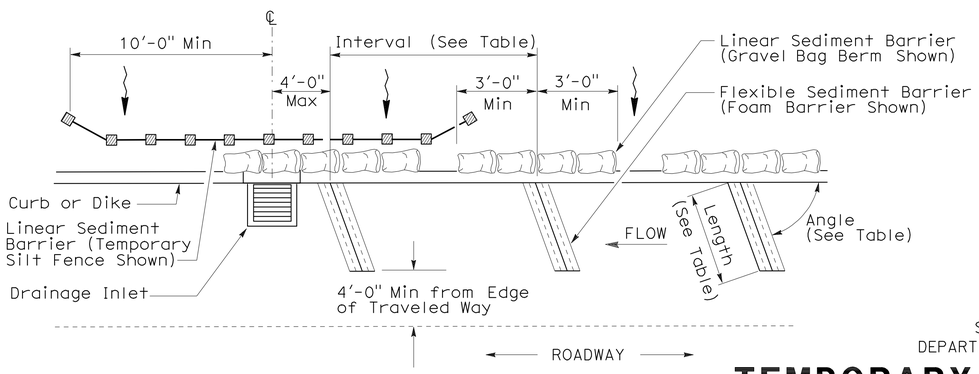


PERSPECTIVE



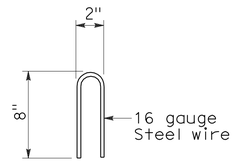
PLAN

TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4A)



PLAN

TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4B) FLEXIBLE SEDIMENT BARRIER



