Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	201	456

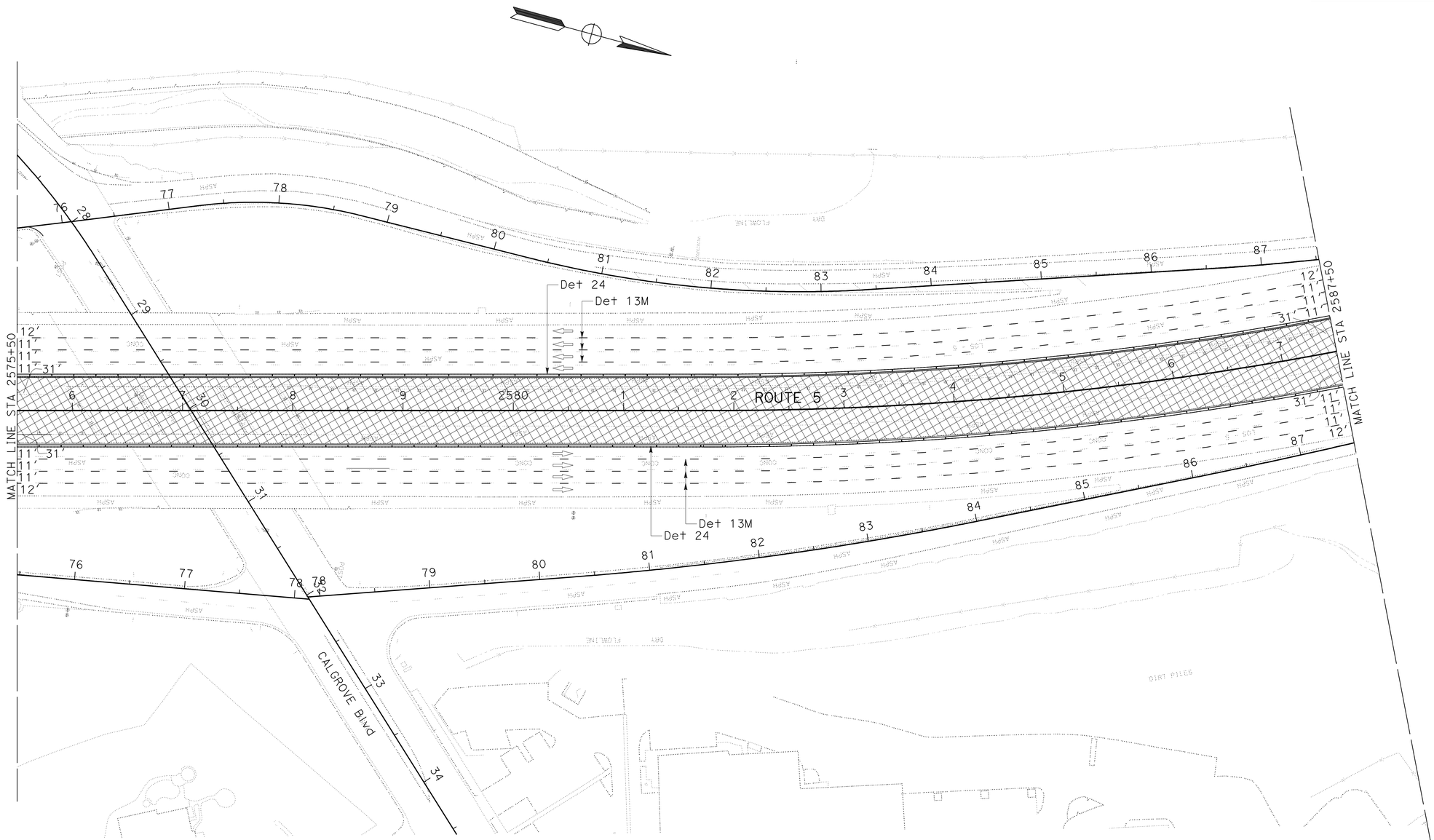
REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
AMIR AWN ELSHARIEF
No. 72560
Exp. 6/30/12
CIVIL
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.

NOTE: SEE SHEET SC-15 FOR WORK ON LOCAL ROAD.



STAGE 1
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50′ **SC-14**

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:56

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	202	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL STATE OF CALIFORNIA

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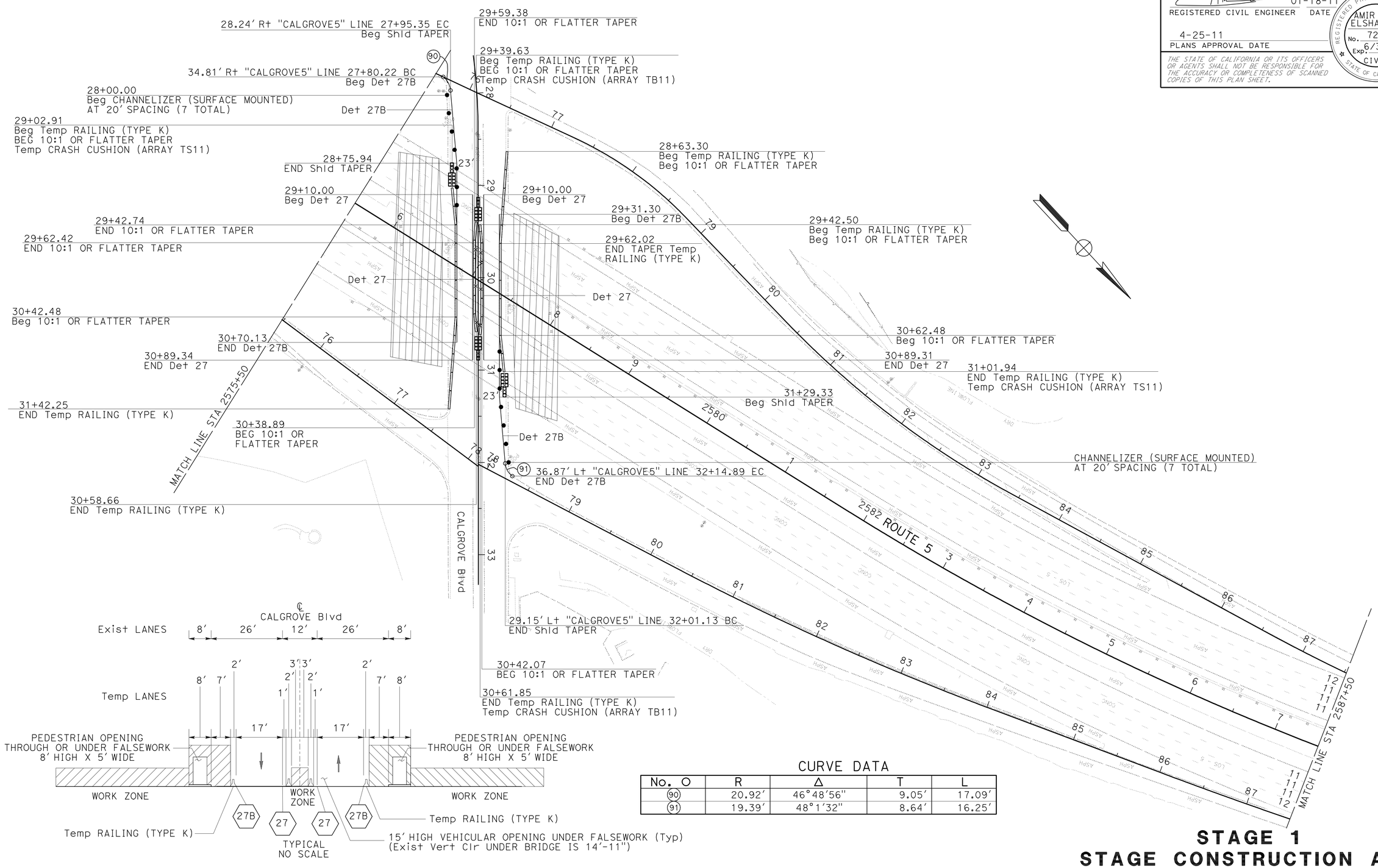
NOTE: SEE SHEET SC-14 FOR WORK ON MAINLINE.



CURVE DATA

No. O	R	Δ	T	L
90	20.92′	46°48′56"	9.05′	17.09′
91	19.39′	48°1′32"	8.64′	16.25′

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 1
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50′

SC-15

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:56

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	203	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
AMIR AWN ELSHARIEF
No. 72560
Exp. 6/30/12
CIVIL
STATE OF CALIFORNIA

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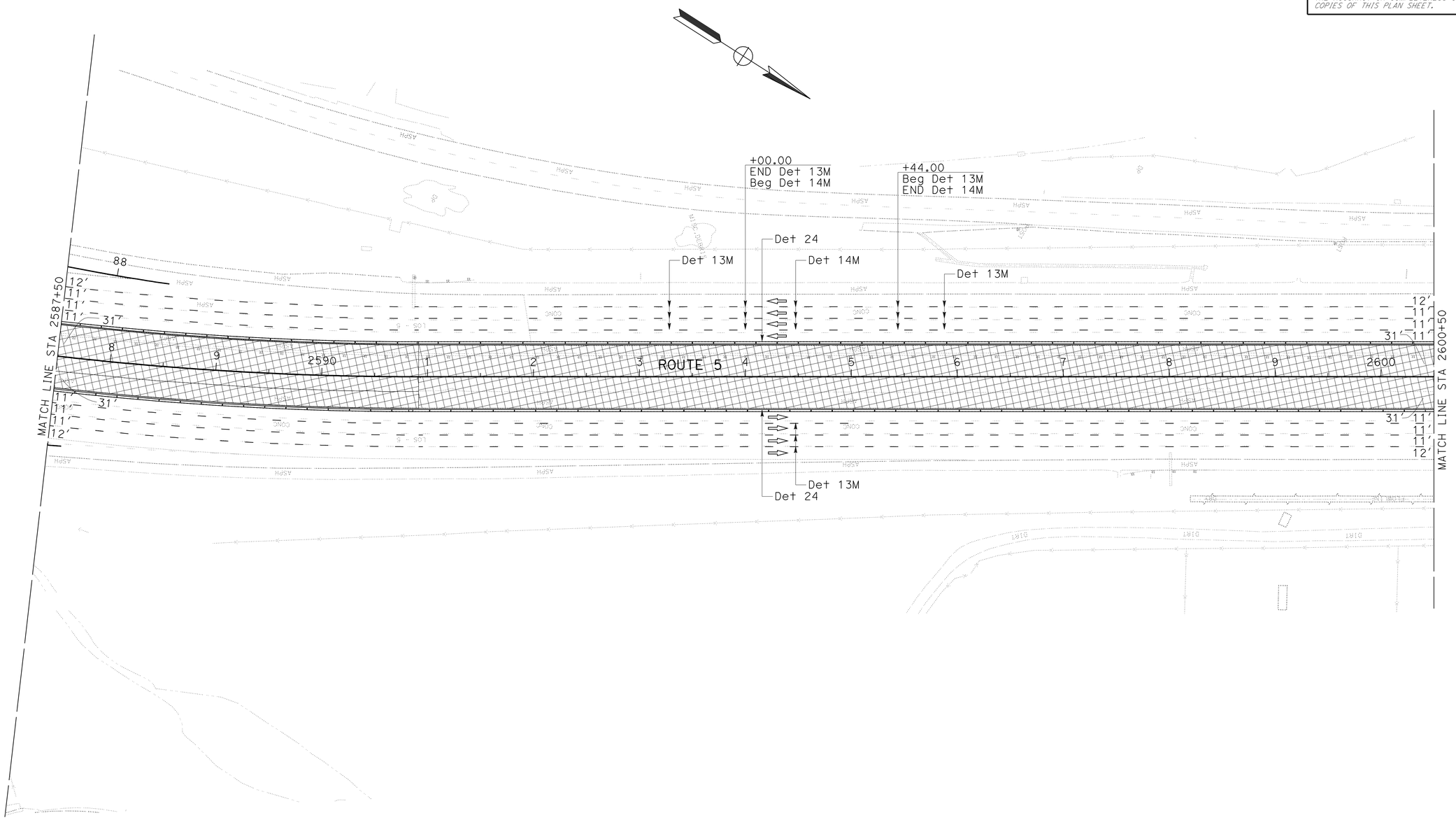


THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 1
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50′

SC-16

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES

CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF

REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:56

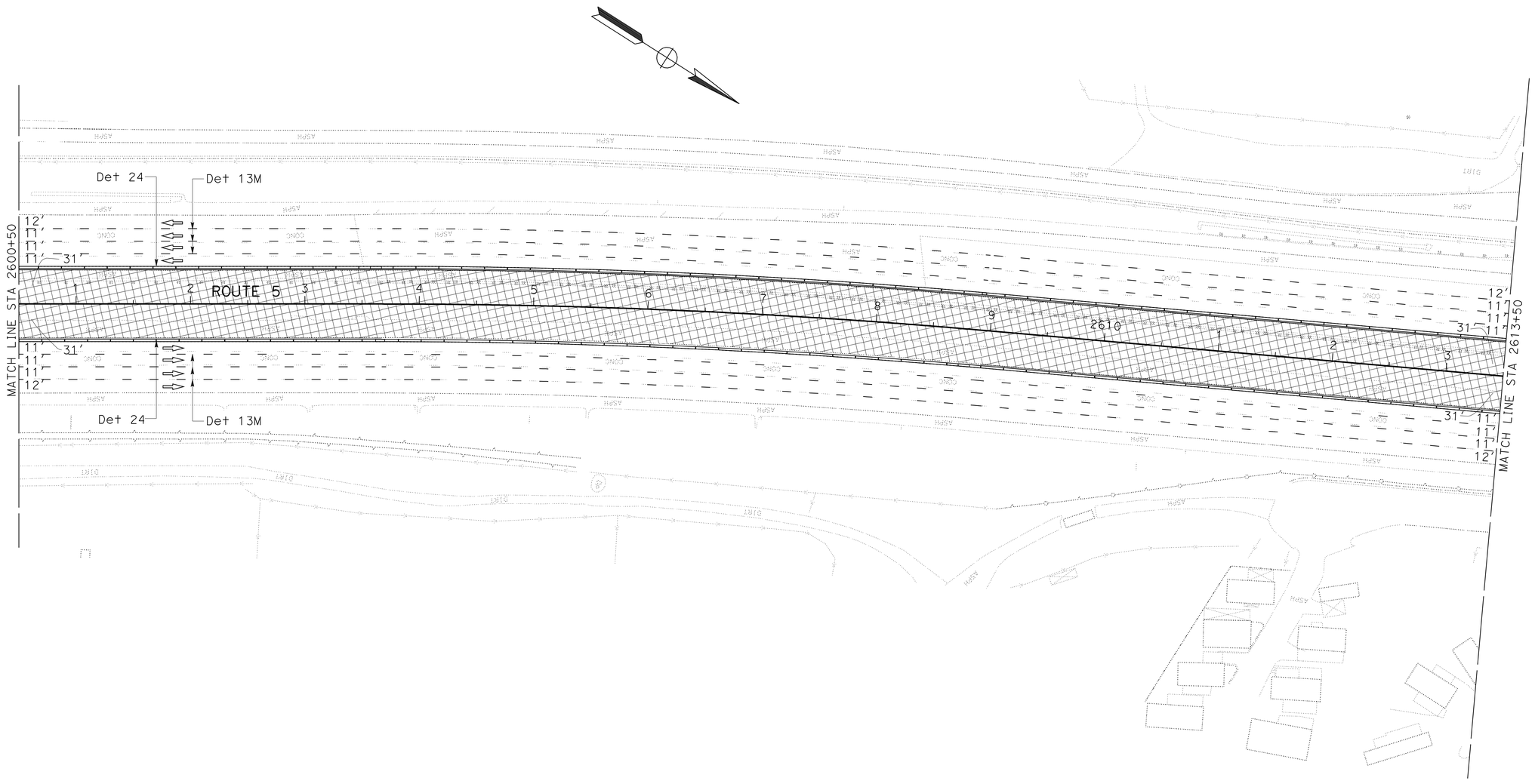
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	204	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
AMIR AWN ELSHARIEF
No. 72560
Exp. 6/30/12
CIVIL
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 ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 1
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-17

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:56

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	205	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL STATE OF CALIFORNIA

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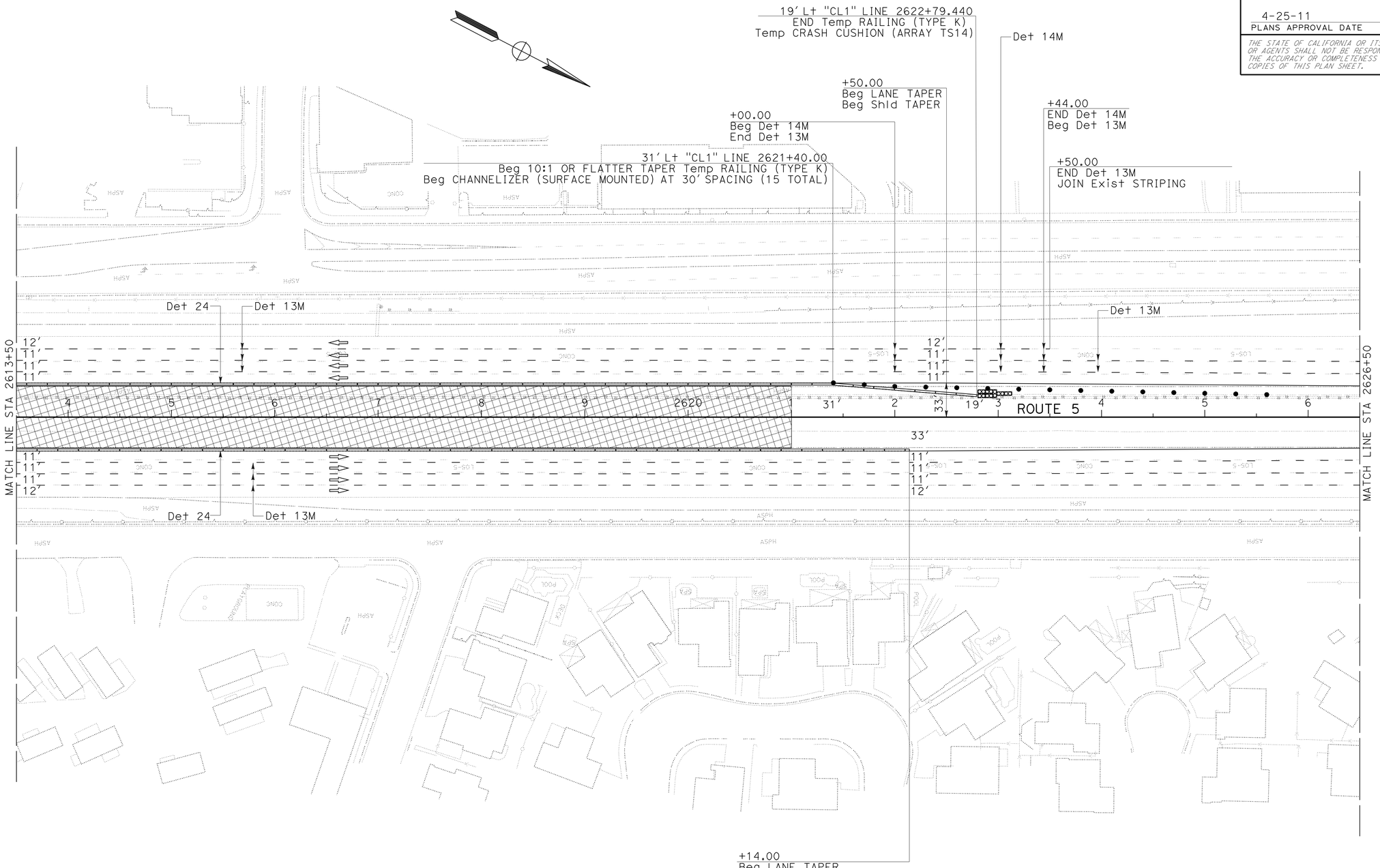


THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 1
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-18

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans®
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:57

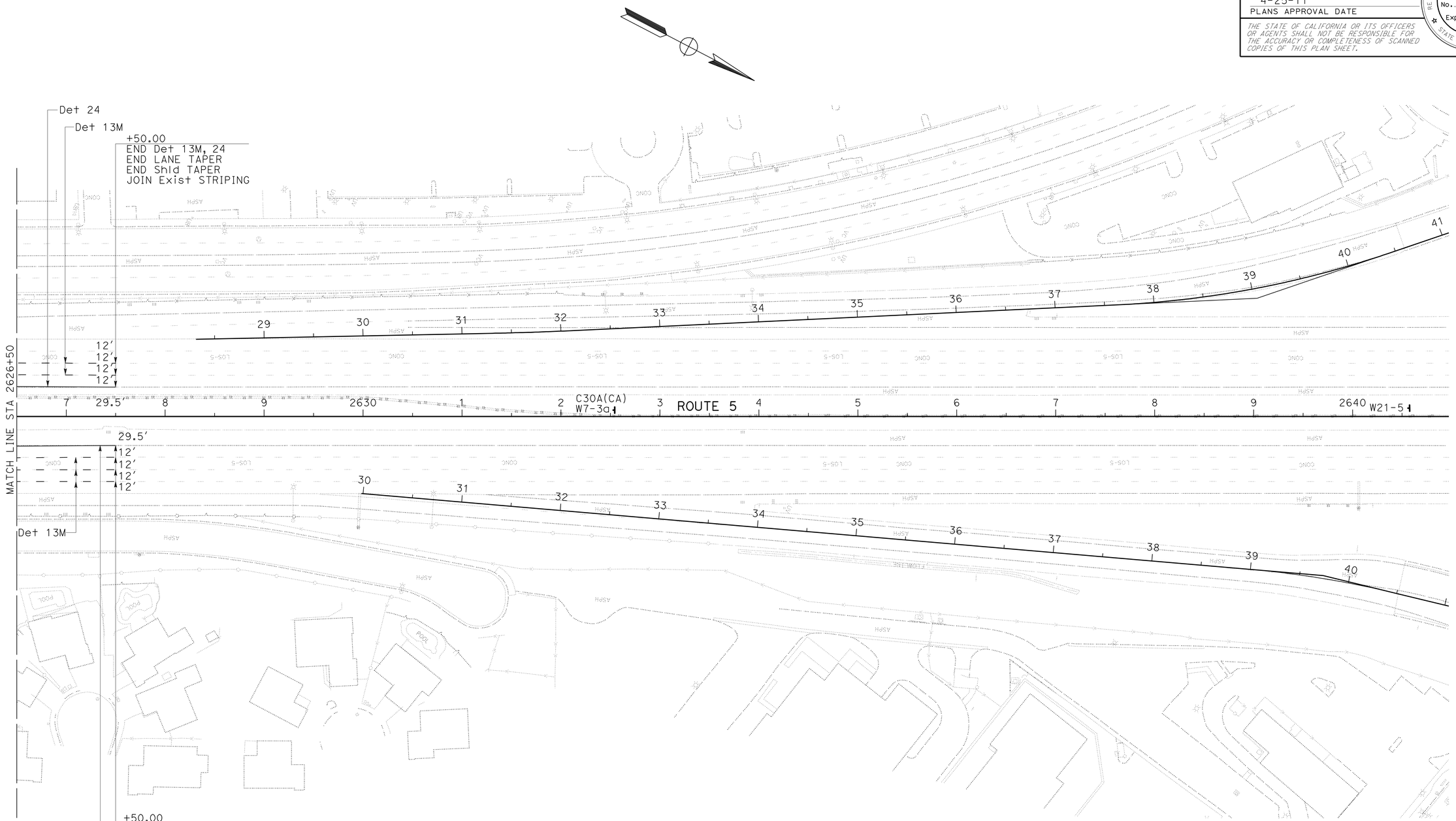
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	206	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
AMIR AWN ELSHARIEF
No. 72560
Exp 6/30/12
CIVIL
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 ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 1
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-19