STAPLE DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

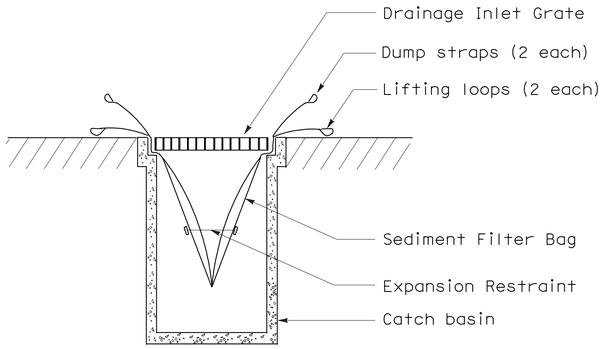
NO SCALE

NSP T63 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP T63

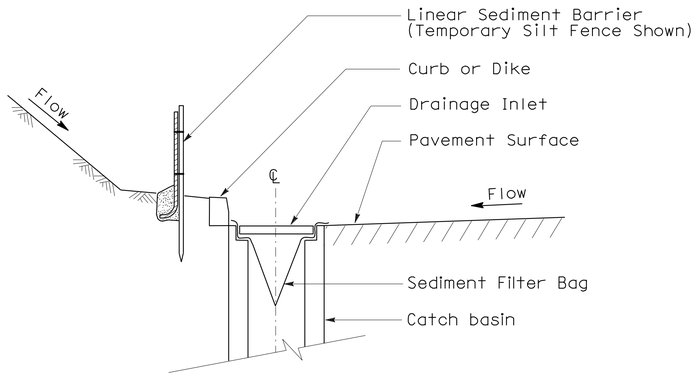
2006 NEW STANDARD PLAN NSP T63

7-11-08

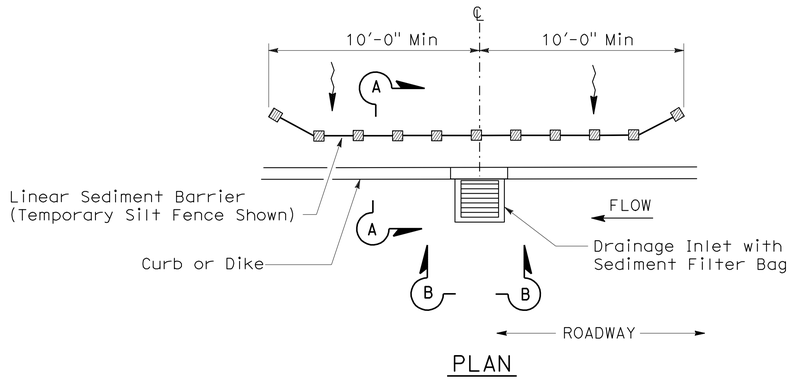


SECTION B-B

SEDIMENT FILTER BAG DETAIL

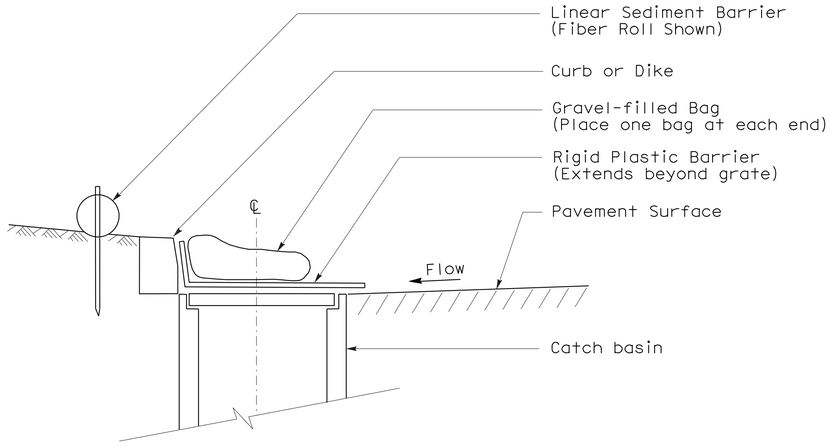


SECTION A-A



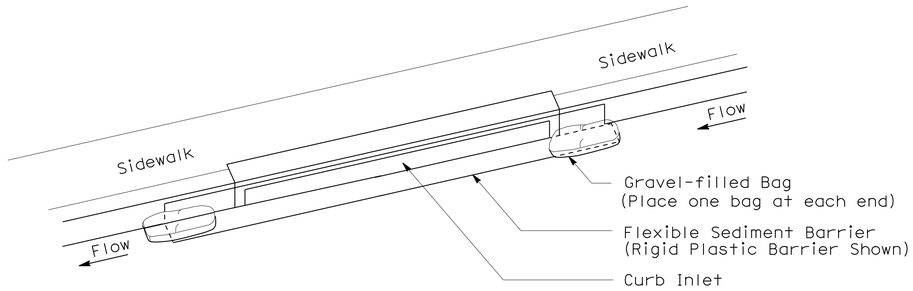
PLAN

TEMPORARY DRAINAGE INLET PROTECTION (TYPE 5) (SEDIMENT FILTER BAG)



SECTION

TEMPORARY DRAINAGE INLET PROTECTION (TYPE 6A) (CATCH BASIN WITH GRATE)



PERSPECTIVE

TEMPORARY DRAINAGE INLET PROTECTION (TYPE 6B) (CURB INLET WITHOUT GRATE)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	499	607

Robert B Schott
LICENSED LANDSCAPE ARCHITECT

August 15, 2008
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT — Robert B. Schott 3035 — Signature — 11-04-08 Renewal Date — 08-11-08 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.

To accompany plans dated 11-1-10

NOTES:

1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

NO SCALE

NSP T64 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP T64

2006 NEW STANDARD PLAN NSP T64

7-11-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	99	0.0/4.6	500	607

Robert B Schott
LICENSED LANDSCAPE ARCHITECT

April 3, 2009
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT — Robert B. Schott 3035 — Signature — 11-30-10 Renewal Date — 2-25-09 Date — STATE OF CALIFORNIA