REVISED BY | DATE REVISED

DAN PHAM | AMIR ELSHARIEF

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans®

DESIGN

LAST REVISION 01-14-11 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 09:57

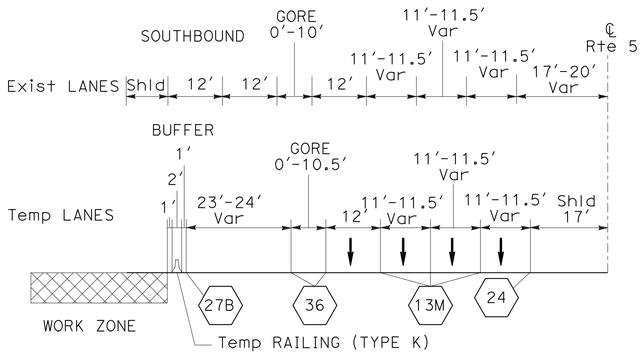
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	207	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

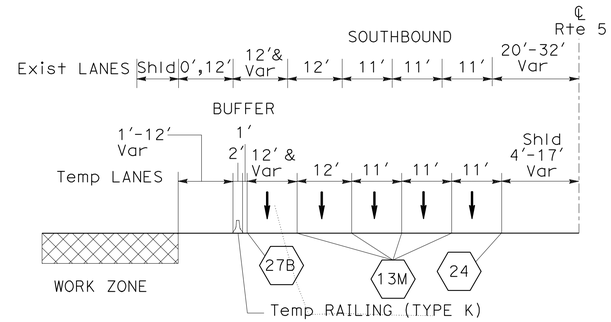
4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL STATE OF CALIFORNIA

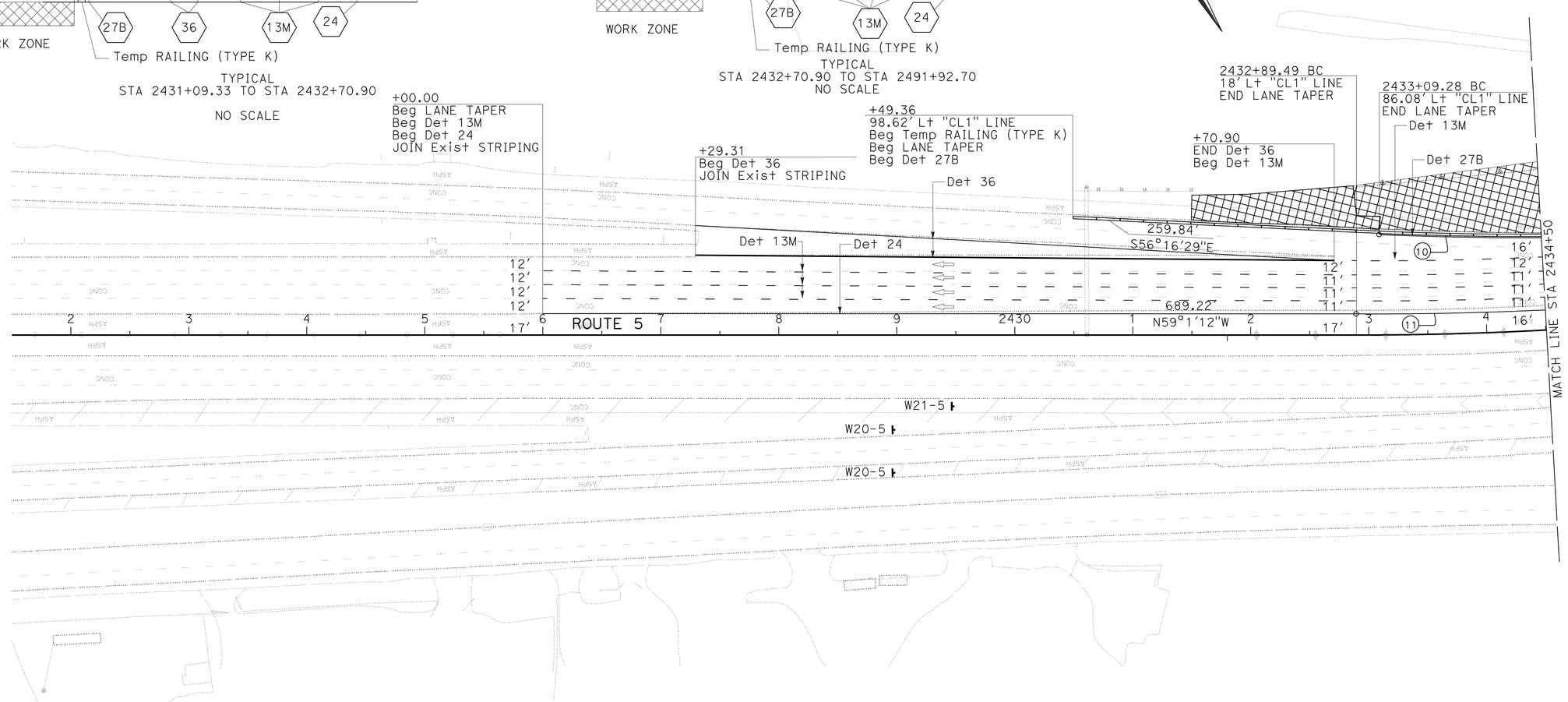
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



TYPICAL
STA 2431+09.33 TO STA 2432+70.90
NO SCALE



TYPICAL
STA 2432+70.90 TO STA 2491+92.70
NO SCALE



CURVE DATA

No. O	R	Δ	T	L
10	3003.00'	4°26'47"	116.58'	233.05'
11	3022.54'	21°33'12"	575.31'	1137.02'

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 2
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-20

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:57

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	208	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
AMIR AWN ELSHARIEF
No. 72560
Exp. 6/30/12
CIVIL
STATE OF CALIFORNIA

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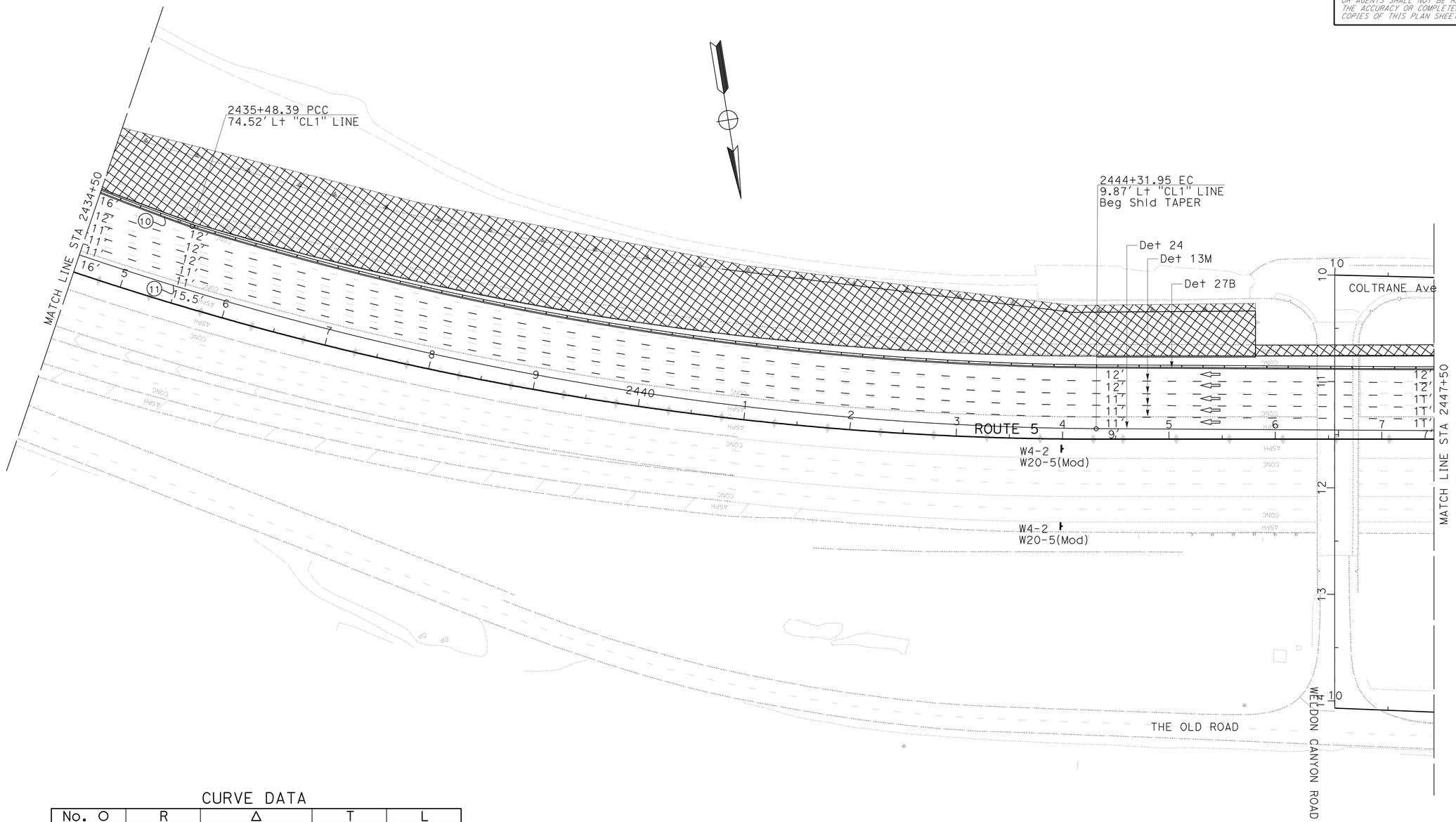

CURVE DATA

No. O	R	Δ	T	L
10	3003.00'	4°26'47"	116.58'	233.05'
11	3022.54'	21°33'12"	575.31'	1137.02'

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 2
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-21

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:57

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	209	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL STATE OF CALIFORNIA

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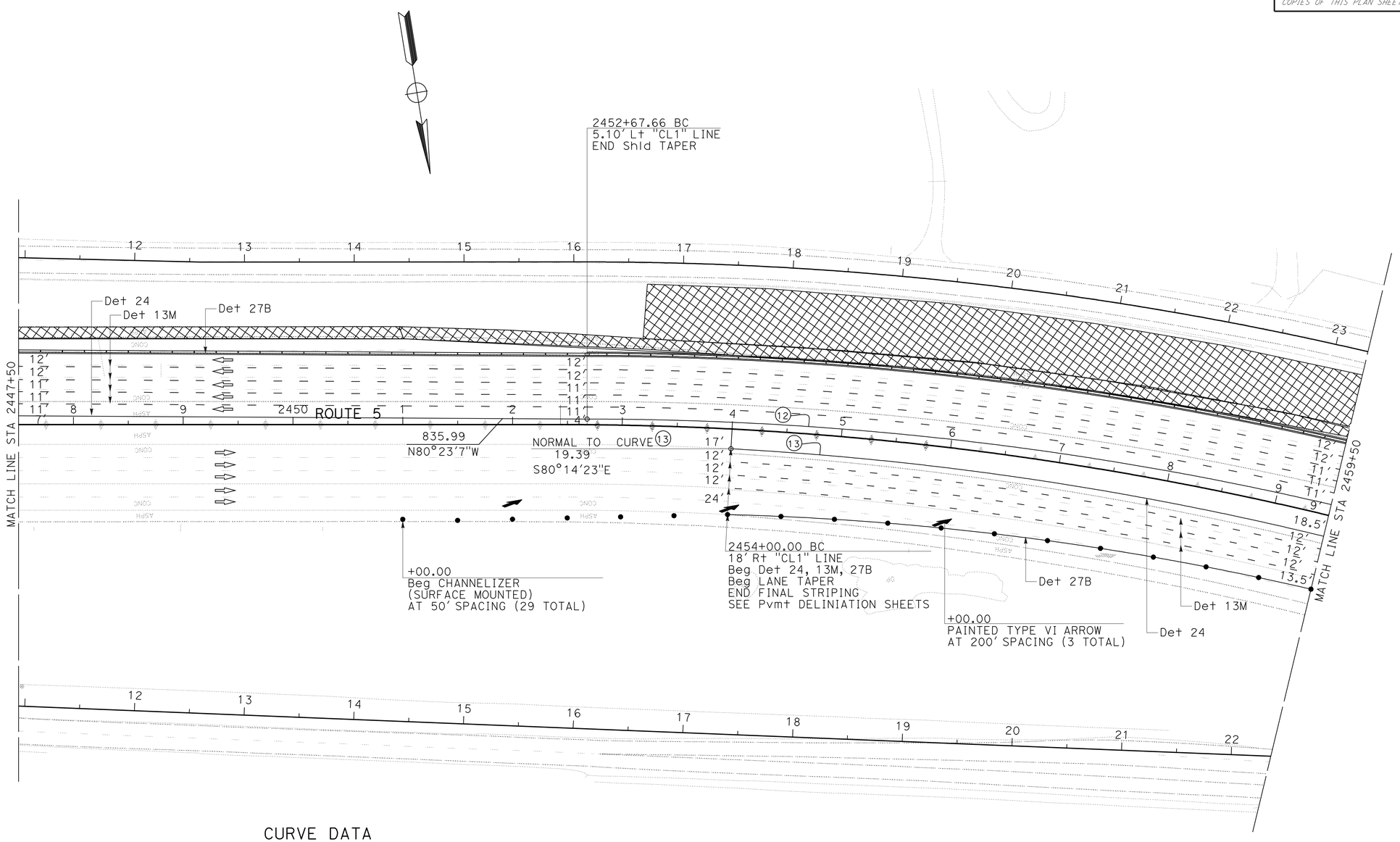
NOTE:
DELINEATION TO BE FINAL STRIPING FROM PD SHEETS NORTHBOUND FROM STA 2441+00 TO 2454+00



CURVE DATA

No. O	R	Δ	T	L
(12)	2987.00'	44°48'57"	1231.63'	2336.37'
(13)	2973.53'	16°5'01"	420.12'	834.71'

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 2
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-22

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
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REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:57

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	210	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
AMIR AWN ELSHARIEF
No. 72560
Exp. 6/30/12
CIVIL
STATE OF CALIFORNIA

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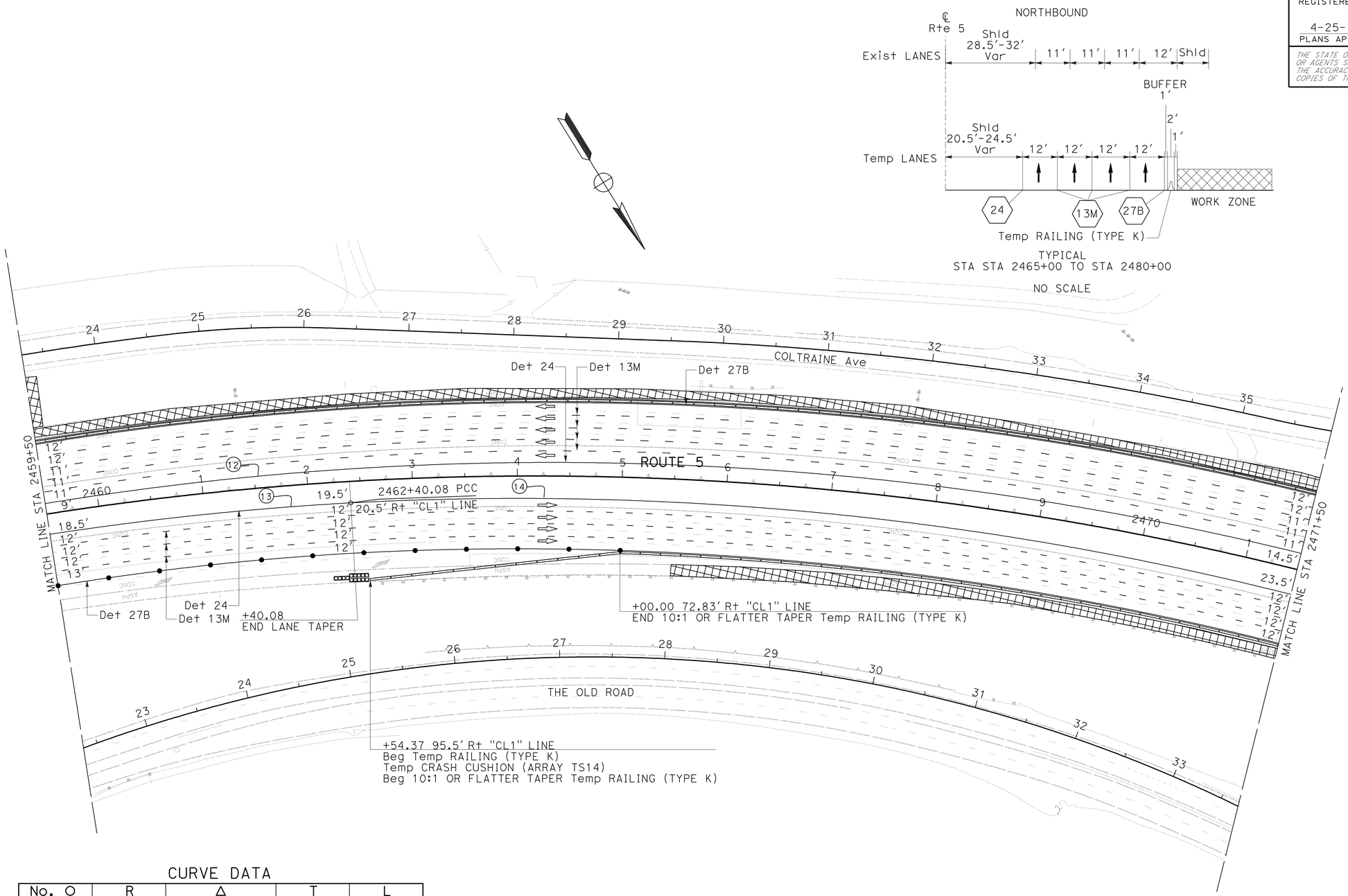

CURVE DATA

No. O	R	Δ	T	L
12	2987.00'	44°48'57"	1231.63'	2336.37'
13	2973.53'	16°5'01"	420.12'	834.71'
14	3004.60'	25°58'20"	692.89'	1361.98'

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 2
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-23

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:57

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	211	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL STATE OF CALIFORNIA

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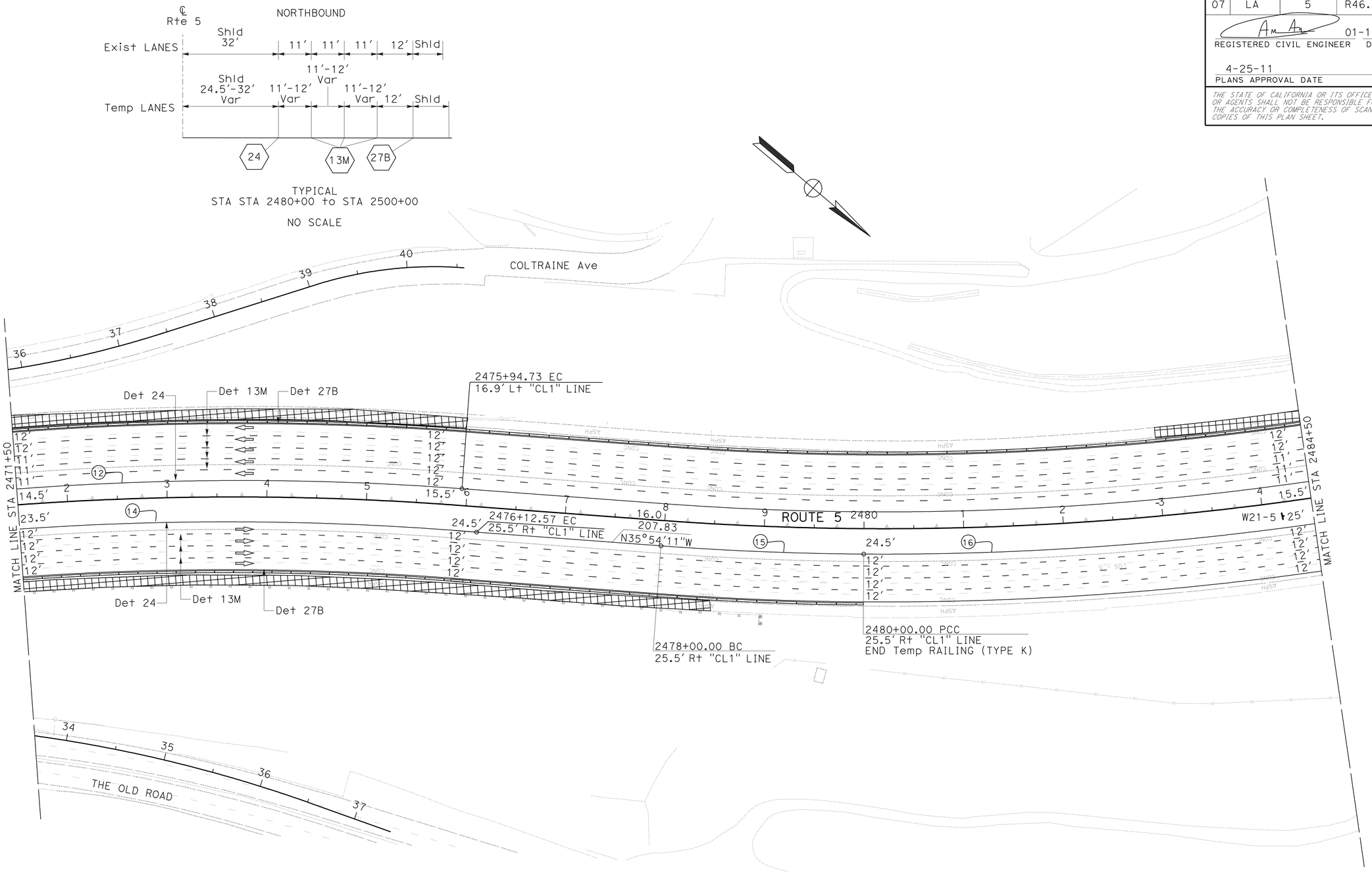

CURVE DATA

No. O	R	Δ	T	L
12	2987.00'	44°48'57"	1231.63'	2336.37'
14	3004.60'	25°58'20"	692.89'	1361.98'
15	3025.53'	3°51'28"	101.90'	203.71'
16	3079.23'	24°41'50"	674.12'	1327.29'

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 2
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-24

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans®
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:58

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	212	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL STATE OF CALIFORNIA

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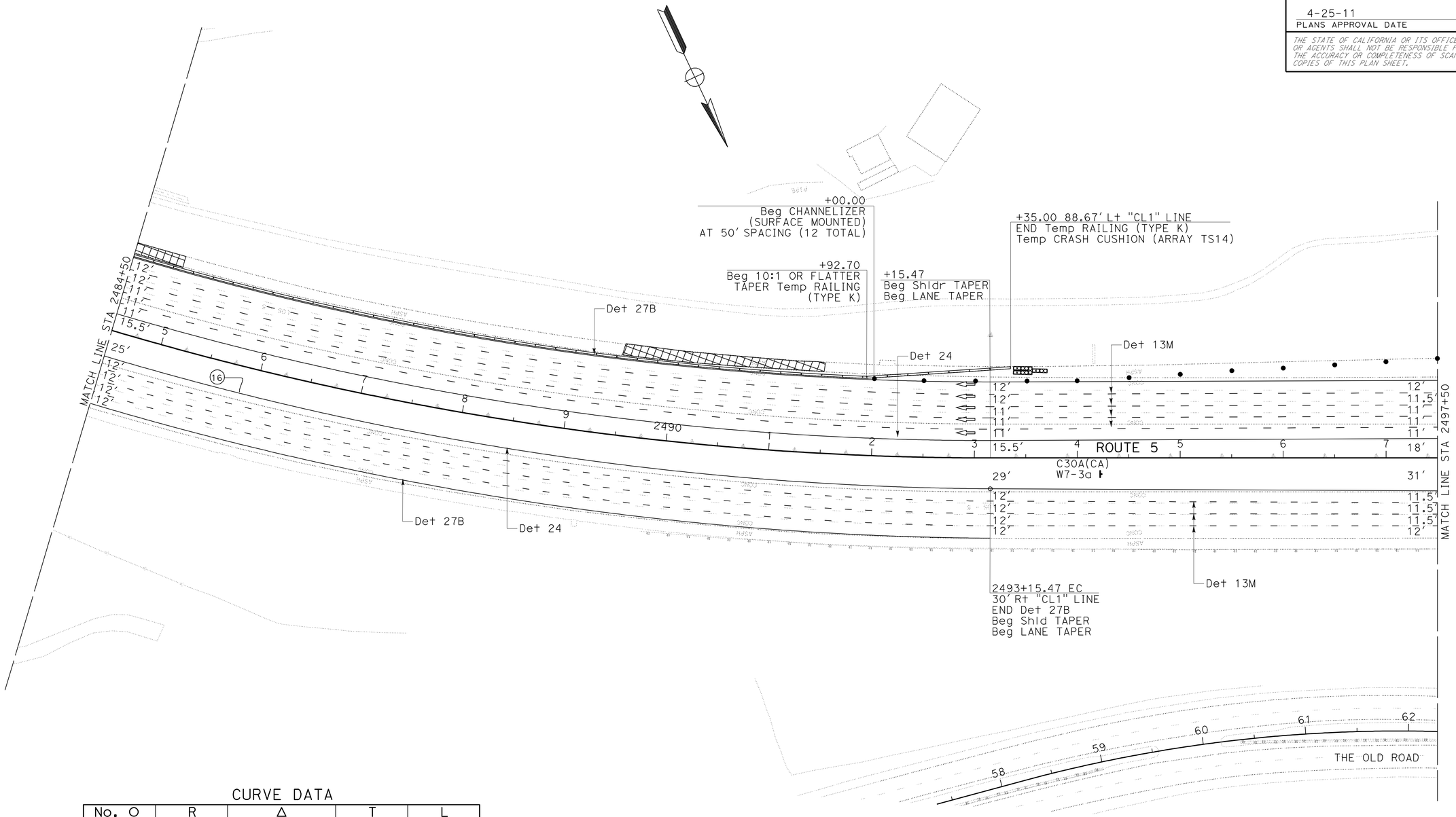

CURVE DATA

No. O	R	Δ	T	L
16	3079.23'	24°41'50"	674.12'	1327.29'

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 2
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-25

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:58

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	213	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
AMIR AWN ELSHARIEF
No. 72560
Exp. 6/30/12
CIVIL
STATE OF CALIFORNIA

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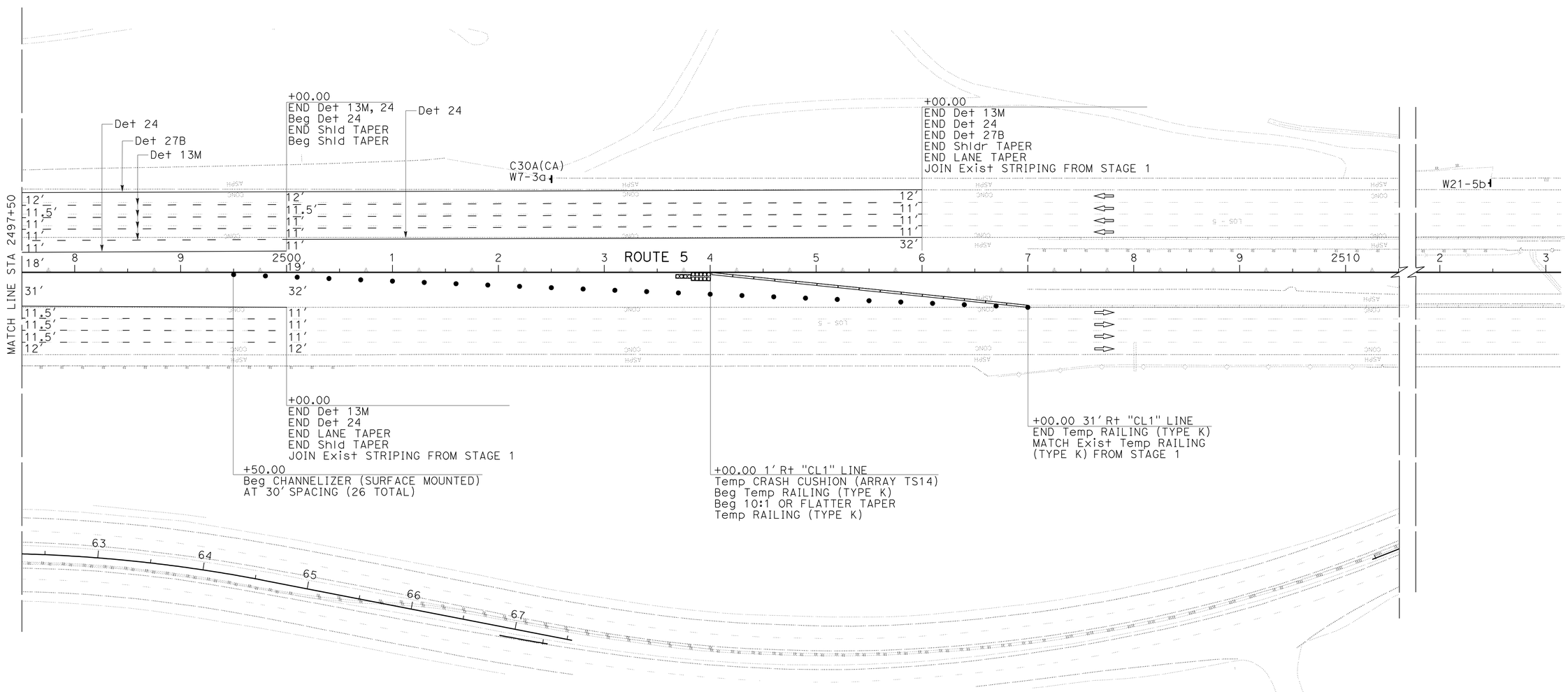

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 2
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-26

REVISED BY	DATE REVISED
DAN PHAM	AMIR ELSHARIEF
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:58

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	214	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
AMIR AWN ELSHARIEF
No. 72560
Exp. 6/30/12
CIVIL
STATE OF CALIFORNIA

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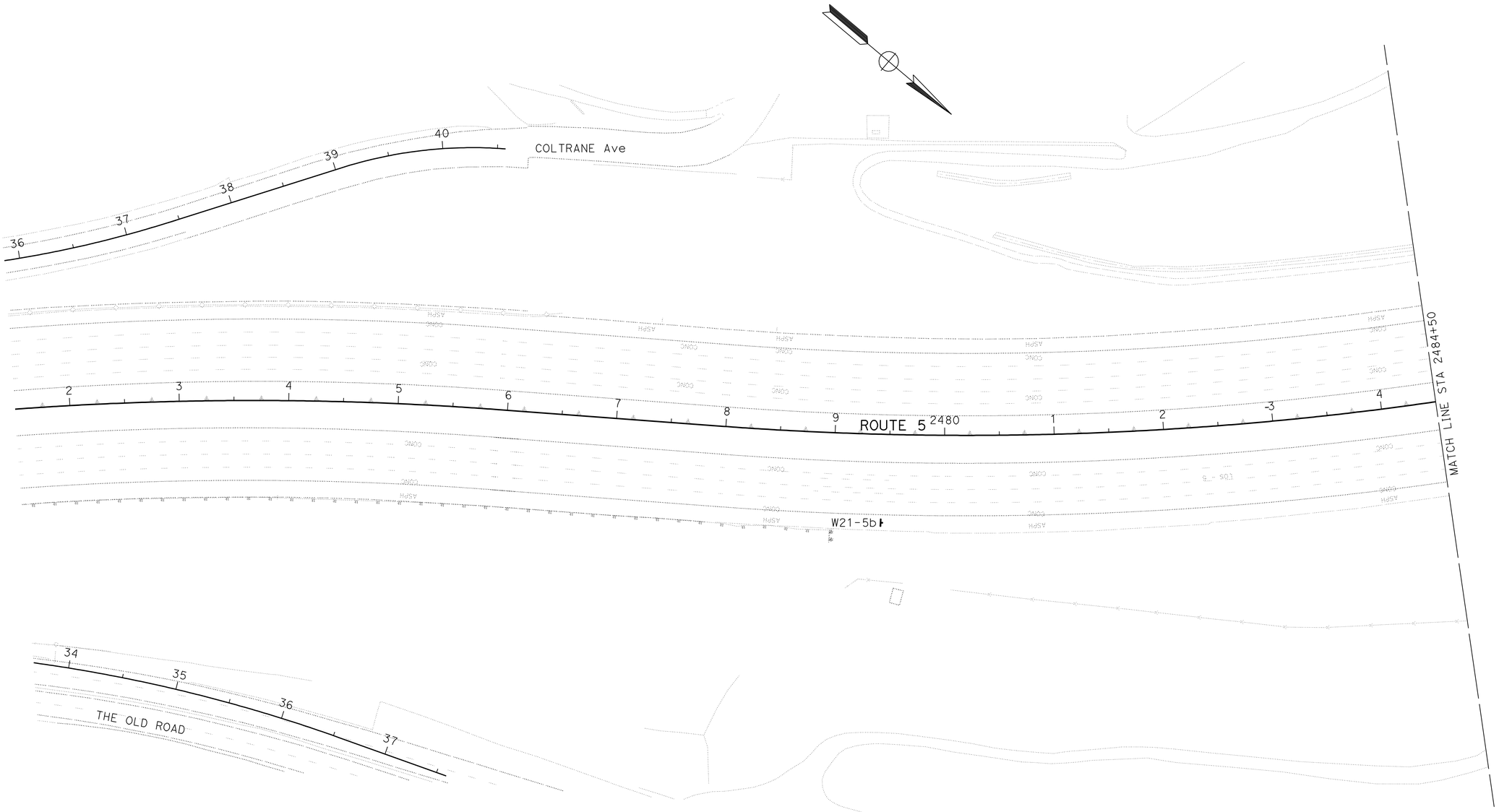

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 3
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-27

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans®
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES

CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF

REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:58

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	215	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
AMIR AWN ELSHARIEF
No. 72560
Exp. 6/30/12
CIVIL
STATE OF CALIFORNIA

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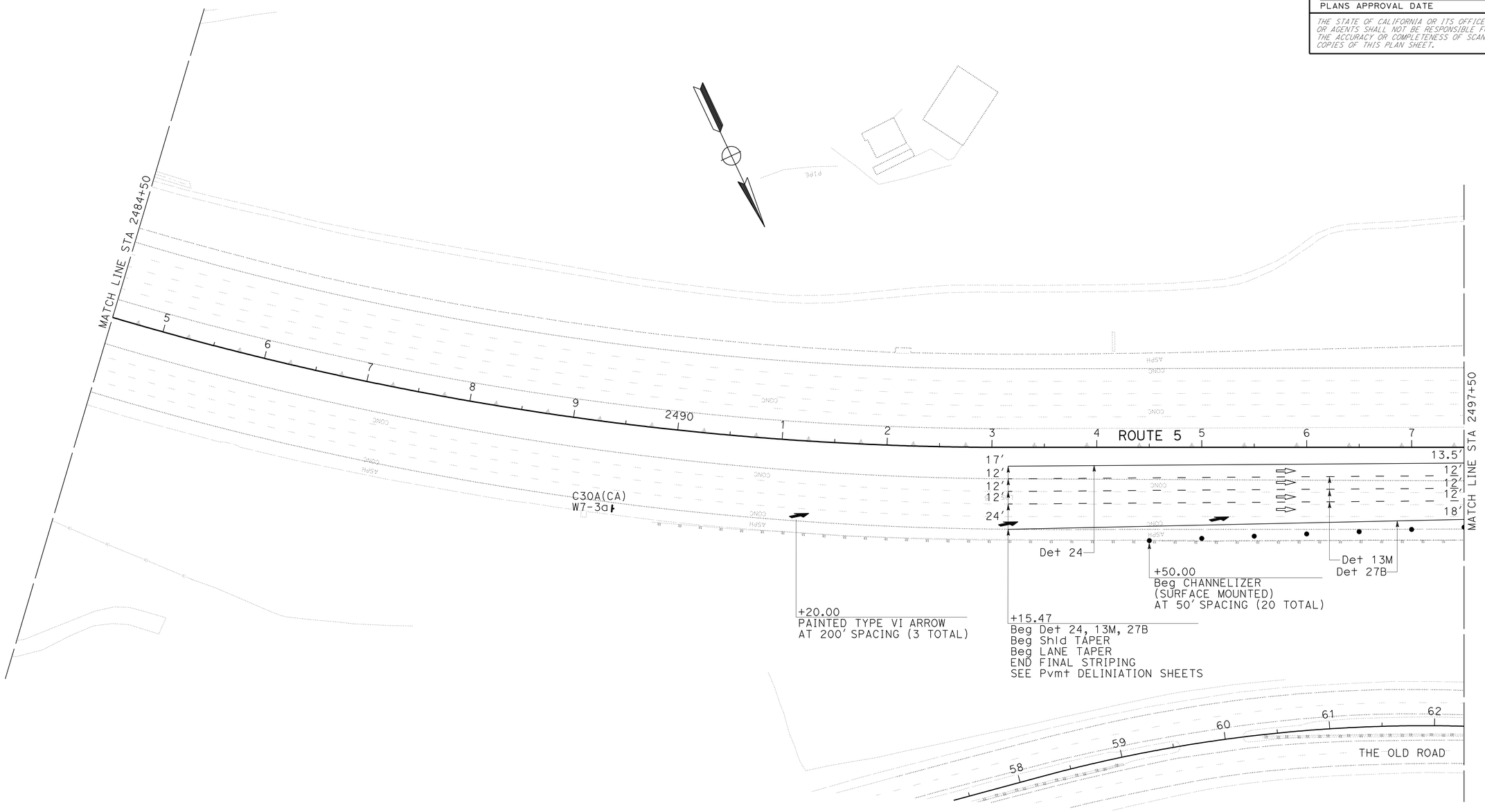
NOTE:
DELINEATION TO BE FINAL STRIPING FROM PD SHEETS NORTHBOUND FROM STA 2454+00 TO 2493+15.47.



THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 3
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-28

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES

CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF

REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:58

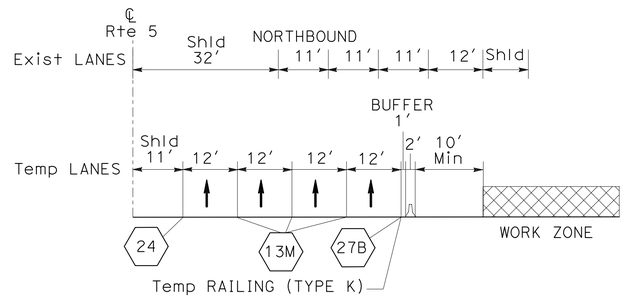
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	216	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

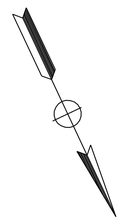
REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL STATE OF CALIFORNIA

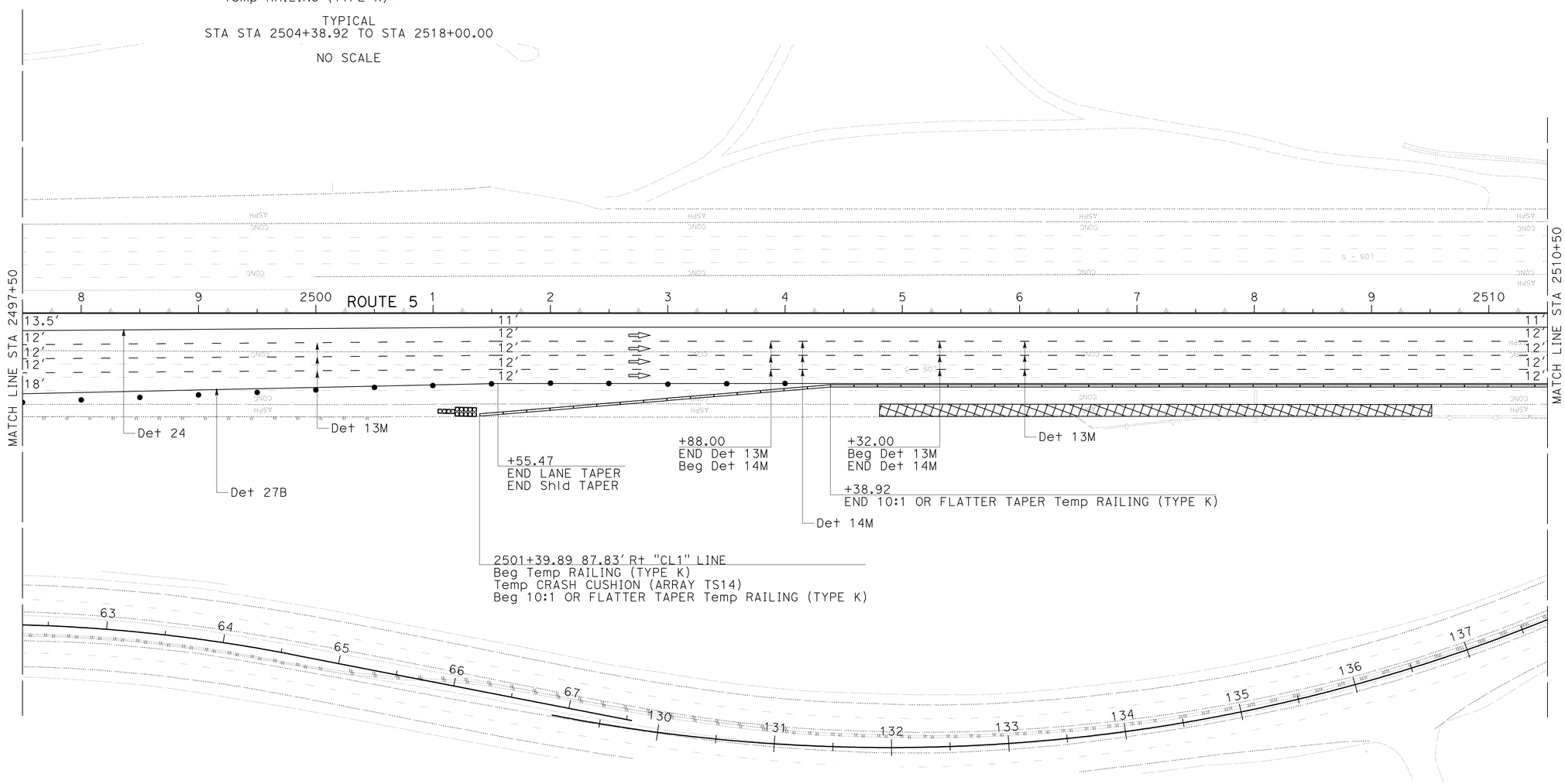
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



TYPICAL
STA STA 2504+38.92 TO STA 2518+00.00

NO SCALE





THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 3
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50′ **SC-29**

REVISED BY | DATE REVISED
DAN PHAM | AMIR ELSHARIEF
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 01-14-11 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 09:59

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	217	456

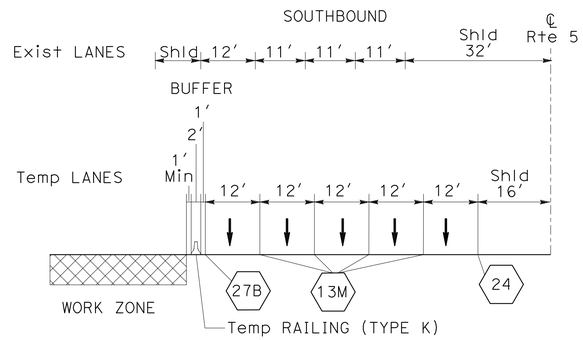
REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL STATE OF CALIFORNIA

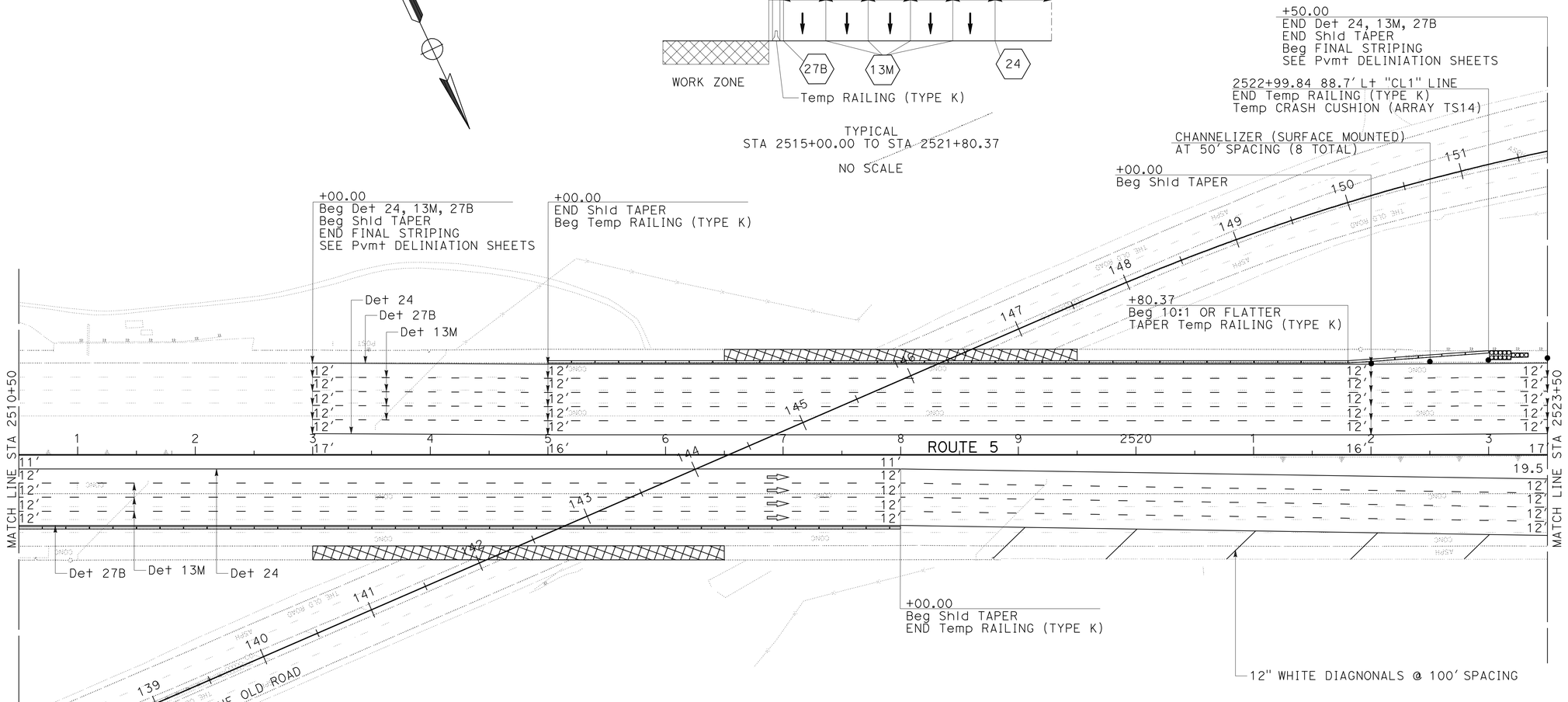
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:
DELINEATION TO BE FINAL STRIPING FROM PD SHEETS SOUTHBOUND FROM STA 2426+00 TO 2513+00 AND STA 2523+50 TO 2540+00.