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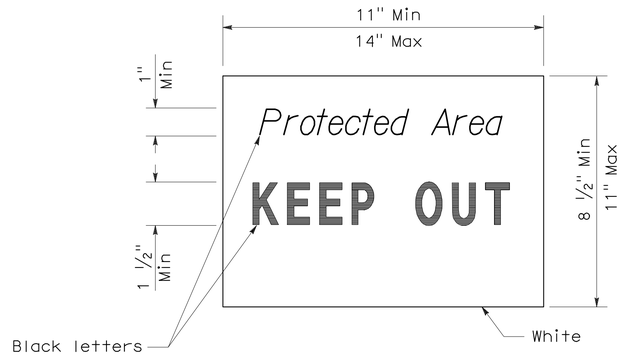
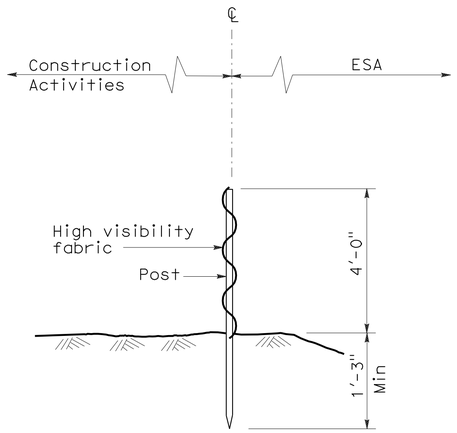
To accompany plans dated 11-1-10



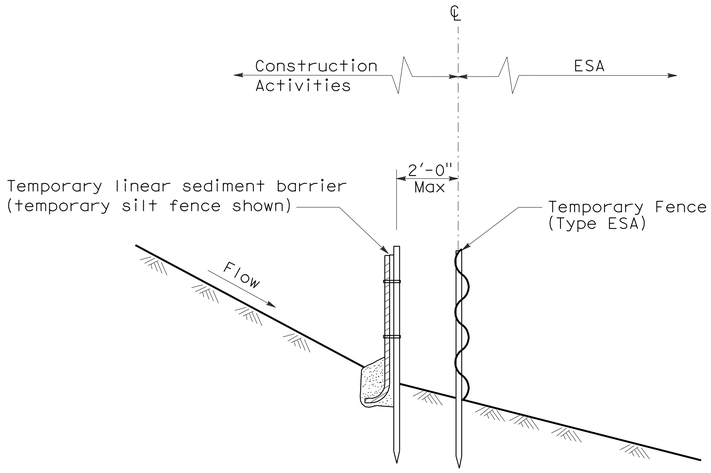
SIGN DETAIL

NOTE:

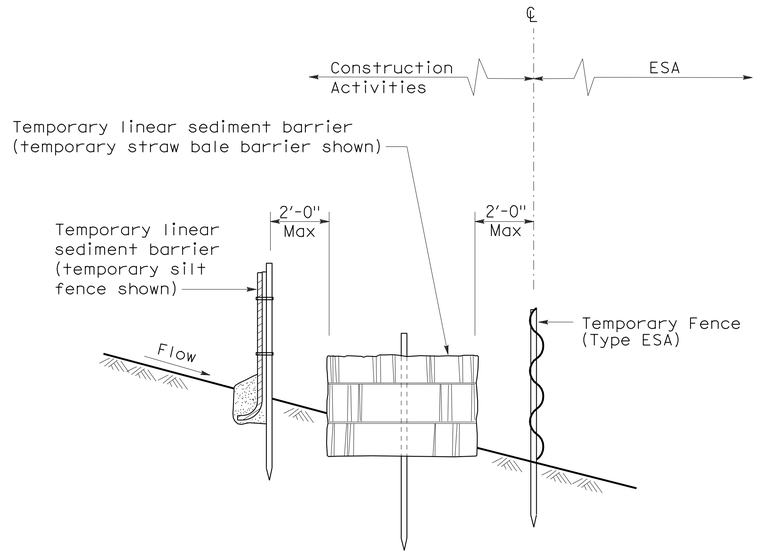
1. Temporary silt fence and temporary straw bale barrier shown for reference purposes only.



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)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS [TEMPORARY FENCE (TYPE ESA)]

NO SCALE

NSP T65 DATED APRIL 3, 2009 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP T65

2006 NEW STANDARD PLAN NSP T65

1-7-09