TYPICAL
STA 2515+00.00 TO STA 2521+80.37

NO SCALE



THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 3
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50′

SC-30

REVISED BY	DATE REVISED
DAN PHAM	AMIR ELSHARIEF

CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF

FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:59

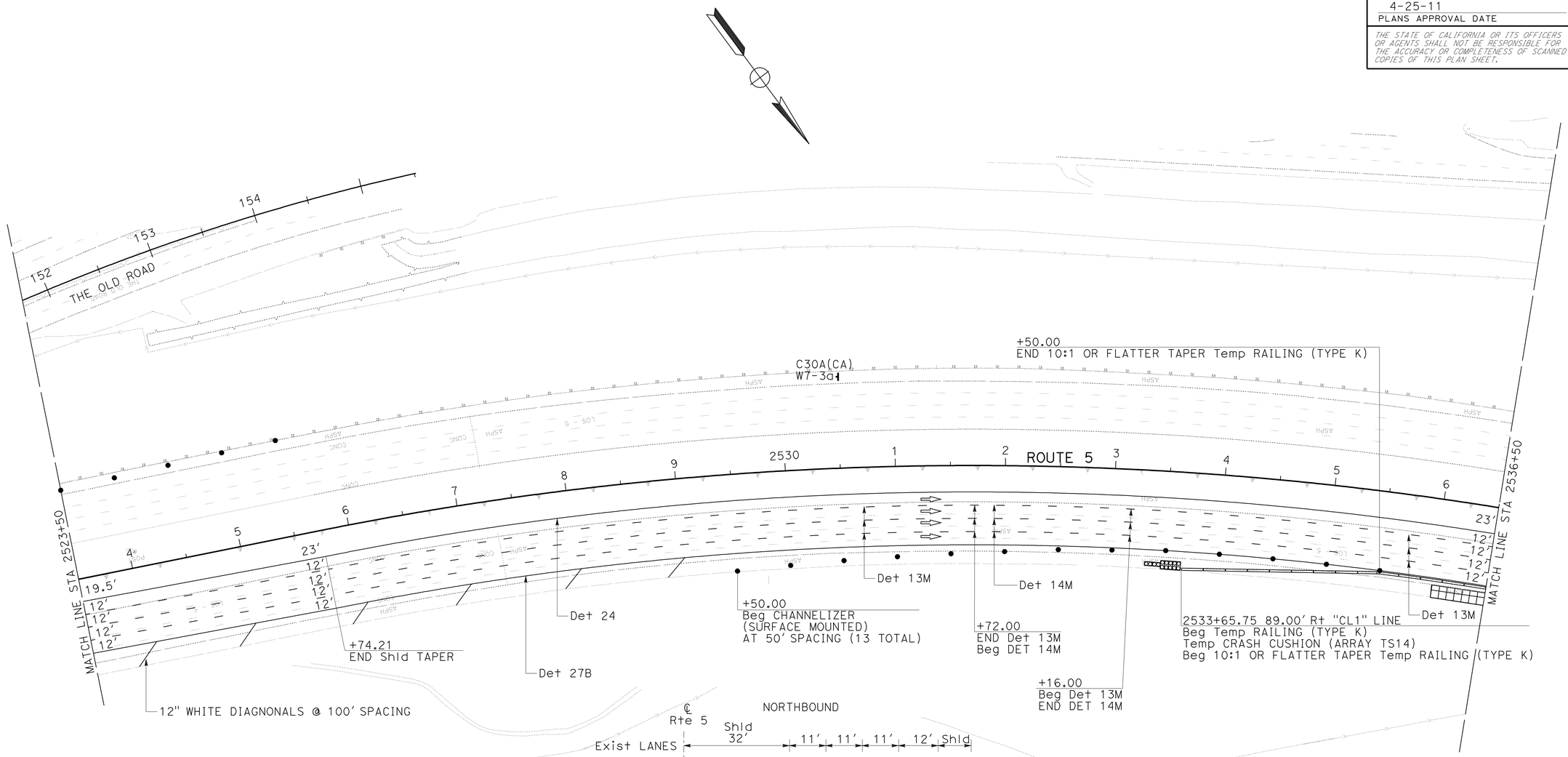
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	218	456

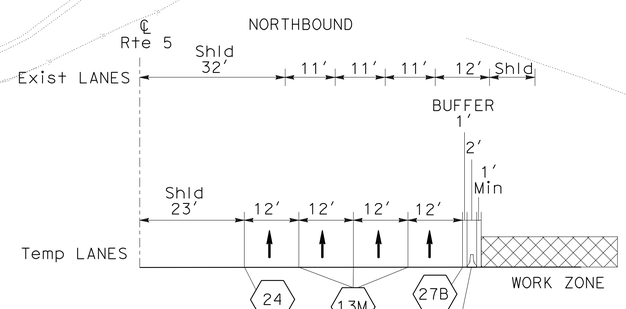
REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
AMIR AWN ELSHARIEF
No. 72560
Exp. 6/30/12
CIVIL
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.





TYPICAL
STA 2535+50 TO STA 2539+46.25
STA 2549+00 TO STA 2551+60.05

NO SCALE

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 3
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-31

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:59

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	219	456

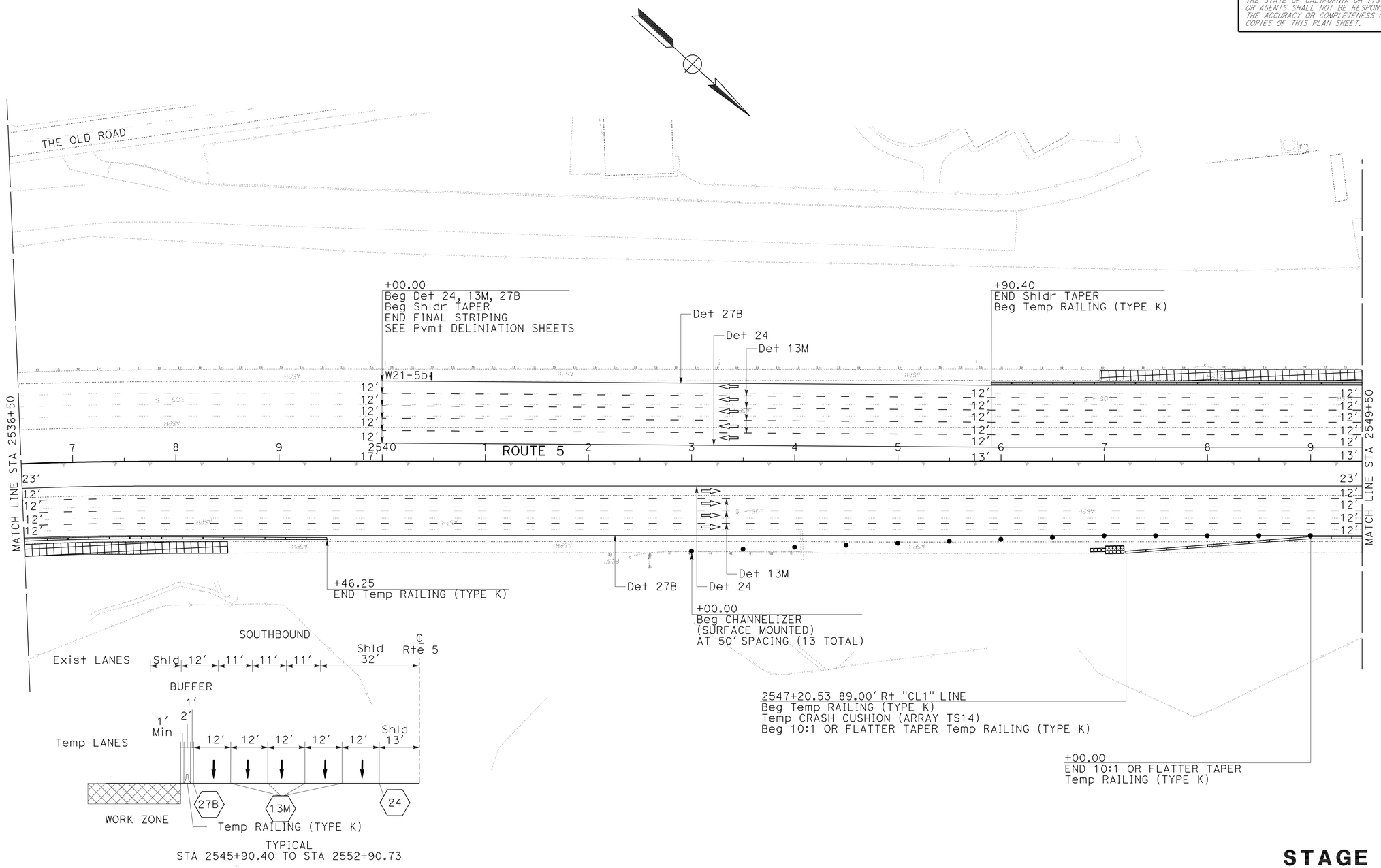
REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL 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.

NOTE:
DELINEATION TO BE FINAL STRIPING FROM
PD SHEETS SOUTHBOUND FROM STA 2523+50 TO 2540+00.



THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 3
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-32

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY	DAN PHAM
CHECKED BY	AMIR ELSHARIEF

FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:59

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	220	456

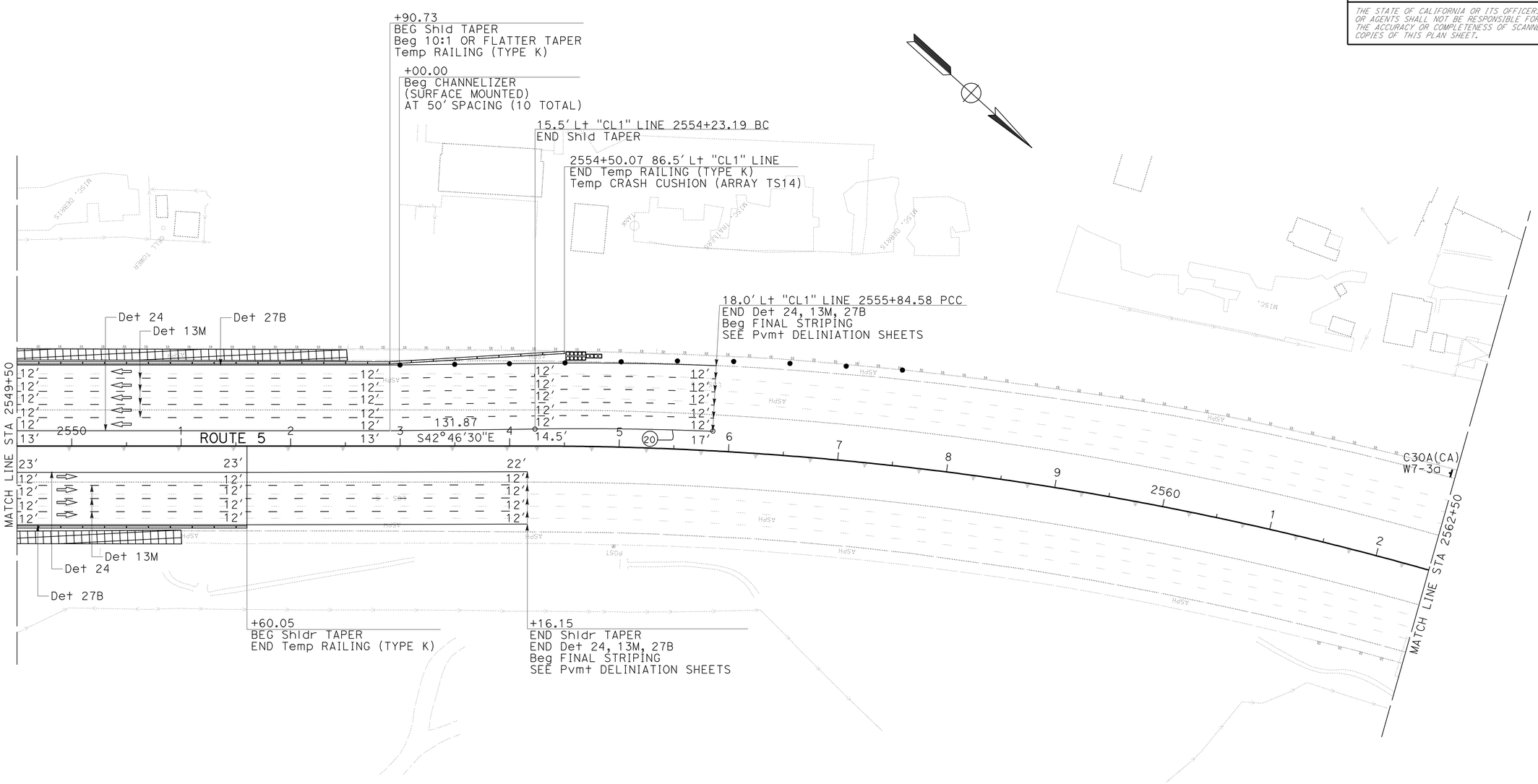
REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
AMIR AWN ELSHARIEF
No. 72560
Exp. 6/30/12
CIVIL
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.

NOTE:
DELINEATION TO BE FINAL STRIPING FROM PD SHEETS
SOUTHBOUND FROM STA 2555+84.58 TO 2568+32.76 AND
NORTHBOUND FROM STA 2554+16.15 TO 2570+50.00.



CURVE DATA

No. O	R	Δ	T	L
20	2895.01'	3°13'15"	81.39'	162.75'

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 3
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-33

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 09:59

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	221	456

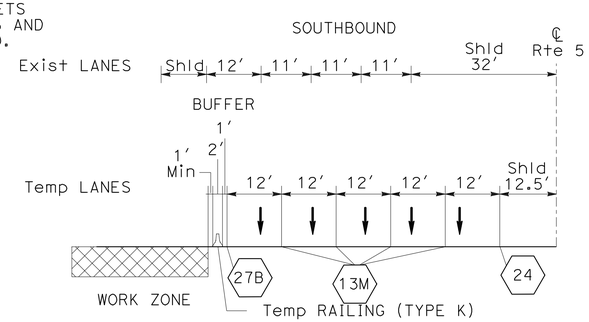
REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL STATE OF CALIFORNIA

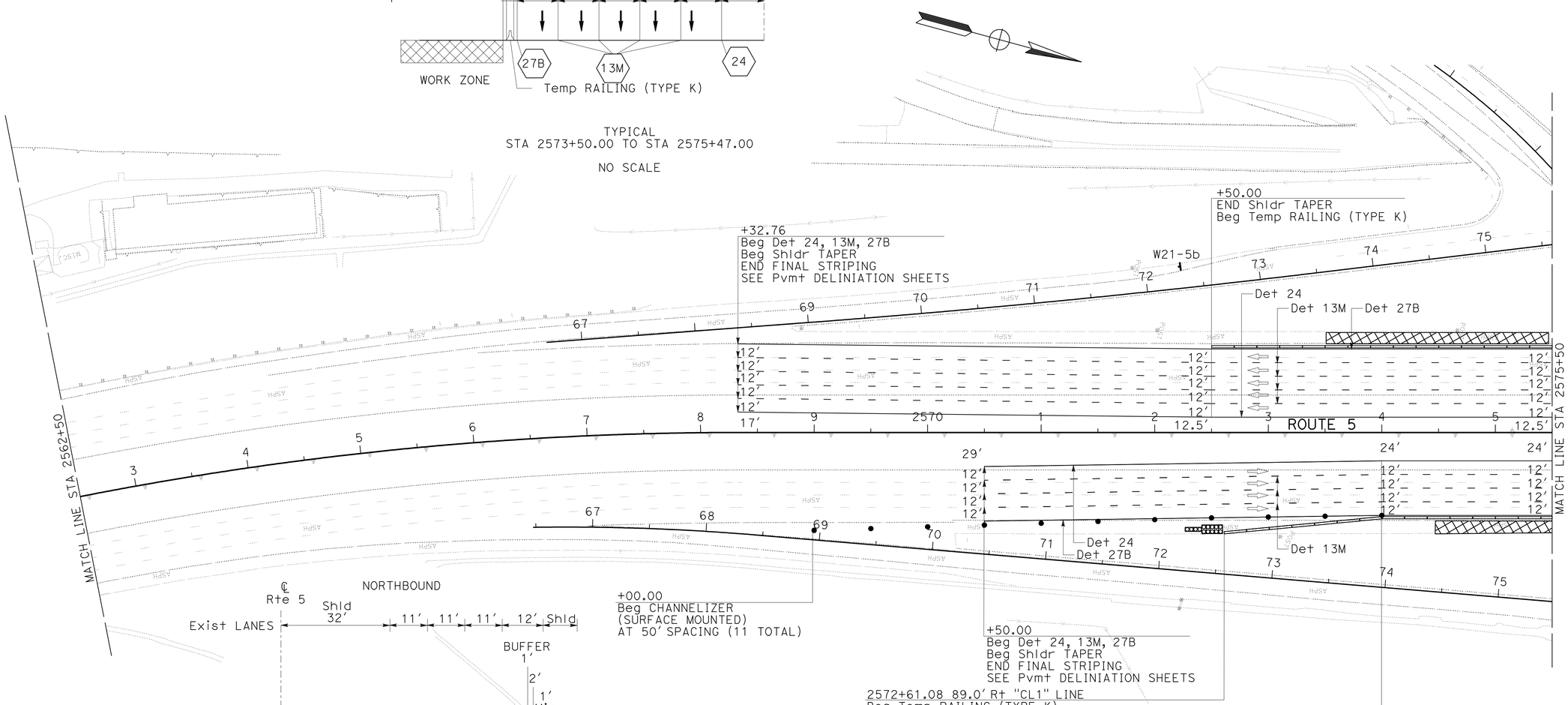
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

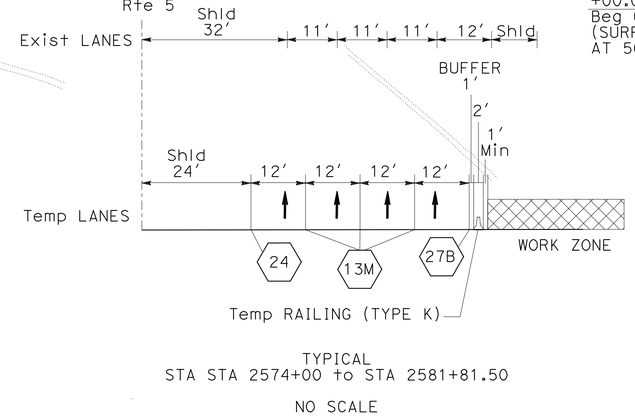
NOTE:
DELINEATION TO BE FINAL STRIPING FROM PD SHEETS
SOUTHBOUND FROM STA 2555+84.58 TO 2568+32.76 AND
NORTHBOUND FROM STA 2554+16.15 TO 2570+50.00.



TYPICAL
STA 2573+50.00 TO STA 2575+47.00

NO SCALE





TYPICAL
STA STA 2574+00 to STA 2581+81.50

NO SCALE

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 3
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50′ **SC-34**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	222	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

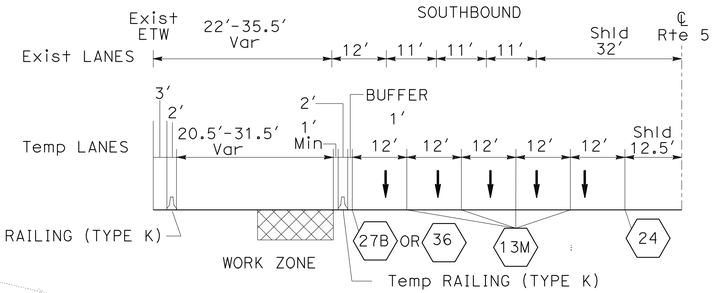
4-25-11
PLANS APPROVAL DATE

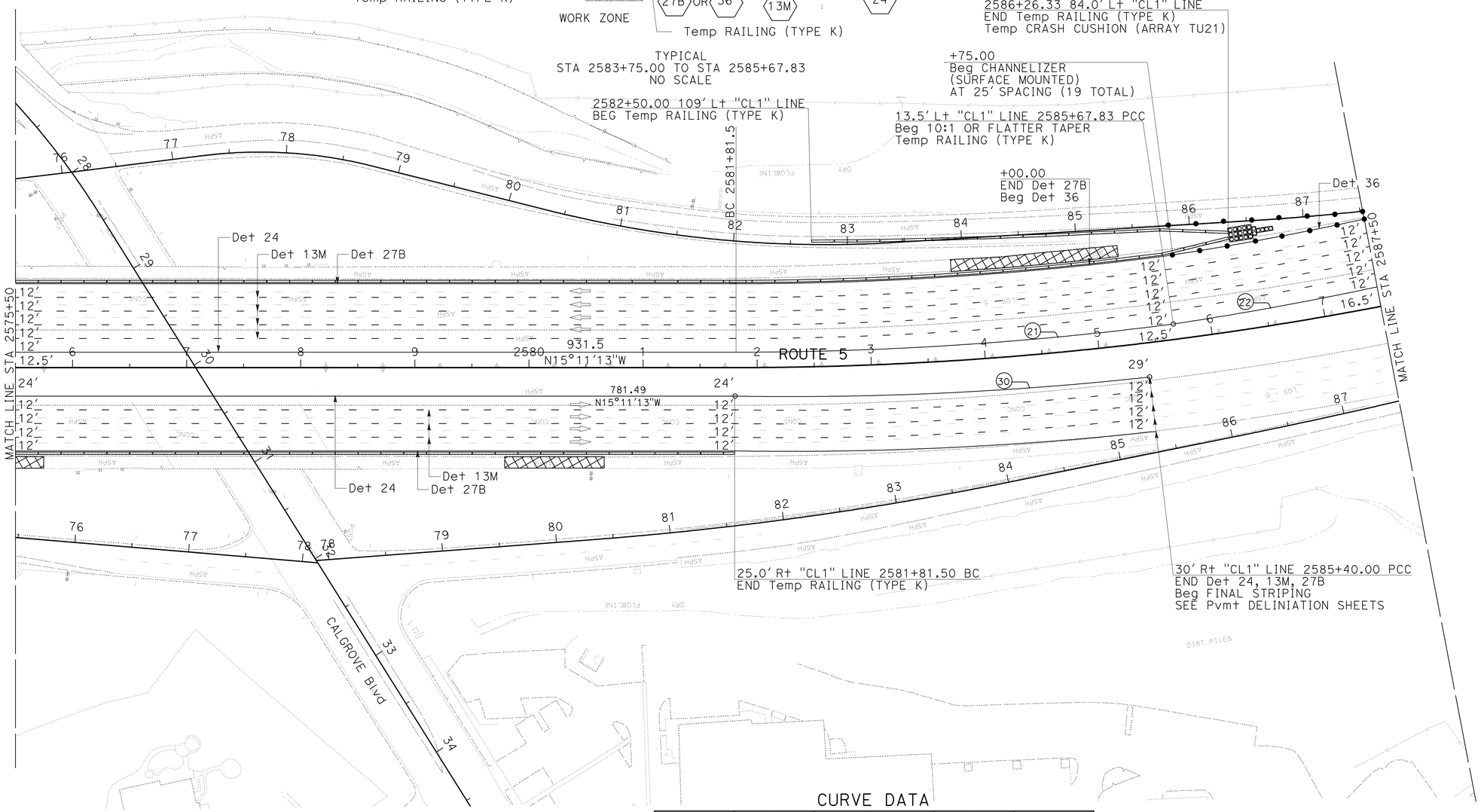
REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL STATE OF CALIFORNIA

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.

NOTE:

1. SEE SHEET SC-13B FOR WORK ON LOCAL ROAD.
2. DELINEATION TO BE FINAL STRIPING FROM PD SHEETS NORTHBOUND FROM STA 2585+40 TO 2627+50.





CURVE DATA

No. O	R	Δ	T	L
21	2986.56'	7°21'16"	191.94'	383.35'
22	3043.81'	4°1'05"	106.77'	213.46'
30	2904.96'	7°10'27"	182.10'	363.73'

STAGE 3
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-35

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	223	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

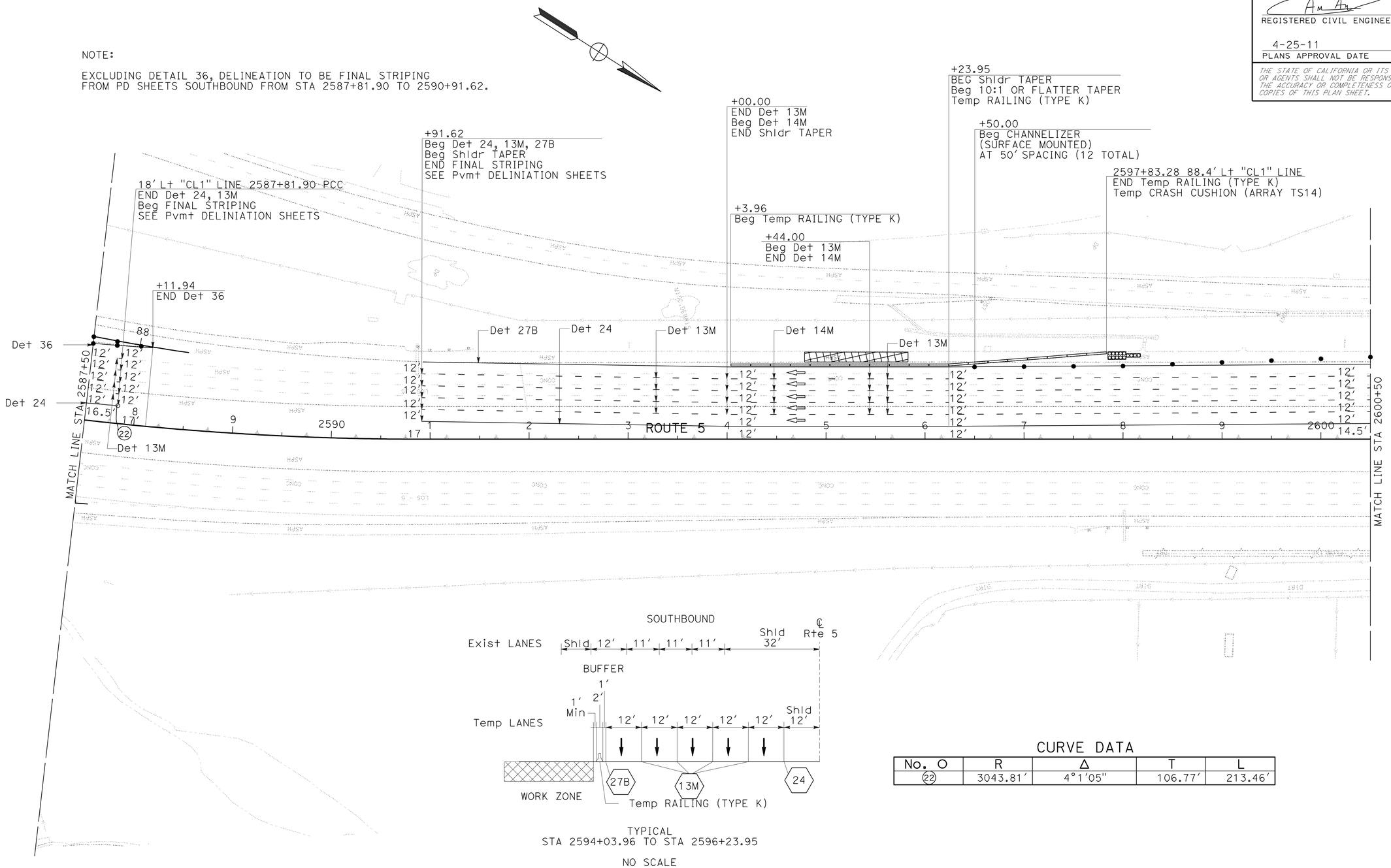
4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL 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.

NOTE:

EXCLUDING DETAIL 36, DELINEATION TO BE FINAL STRIPING
FROM PD SHEETS SOUTHBOUND FROM STA 2587+81.90 TO 2590+91.62.



TYPICAL
STA 2594+03.96 TO STA 2596+23.95

NO SCALE

CURVE DATA

No. O	R	Δ	T	L
22	3043.81'	4°1'05"	106.77'	213.46'

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 3
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-36

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	224	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
AMIR AWN ELSHARIEF
No. 72560
Exp. 6/30/12
CIVIL
STATE OF CALIFORNIA

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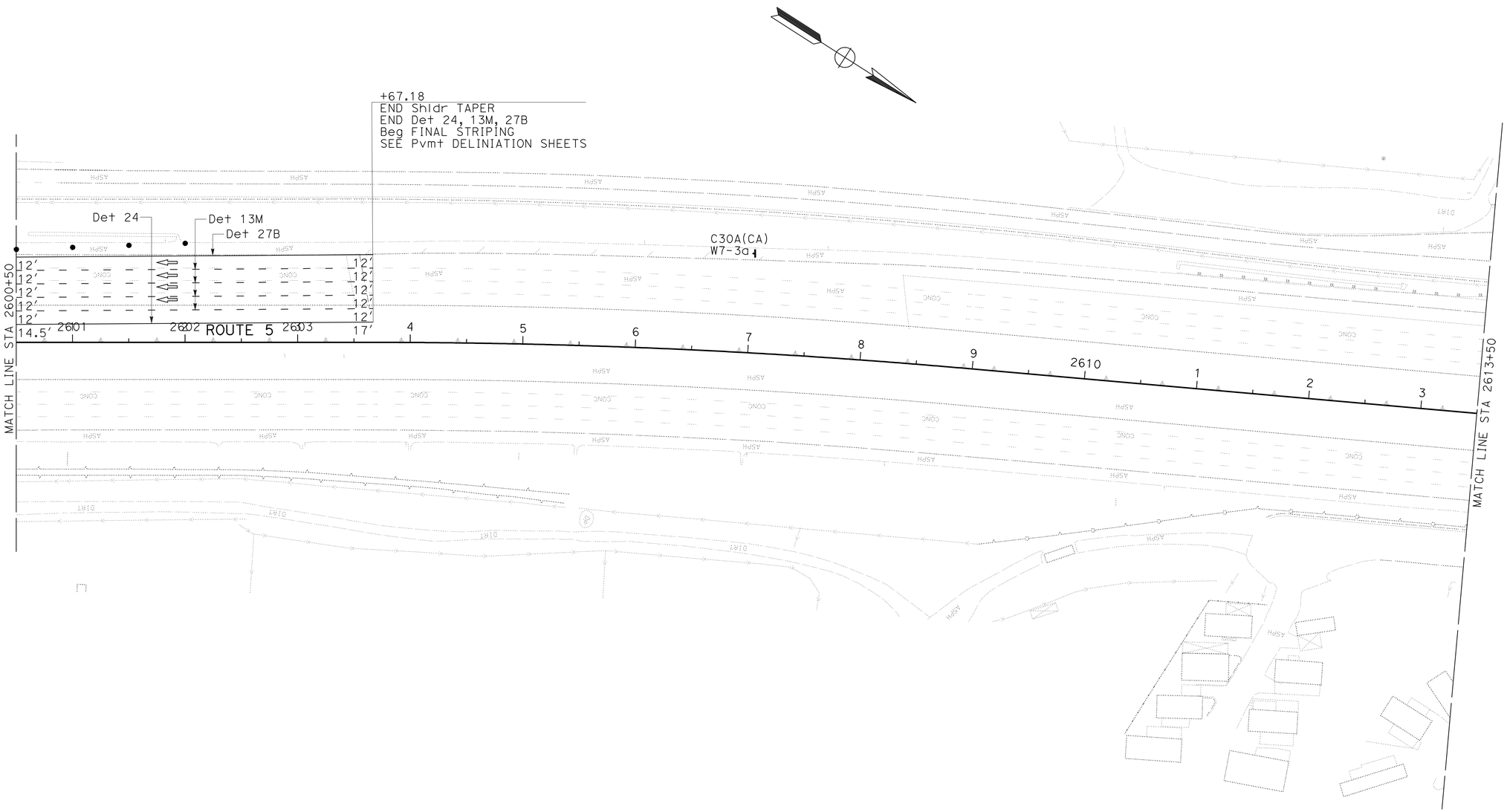
NOTE:

DELINEATION TO BE FINAL STRIPING FROM PD SHEETS SOUTHBOUND FROM STA 2603+67.18 TO 2627+50.



THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 3
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-37

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	225	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
AMIR AWN ELSHARIEF
No. 72560
Exp. 6/30/12
CIVIL
STATE OF CALIFORNIA

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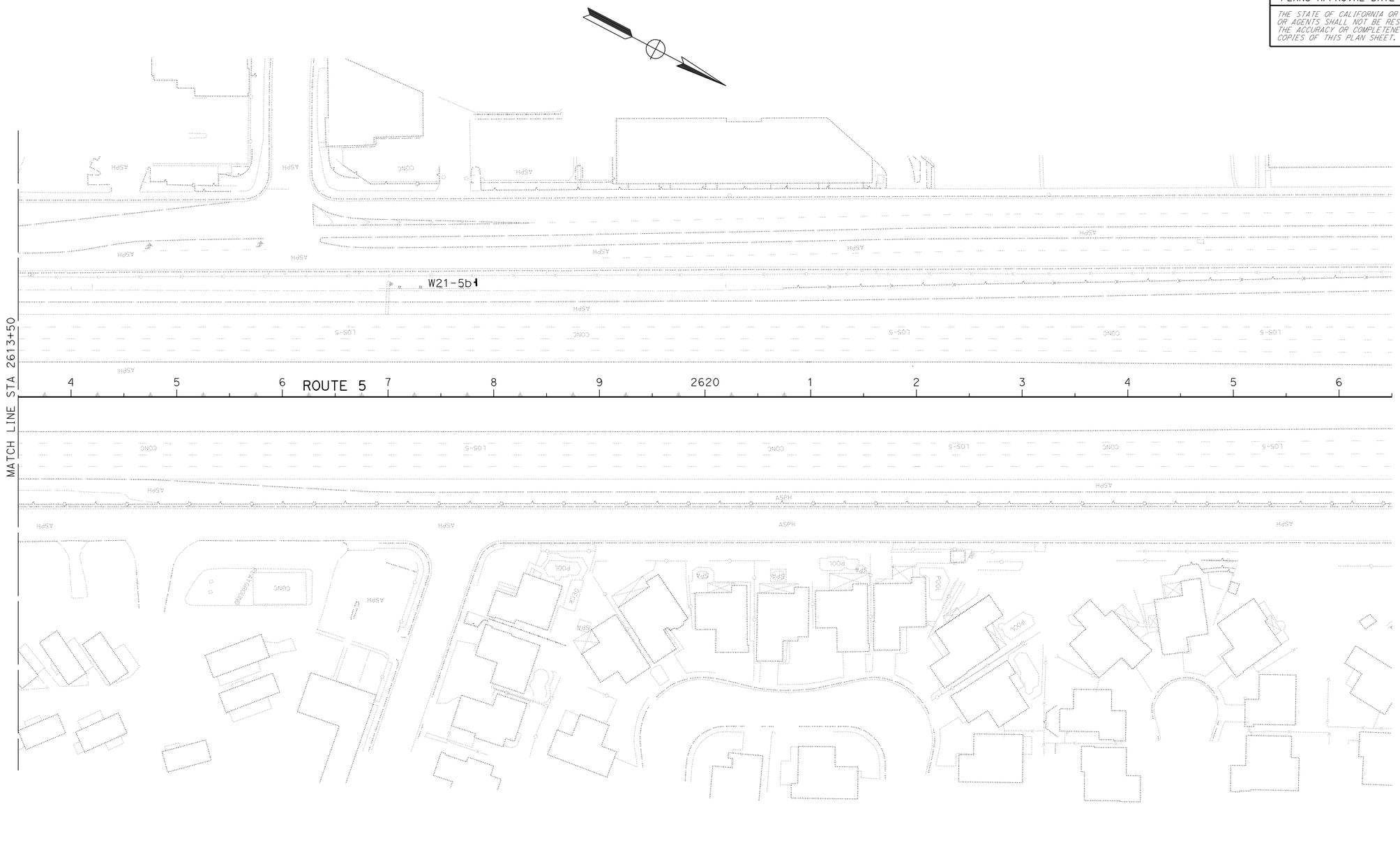


THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 3
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

SC-38

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans®
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES

CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF

REVISED BY
DATE REVISED

LAST REVISION 01-14-11
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	226	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL 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.

SHEET No.	TEMPORARY TRAFFIC STRIPE (PAINT)						PAINTED TRAFFIC STRIPE					TEMPORARY Pvmt MARKING (PAINT)		PAVEMENT MARKER				CHANNELIZERS (SURFACE MOUNTED)	TEMPORARY CRASH CUSHION MODULES	TEMPORARY RAILING (TYPE K)
	4"				8"		4"						12"		RETROREFLECTIVE					
	DETAIL 13M (BROKEN 36'-12')	DETAIL 14M (BROKEN 36'-12')	DETAIL 24 SOLID YELLOW STRIPE	DETAIL 27B SOLID WHITE STRIPE	DETAIL 36 SOLID WHITE	DETAIL 38 SOLID WHITE	DETAIL 13M (BROKEN 36'-12')	DETAIL 14M (BROKEN 36'-12')	DETAIL 24 SOLID YELLOW STRIPE	DETAIL 27 SOLID YELLOW STRIPE	DETAIL 27B SOLID WHITE STRIPE	ARROW	DIAGONALS	NON-REFLECTIVE TYPE A	TYPE C	TYPE G	TYPE H			
	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	SQFT	SQFT	EA	EA	EA	EA	EA	EA	LF
SC-1	2,550	-	850	-	-	-	-	-	-	-	-	-	-	213	-	57	-	10	14	676
SC-2	4,400	-	1,550	-	-	500	-	-	-	-	-	-	-	367	-	110	-	-	-	2,600
SC-3	6,000	-	2,400	-	-	2,400	-	-	-	-	-	-	-	500	-	181	-	-	-	2,400
SC-4	6,840	-	2,400	-	-	720	-	-	-	-	-	-	-	570	-	165	-	-	-	2,400
SC-5	7,800	-	2,600	-	-	-	-	-	-	-	-	-	-	650	-	170	-	-	-	2,600
SC-6	7,800	-	2,600	-	-	-	-	-	-	-	-	-	-	650	-	170	-	-	-	2,600
SC-7	-	-	-	-	-	-	7,368	432	2,600	-	-	-	-	615	12	164	-	-	-	2,510
SC-8	-	-	-	-	-	-	7,800	-	2,600	-	-	-	-	650	-	170	-	-	-	2,690
SC-9	-	-	-	-	-	-	1,270	-	1,129	-	989	-	-	107	-	29	-	-	28	1,160
SC-10	-	-	-	-	-	-	7,368	432	2,600	-	-	-	-	615	12	164	-	-	-	2,600
SC-11	-	-	-	-	-	-	7,800	-	2,600	-	-	-	-	650	-	170	-	-	-	2,600
SC-12	-	-	-	-	-	-	7,500	300	2,600	-	-	-	-	625	9	163	-	-	-	2,600
SC-13	-	-	-	-	-	-	7,668	132	2,600	-	-	-	-	639	3	167	-	-	-	2,600
SC-14	-	-	-	-	-	-	7,200	-	2,400	-	-	-	-	600	-	156	-	-	-	2,400
SC-15	-	-	-	-	-	-	-	-	-	717	574	-	-	-	-	-	10	14	44	716
SC-16	-	-	-	-	-	-	7,368	432	2,600	-	-	-	-	615	12	164	-	-	-	2,600
SC-17	-	-	-	-	-	-	7,800	-	2,600	-	-	-	-	650	-	170	-	-	-	2,600
SC-18	-	-	-	-	-	-	7,068	432	2,600	-	-	-	-	590	12	159	-	15	10	1,793
SC-19	600	-	200	-	-	-						-	-	50	-	20	-	-	-	-
SC-20	2,729	-	850	401	2,166	-	-	-	-	-	-	-	-	228	-	110	-	-	-	341
SC-21	5,200	-	1,300	1,300	-	-	-	-	-	-	-	-	-	434	-	113	-	-	-	1,300
SC-22	6,450	-	1,750	1,750	-	-	-	-	-	-	-	126	-	538	-	142	-	18	-	1,200
SC-23	8,400	-	2,400	2,400	-	-	-	-	-	-	-	-	-	700	-	182	-	12	14	2,096
SC-24	9,100	-	2,600	2,600	-	-	-	-	-	-	-	-	-	759	-	198	-	-	-	2,150
SC-25	9,100	-	2,600	2,165	-	-	-	-	-	-	-	-	-	759	-	198	-	12	14	885
SC-26	3,350	-	1,100	850	-	-	-	-	-	-	-	-	-	297	-	85	-	26	14	300
SC-27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SC-28	1,304	-	435	435	-	-	-	-	-	-	-	126	-	109	-	31	-	6	-	-
SC-29	3,468	432	1,300	1,300	-	-	-	-	-	-	-	-	-	290	12	79	-	14	14	910
SC-30	8,100	-	2,350	2,350	-	-	-	-	-	-	-	-	504	675	-	177	-	8	14	1550
SC-31	3,468	432	1,300	1,300	-	-	-	-	-	-	-	-	148	290	12	79	-	13	14	284
SC-32	7,700	-	2,250	2,250	-	-	-	-	-	-	-	-	-	642	-	169	-	13	14	885
SC-33	3,937	-	1,101	1,101	-	-	-	-	-	-	-	-	-	329	-	90	-	10	14	710
SC-34	4,369	-	1,217	1,217	-	-	-	-	-	-	-	-	-	365	-	99	-	11	14	589
SC-35	7,770	-	2,190	1,940	1,000	-	-	-	-	-	-	-	-	648	-	192	-	15	21	2,084
SC-36	3,385	432	990	958	248	-	-	-	-	-	-	-	-	283	12	92	-	9	14	383
SC-37	1,269	-	317	317	-	-	-	-	-	-	-	-	-	106	-	31	-	3	-	-
SUB-TOTAL	125,089	1,296	38,650	24,634	3,414	3,620	76,210	2,160	26,929	717	1,563	252	652	16,808	96	4,616	10	209	257	55,812
SUB-TOTAL FROM PDQ-1	-	-	-	-	-	-	-	-	-	-	-	-	-	11,822	88	3,296	812	-	-	-
GRAND TOTAL	196,703						107,579					904		28,630	8,918			209	257	55,812

STAGE CONSTRUCTION QUANTITIES

SCQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY: CTT
DATE REVISED: 01-13-11

LAST REVISION 01-13-11
DATE PLOTTED => 29-APR-2011
TIME PLOTTED => 10:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	227	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL 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.

SHEET No.	REMOVE						
	THERMOPLASTIC TRAFFIC STRIPE	YELLOW THERMOPLASTIC STRIPE (HAZARDOUS WASTE)	THERMOPLASTIC PAVEMENT MARKING	PAINTED TRAFFIC STRIPE	YELLOW PAINTED TRAFFIC STRIPE (HAZARDOUS WASTE)	PAINTED PAVEMENT MARKING	PAVEMENT MARKER
	LF	LF	SQFT	LF	LF	SQFT	EA
SC-1	638	850	-	638	850	-	532
SC-2	1,475	1,550	-	1,475	1,550	-	854
SC-3	3,900	2,400	-	3,900	2,400	-	1,450
SC-4	2,430	2,400	-	2,430	2,400	-	1,486
SC-5	1,950	2,600	-	1,950	2,600	-	1,626
SC-6	1,950	2,600	-	1,950	2,600	-	1,626
SC-7	2,130	2,600	-	2,130	2,600	-	1,626
SC-8	1,950	2,600	-	1,950	2,600	-	1,626
SC-9	1,588	1,129	-	1,588	1,129	-	264
SC-10	2,130	2,600	-	2,130	2,600	-	1,626
SC-11	1,950	2,600	-	1,950	2,600	-	1,626
SC-12	2,075	2,600	-	2,075	2,600	-	1,626
SC-13	2,005	2,600	-	2,005	2,600	-	1,626
SC-14	1,800	2,400	-	1,800	2,400	-	1,500
SC-15	574	717	-	574	717	-	30
SC-16	2,130	2,600	-	2,130	2,600	-	1,626
SC-17	1,950	2,600	-	1,950	2,600	-	1,626
SC-18	2,055	2,600	-	2,055	2,600	-	1,517
SC-19	150	200	-	150	200	-	126
SC-20	2,267	-	-	3,249	851	-	931
SC-21	325	-	-	2,600	1,300	-	1,219
SC-22	88	-	42	3,363	1,750	126	1,380
SC-23	-	-	84	4,500	2,400	-	1,750
SC-24	-	-	-	4,875	2,600	-	1,896
SC-25	-	-	-	4,441	2,600	-	1,896
SC-26	-	-	-	1,738	1,100	-	740
SC-27	-	-	-	-	-	-	-
SC-28	-	-	-	1,195	-	126	272
SC-29	-	-	-	2,455	1,300	-	812
SC-30	-	-	-	2,275	1,300	504	812
SC-31	-	-	-	2,455	1,300	148	812
SC-32	-	-	-	4,175	2,250	-	1,604
SC-33	-	-	-	2,085	1,101	-	820
SC-34	-	-	-	2,309	1,217	-	910
SC-35	1,000	-	-	4,883	2,190	-	1,786
SC-36	248	-	-	2,341	990	-	836
SC-37	-	-	-	634	317	-	264
TOTAL	38,758	40,246	126	84,403	64,812	904	42,759

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN CODE		PANEL SIZE	POST SIZE	No. OF POST	No. of SIGNS	SIGN MESSAGE
FEDERAL	CALIF		4"x4"	ONE POST		
W7-3a	C30A	30" x 30"	X	X	6	SHOULDER CLOSED
W20-5		30" x 30"	X	X	2	RIGHT LANE CLOSED AHEAD
W4-2 W20-5(MOD)		30" x 30"	X	X	2	RIGHT LANE CLOSED 1000 FT
W21-5		30" x 30"	X	X	4	SHOULDER WORK
W21-5b		30" x 30"	X	X	5	RIGHT SHOULDER CLOSED 1000 FT

STAGE CONSTRUCTION QUANTITIES

SCQ-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY: CTT
DATE REVISED: 01-13-11

LAST REVISION 01-13-11 | DATE PLOTTED => 29-APR-2011 | TIME PLOTTED => 10:32

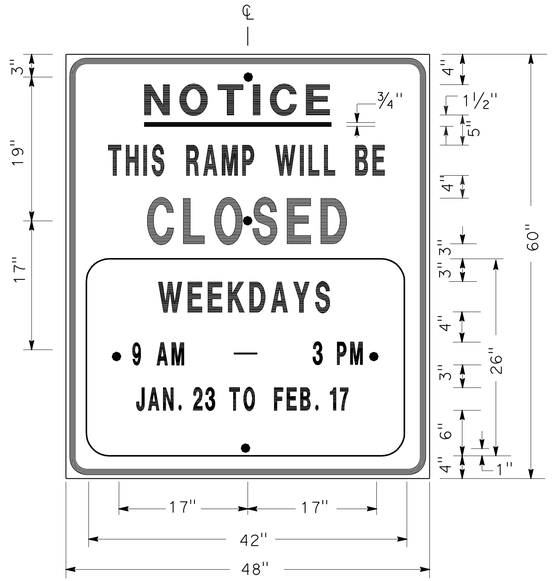
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	228	456

REGISTERED CIVIL ENGINEER 01-10-11 DATE

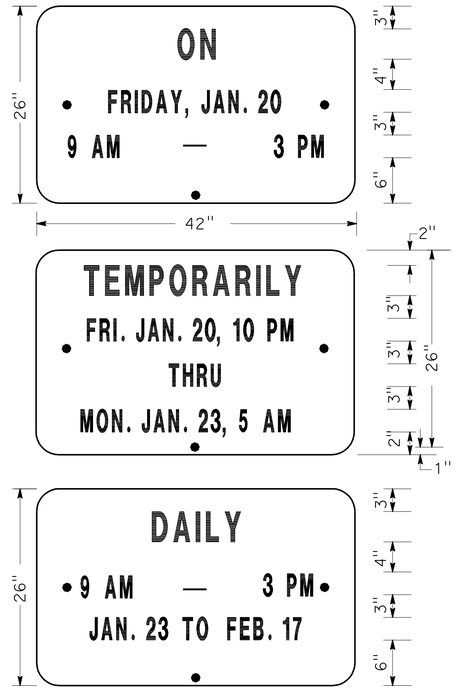
4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER DENNIS DO No. C68587 Exp. 9-30-11 CIVIL 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.



SIGN SP-1



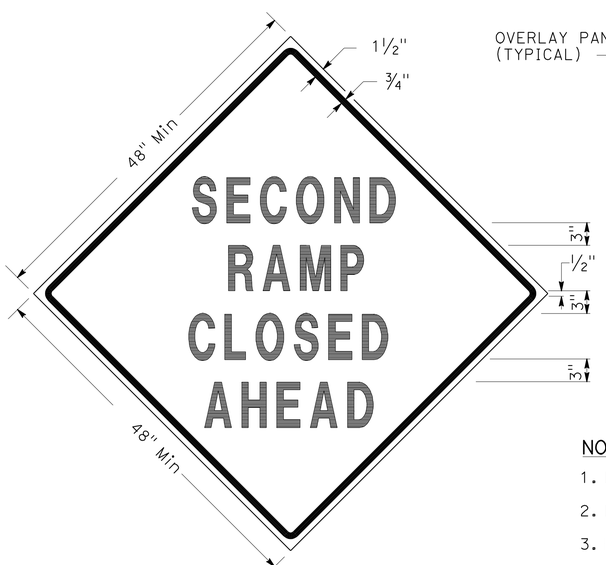
ALTERNATE OVERLAY PANELS (TYPICAL)

SPECIAL ADVANCE NOTICE PUBLICITY SIGN

NOTES: (SIGN SP-1)

1. SIGNS SHALL HAVE ORANGE RETROREFLECTORIZED BACKGROUND WITH BLACK BORDER AND LETTERS.
2. BOLT HOLES SHALL BE 3/8" DIAMETER.
3. BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
4. SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 6' ABOVE GROUND.

SIZE	BORDER WIDTH	MARGIN WIDTH	LETTER SIZE					CORNER RADIUS
			LINE 1	LINE 2*	LINE 3	LINE 4	LINE 5,6 & 7*	
48"x60"	1 1/4"	3/4"	4E	4D	6E	4D		3"
42"x26"	OVERLAY						3D	1 1/2"
* CONDENSED SPACING IF NECESSARY								



SIGN SP-3

SIGN SP-5

NOTES: (SIGNS SP-3 & SP-5)

1. LETTERS - 6" SERIES D.
2. LETTERS AND BORDERS - BLACK ON RETROREFLECTORIZED ORANGE BACKGROUND.
3. BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
4. SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 6' ABOVE GROUND.

SPECIAL SIGN FOR EXIT RAMP CLOSURES

SIGN SP-4

NOTES: (SIGN SP-4)

1. LETTERS - 6" SERIES C.
2. LETTERS AND BORDERS - BLACK ON RETROREFLECTORIZED WHITE BACKGROUND.
3. BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
4. SIGNS SHALL BE PLACED AT RAMP ENTRANCES IN ADDITION TO SIGNS POSTED IN ACCORDANCE WITH STANDARD PLAN T14.

SPECIAL SIGN FOR ENTRANCE RAMP CLOSURES

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS AND MISCELLANEOUS DETAILS
SHEET 1 OF 2
NO SCALE

THD-1

REVISED BY	JC
DATE REVISED	7/10
CALCULATED-DESIGNED BY	ALBERT K YU
CHECKED BY	JOCELYN C CHIANG
FUNCTIONAL SUPERVISOR	MARTIN OREGEL

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

LAST REVISION 00-00-00 | DATE PLOTTED => 29-APR-2011 | TIME PLOTTED => 10:32

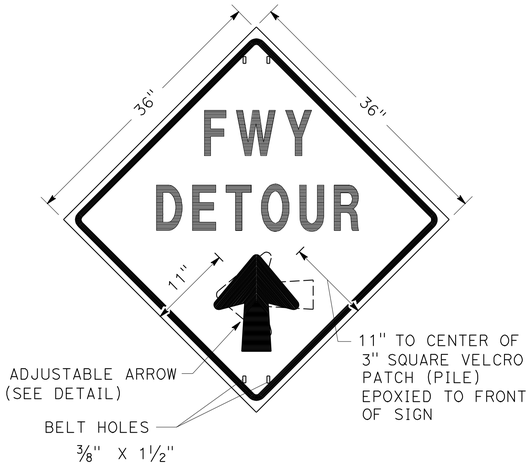
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	229	456

REGISTERED CIVIL ENGINEER 01-10-11 DATE

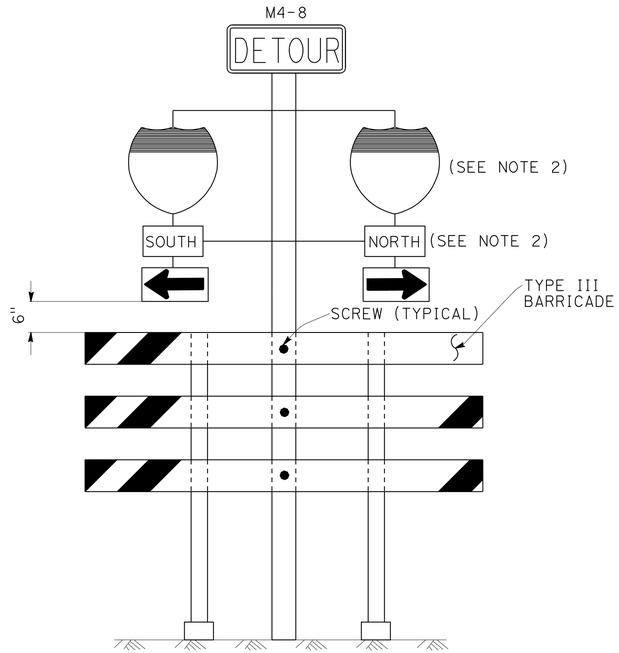
4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER DENNIS DO No. C68587 Exp. 9-30-11 CIVIL STATE OF CALIFORNIA

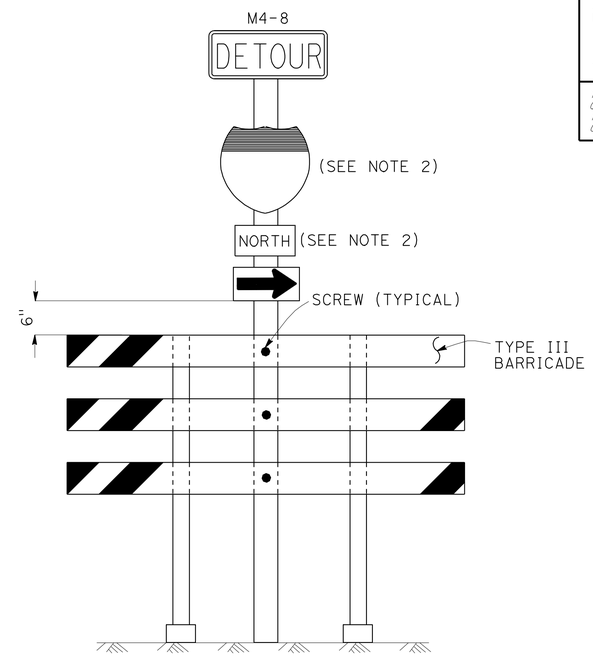
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



SIGN SP-2



SIGN SP-6 (SEE NOTE 1)



SIGN SP-7 (SEE NOTE 1)

NOTES: (SIGN SP-2)

1. LETTERS -6" SERIES E.
2. LETTERS, BORDER AND ARROW - BLACK ON RETROREFLECTORIZED ORANGE BACKGROUND.
3. BASE MATERIAL FOR SIGNS AND ARROWS SHALL BE ALUMINUM (MINIMUM 0.06").
4. BELTS (LUGGAGE STRAPS) SHALL BE 1" WIDE BY 48" LONG, MADE OF COTTON OR POLYPROPYLENE WEB MATERIAL.
5. SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 6' ABOVE GROUND EXCEPT AS OTHERWISE SHOWN ON OTHER TRAFFIC HANDLING DETAILS PLANS.

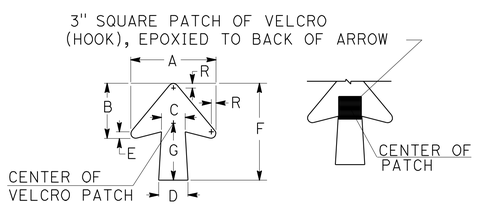
ABBREVIATION:

(CA) CALIFORNIA CODE

NOTES: (SIGNS SP-6 & SP-7)

1. IN LIEU OF PLACING SIGNS ON TYPE III BARRICADES, SIGNS, INCLUDING POSTS, MAY BE PLACED INTO THE GROUND OR FASTENED ONTO ELECTROLIERS.
2. USE APPROPRIATE ROUTE SHIELD [G26-2(CA), G27-2(CA), G28-2(CA)] AND CARDINAL DIRECTION [NORTH (M3-1), SOUTH (M3-3), EAST (M3-2), WEST (M3-4)]

SPECIAL PORTABLE FREEWAY DETOUR SIGNS



DIMENSIONS							
A	B	C	D	E	F	G	R
11 1/4"	7 1/4"	3 1/8"	4"	7/8"	13"	7 1/2"	5/8"

SPECIAL PORTABLE FREEWAY DETOUR SIGN

ADJUSTABLE ARROW DETAIL

TRAFFIC HANDLING DETAILS

TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS AND MISCELLANEOUS DETAILS

SHEET 2 OF 2

NO SCALE

THD-2

CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED	FUNCTIONAL SUPERVISOR
ALBERT K YU	JOCELYN C CHIANG	JC	7/10	MARTIN OREGEL

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans DTM

LAST REVISION 00-00-00 | DATE PLOTTED => 29-APR-2011 | TIME PLOTTED => 10:32

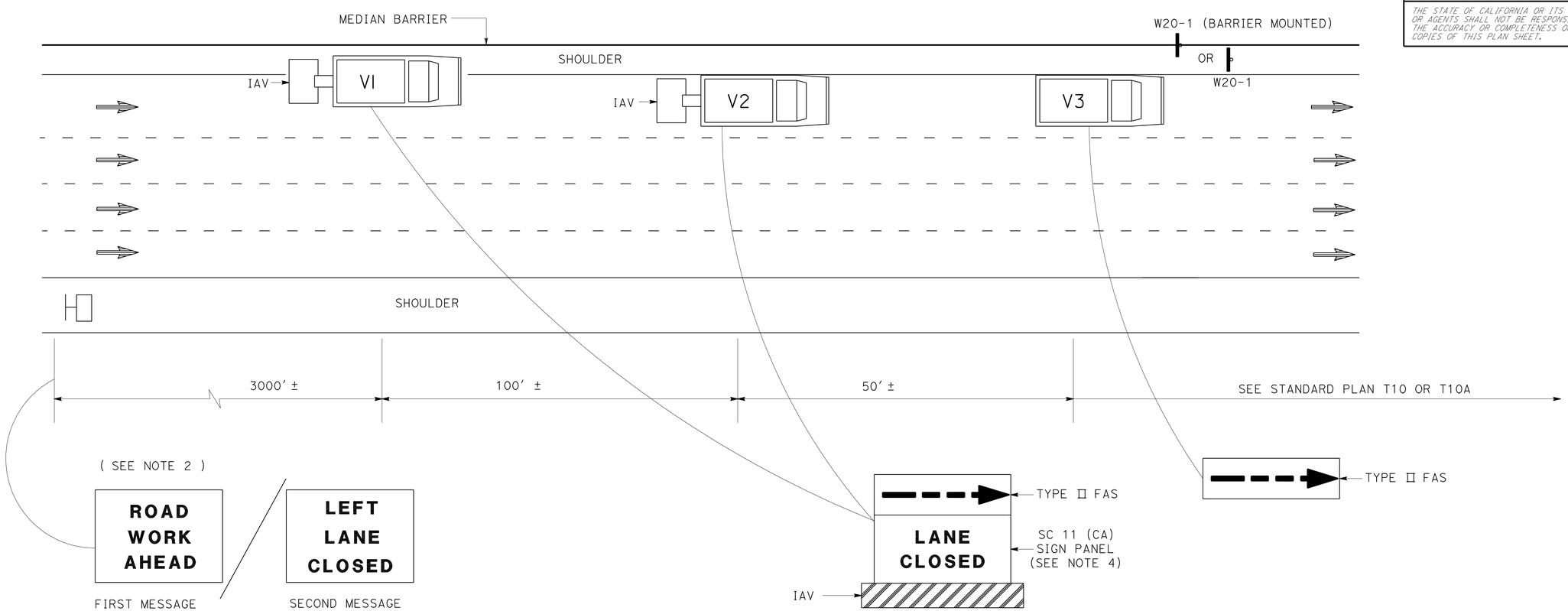
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	230	456

REGISTERED CIVIL ENGINEER 01-10-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER DENNIS DO No. C68587 Exp. 9-30-11 CIVIL 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. LANE CLOSURES SHALL NOT BE PLACED ON CREST VERTICAL CURVES OR ON HORIZONTAL CURVES.
2. PCMS SHALL BE ACTIVATED PRIOR TO TRAFFIC CONTROL ACTIVITIES ON THE LANE.
3. A MINIMUM SIGHT DISTANCE OF 1500′ SHALL BE PROVIDED IN ADVANCE OF PCMS.
4. VEHICLE-MOUNTED SIGN PANELS SHALL BE TYPE III OR IV RETROREFLECTORIZED SHEETING, BLACK ON WHITE OR BLACK ON ORANGE WITH 8" MINIMUM SERIES D LETTERS PER CALTRANS SIGN SPECIFICATIONS.

LEGEND:

V1, V2	SHADOW VEHICLE
V3	WORK/APPLICATION VEHICLE
	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
	DIRECTION OF TRAVEL
	CONSTRUCTION AREA SIGN

ABBREVIATIONS:

FAS	FLASHING ARROW SIGN
IAV	IMPACT ATTENUATOR VEHICLE
CMS	CHANGEABLE MESSAGE SIGN
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN
(CA)	CALIFORNIA CODE

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM
FOR MEDIAN SHOULDERS LESS THAN 8 FEET

NO SCALE

THD-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

FUNCTIONAL SUPERVISOR: MARTIN OREGEL
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
REVISED BY: JC
DATE REVISED: 7/10

LAST REVISION 00-00-00
DATE PLOTTED => 29-APR-2011
TIME PLOTTED => 10:32

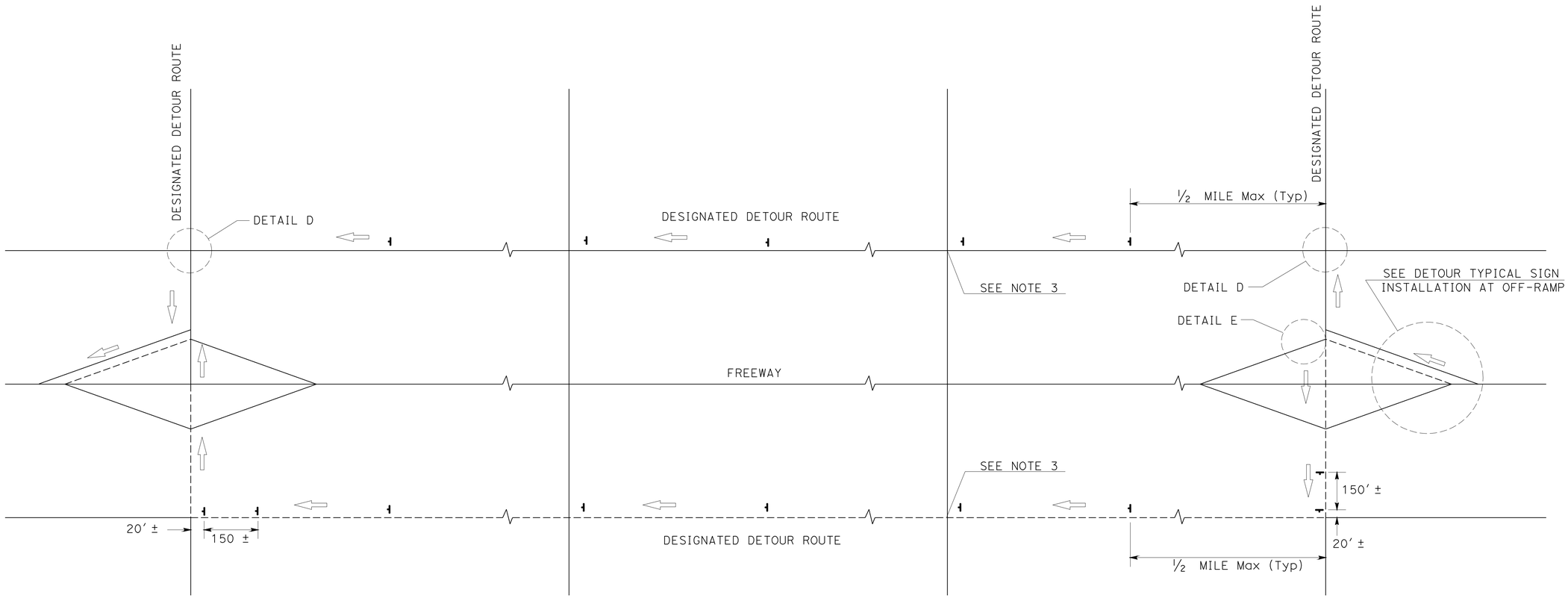
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	231	456

REGISTERED CIVIL ENGINEER 01-10-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER DENNIS DO No. C68587 Exp. 9-30-11 CIVIL 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.



TYPICAL DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE

LEGEND:

- TEMPORARY SIGN (SP-2)
- AND/OR DESIGNATED DETOUR ROUTE
- DIRECTION OF TRAVEL

NOTES:

1. SP-2 SIGNS SHALL NOT BE INSTALLED ON BARRICADES EXCEPT AS OTHERWISE SHOWN.
2. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
3. SP-2 SIGNS SHALL BE POSTED AT SIGNALIZED INTERSECTIONS ALONG THE DESIGNATED DETOUR ROUTE OR ½ MILE MAXIMUM APART.

TRAFFIC HANDLING DETAILS

TRAFFIC CONTROL SYSTEM FOR DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE

SHEET 1 OF 2

NO SCALE

THD-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

FUNCTIONAL SUPERVISOR: MARTIN OREGEL
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
REVISED BY: JC
DATE REVISED: 7/10

LAST REVISION 00-00-00 | DATE PLOTTED => 29-APR-2011 | TIME PLOTTED => 10:33

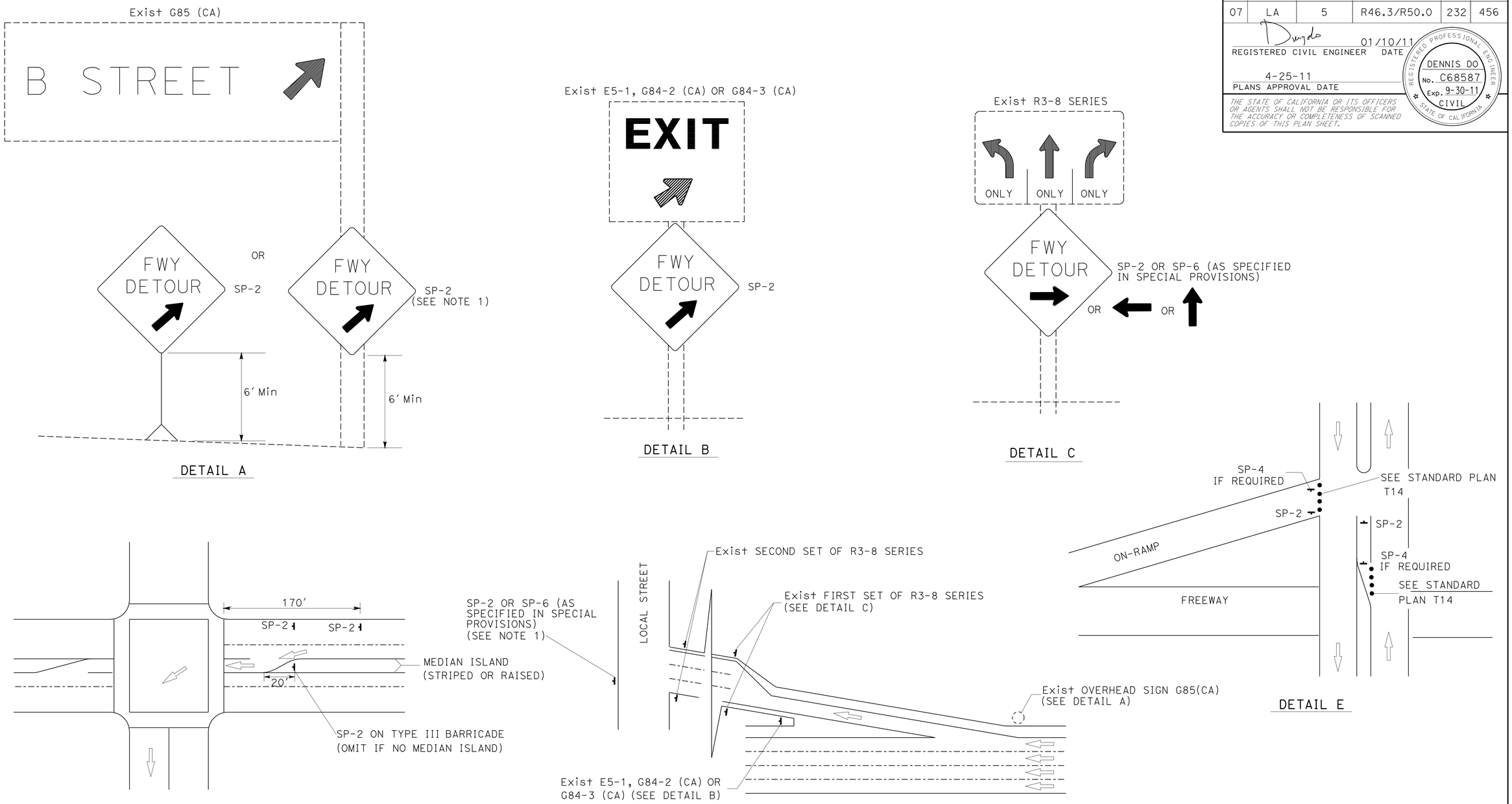
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	232	456

REGISTERED CIVIL ENGINEER 01/10/11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER DENNIS DO No. C68587 Exp. 9-30-11 CIVIL 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.



TYPICAL DETOUR SIGN INSTALLATION AT OFF-RAMP

NOTE:

1. TEMPORARY SIGNS MAY BE STRAPPED ON EXISTING ELECTROLIER, SIGNAL POSTS, OR SIGN POSTS.

ABBREVIATIONS:

(CA) CALIFORNIA CODE

LEGENDS:

- • TRAFFIC CONE
- TEMPORARY SIGN
- DIRECTION OF TRAVEL
- EXISTING OVERHEAD SIGN

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE
SHEET 2 OF 2

NO SCALE

THD-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

FUNCTIONAL SUPERVISOR: MARTIN OREGEL
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
REVISED BY: JC
DATE REVISED: 7/10

LAST REVISION 00-00-00 | DATE PLOTTED => 29-APR-2011 | TIME PLOTTED => 10:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	233	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT NGUYEN No. 57797 Exp. 3/31/12 CIVIL STATE OF CALIFORNIA

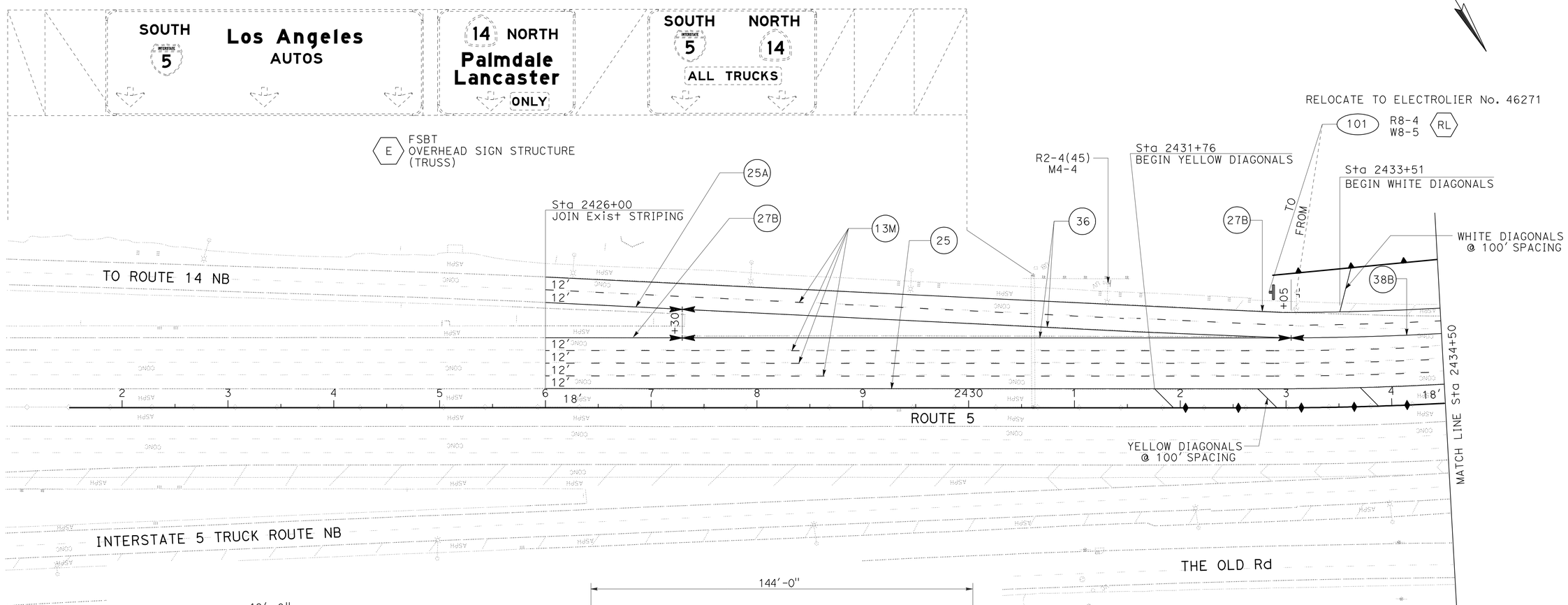
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

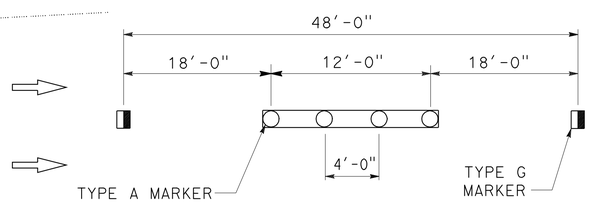
NOTES:

1. ALL STRIPES AND PAVEMENT MARKINGS SHALL BE THERMOPLASTIC, UNLESS OTHERWISE NOTED.
2. ALL CONFLICTING STRIPING SHALL BE REMOVED.
3. ALL ROADSIDE SIGN SHALL REMAIN IN PLACE, UNLESS OTHERWISE NOTED.
4. DIAGONALS SHALL BE 12" SOLID, UNLESS OTHERWISE NOTED.
5. ALL LANES ARE 12' WIDE, UNLESS OTHERWISE NOTED.
6. DIAGONAL MARKINGS SHALL BE APPLIED AT A 45 DEGREE ANGLE FROM THE EDGE OF TRAVELED WAY.
7. FOR ACCURATE RIGHT OF WAY DATA, CONTRACT RIGHT OF WAY ENGINEERING AT DISTRICT OFFICE.

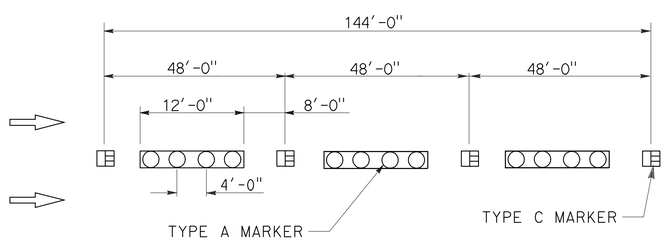
LEGEND:

- (No) STRIPING DETAIL NUMBER PER CALTRANS STANDARD PLANS (WITH NUMBER)
- (A) STRIPING DETAIL NUMBER PER PAVEMENT DELINEATION DETAIL SHEET (WITH LETTER)
- CHANGE IN PAVEMENT DELINEATION DETAILS
- (A) OVERHEAD AND ROADSIDE SIGN INDENTIFICATION (WITH LETTER & NUMBER)
- (I) INSTALL SIGN (OVERHEAD & ROADSIDE)
- (E) EXISTING SIGN TO REMAIN
- (RL) RELOCATE SIGN
- (R) REMOVE SIGN (OVERHEAD & ROADSIDE)
- (SS) INSTALL SIGN (STRAP & SADDLE BRACKET METHOD)
- ROADSIDE SIGNS (ONE AND TWO POST)





DETAIL 13M



DETAIL 14M

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

PD-1

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

FUNCTIONAL SUPERVISOR: GRISH BIGLARIAN
CALCULATED-DESIGNED BY: SYED ALI SHAH
CHECKED BY: VINCENT NGUYEN
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 29-APR-2011
TIME PLOTTED => 10:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	234	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

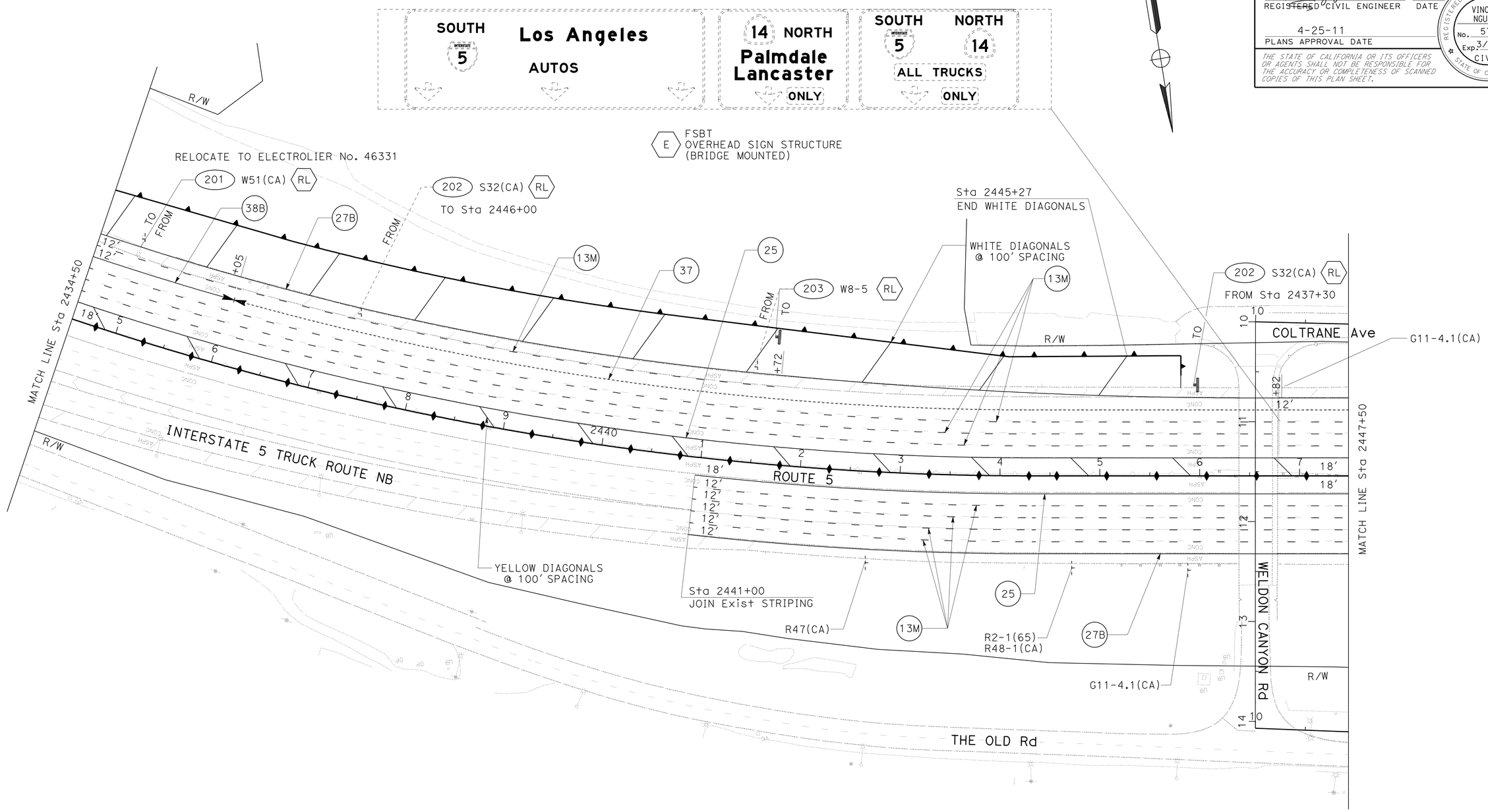
4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT NGUYEN No. 57797 Exp. 3/31/12 CIVIL 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.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTRACT RIGHT OF WAY ENGINEERING AT DISTRICT OFFICE.



PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

PD-2

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: GRISH BIGLARIAN
CALCULATED-DESIGNED BY: SYED ALI SHAH
CHECKED BY: VINCENT NGUYEN
REVISED BY / DATE REVISED

LAST REVISION 00-00-00 | DATE PLOTTED => 29-APR-2011 | TIME PLOTTED => 10:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	235	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT NGUYEN No. 57797 Exp. 3/31/12 CIVIL STATE OF CALIFORNIA

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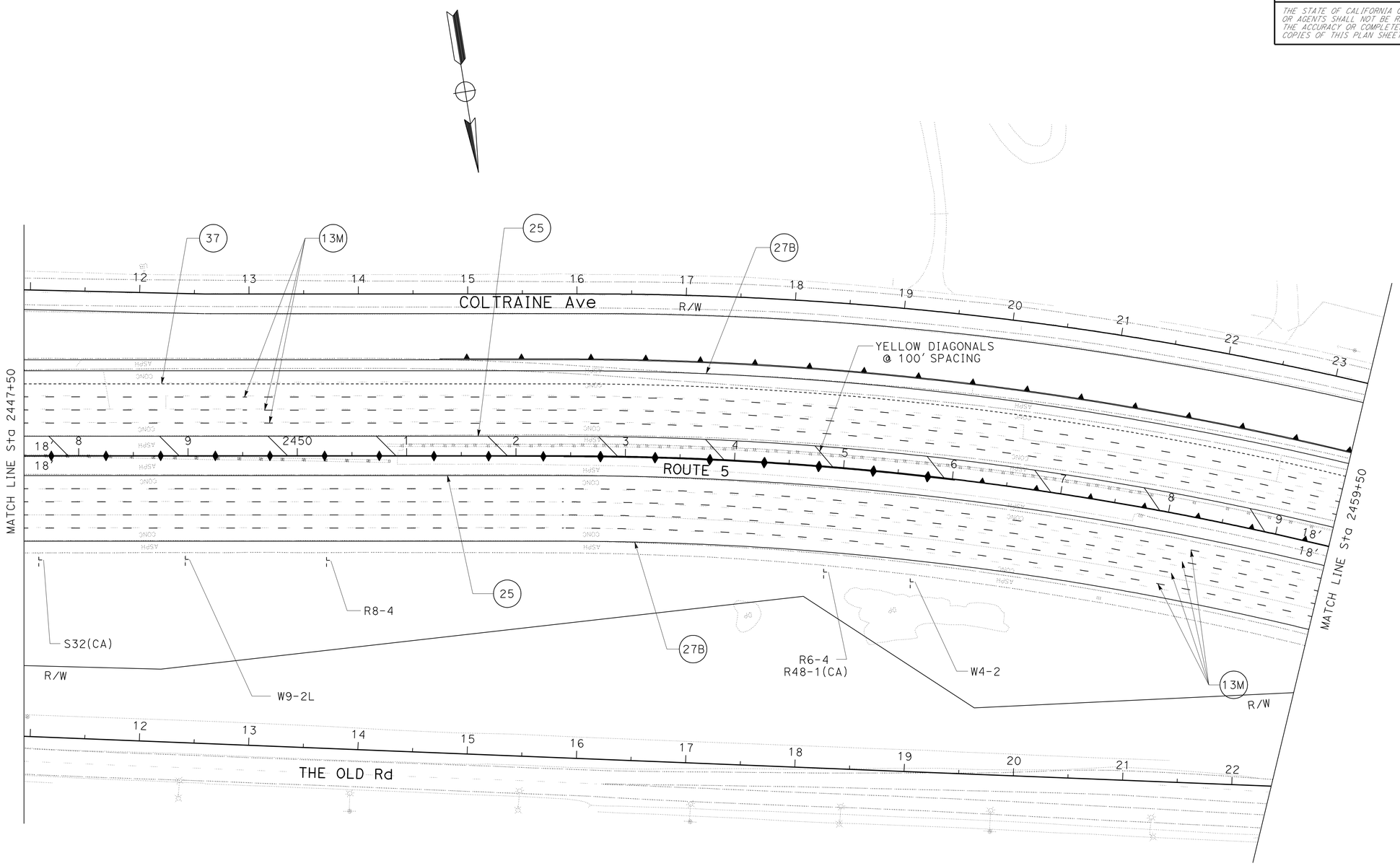

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

PD-3

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC DESIGN

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CALCULATED-DESIGNED BY: SYED ALI SHAH
CHECKED BY: VINCENT NGUYEN
REVISED BY
DATE REVISED

LAST REVISION 00-00-00 | DATE PLOTTED => 29-APR-2011 | TIME PLOTTED => 10:34

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	236	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT NGUYEN No. 57797 Exp. 3/31/12 CIVIL STATE OF CALIFORNIA

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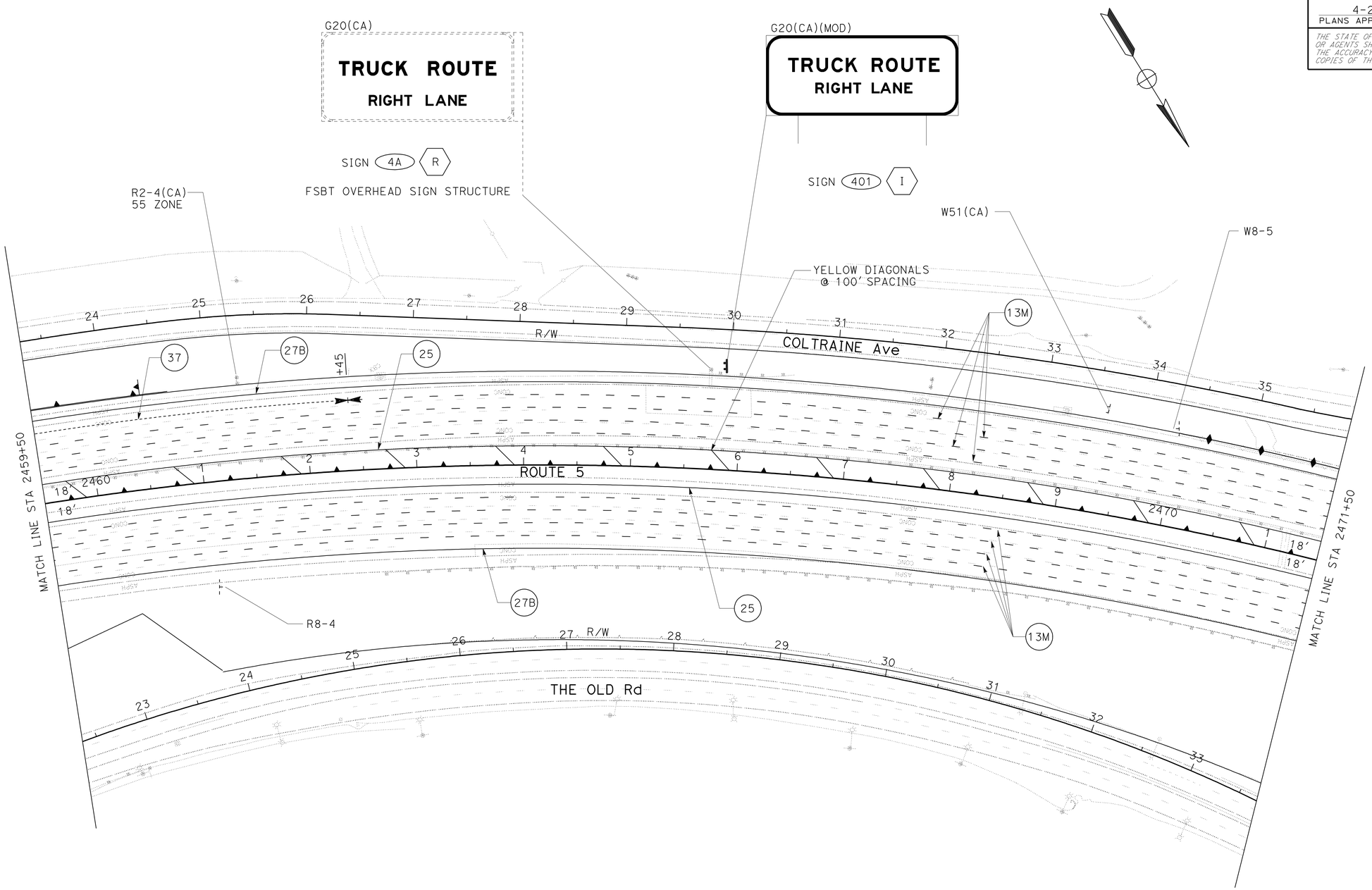

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

PD-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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REVISED BY / DATE REVISED

LAST REVISION 00-00-00 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 13:46

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	237	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT NGUYEN No. 57797 Exp. 3/31/12 CIVIL STATE OF CALIFORNIA

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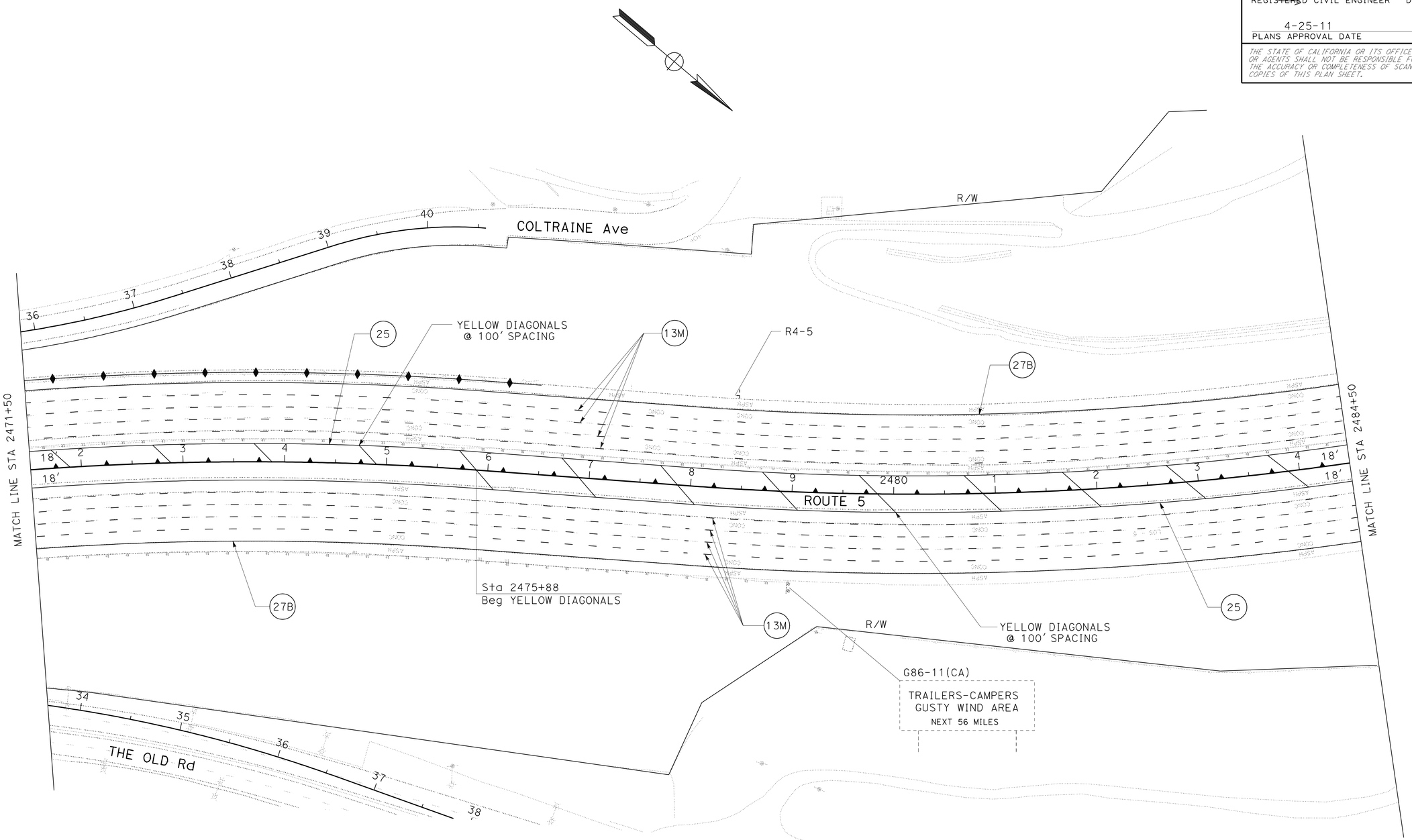

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

PD-5

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

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

FUNCTIONAL SUPERVISOR: GRISH BIGLARIAN
CALCULATED-DESIGNED BY: SYED ALI SHAH
CHECKED BY: VINCENT NGUYEN
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 13:46

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	238	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VINCENT NGUYEN
No. 57797
Exp. 3/31/12
CIVIL
STATE OF CALIFORNIA

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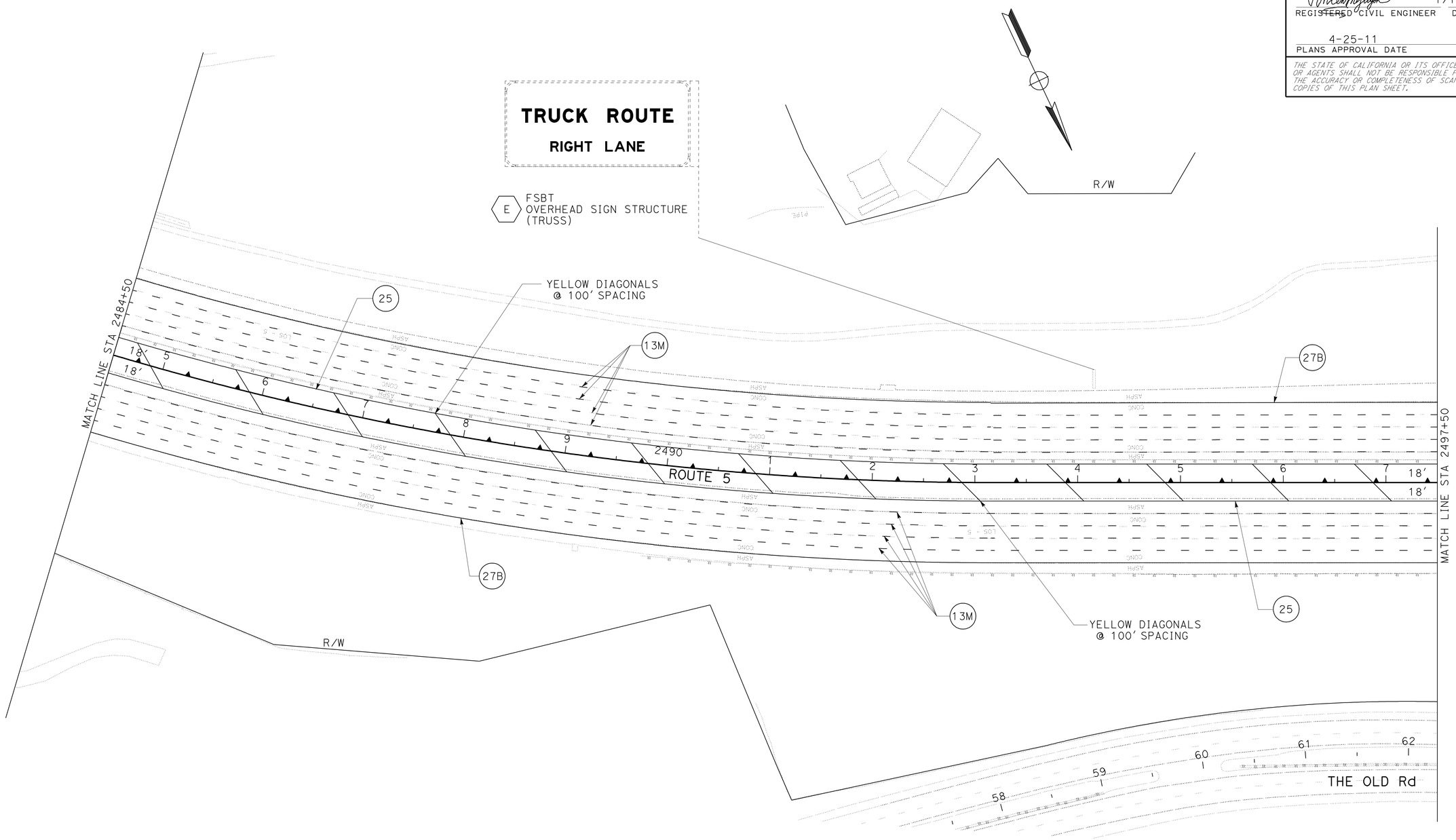

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

PD-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: GRISH BIGLARIAN
CALCULATED-DESIGNED BY: SYED ALI SHAH
CHECKED BY: VINCENT NGUYEN
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 13:46

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	239	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT NGUYEN No. 57797 Exp. 3/31/12 CIVIL STATE OF CALIFORNIA

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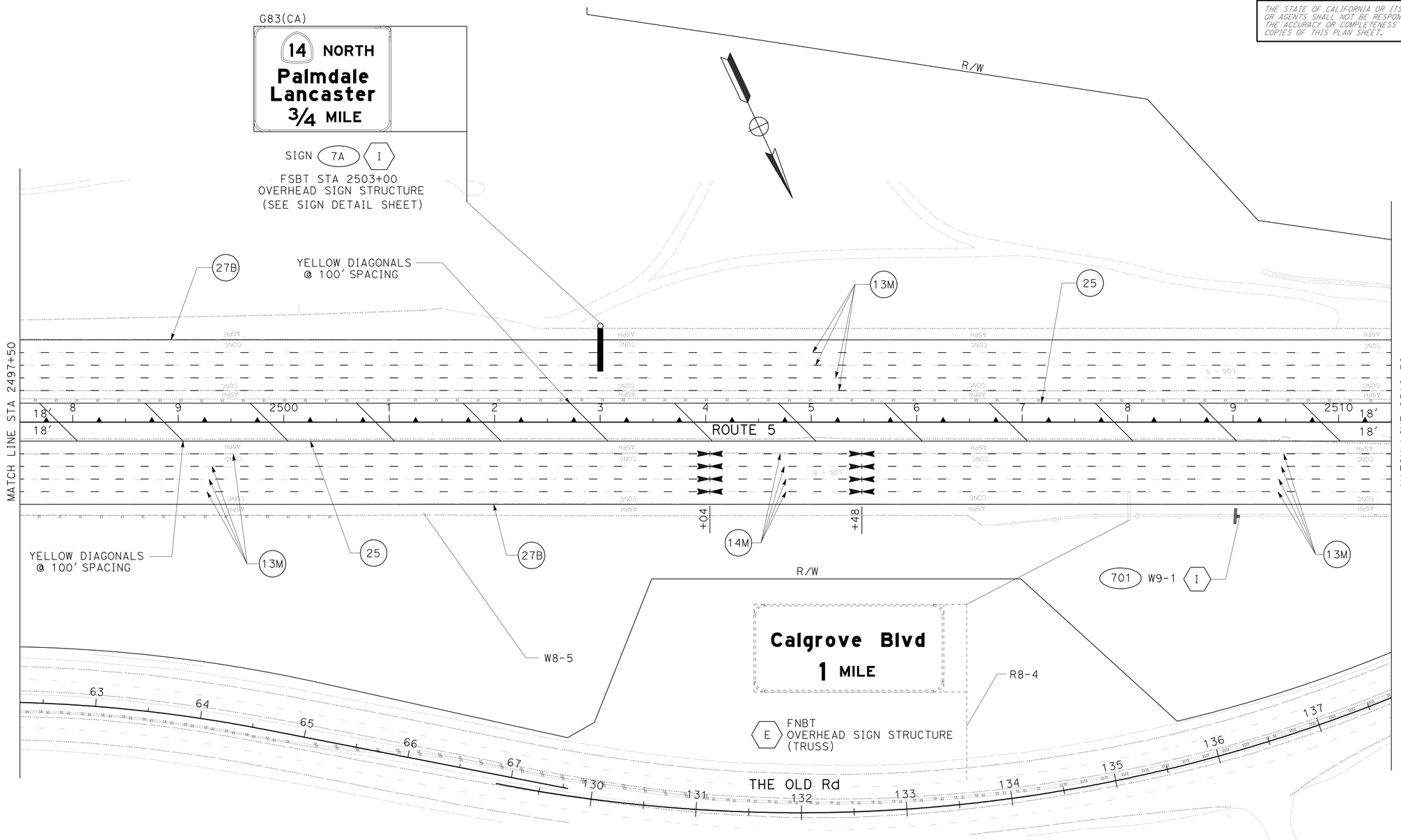

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

PD-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: GRISH BIGLARIAN
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CHECKED BY: VINCENT NGUYEN
REVISED BY / DATE REVISED

LAST REVISION 00-00-00 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 13:47

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	240	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT NGUYEN No. 57797 Exp. 3/31/12 CIVIL STATE OF CALIFORNIA

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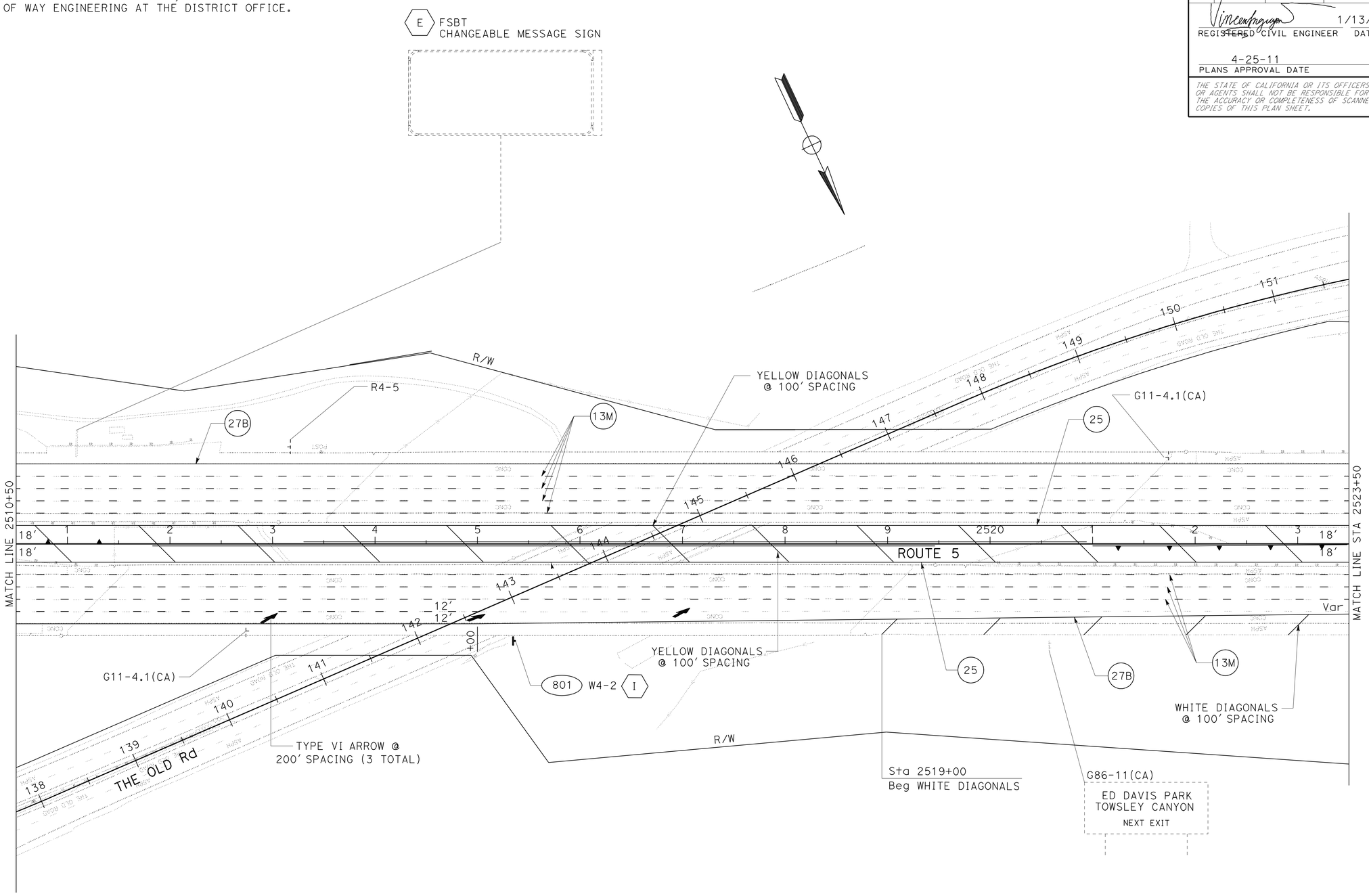

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

PD-8

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: GRISH BIGLARIAN
CALCULATED-DESIGNED BY: SYED ALI SHAH
CHECKED BY: VINCENT NGUYEN
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 13:47

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	241	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT NGUYEN No. 57797 Exp. 3/31/12 CIVIL STATE OF CALIFORNIA

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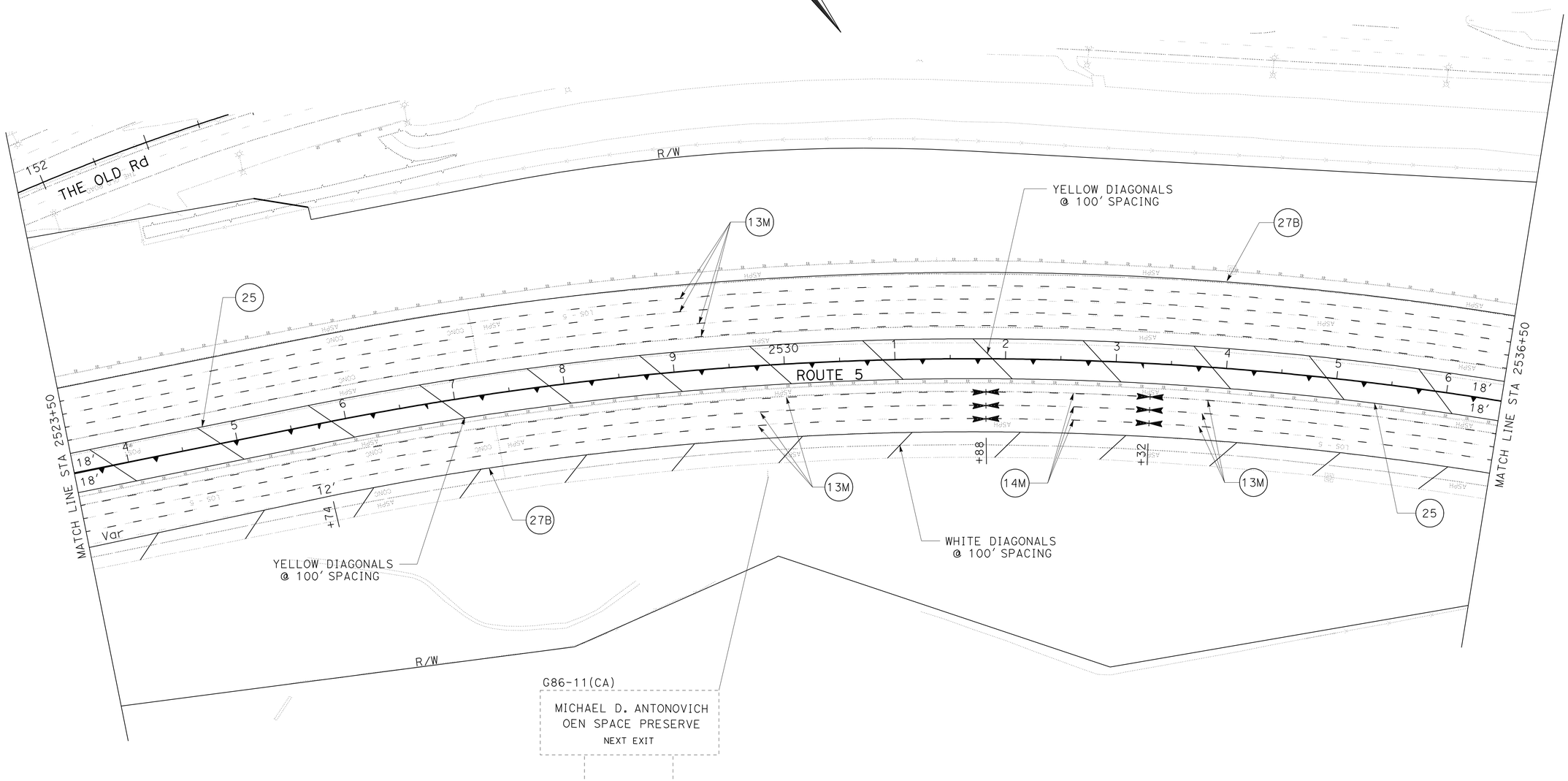

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

PD-9

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: SYED ALI SHAH
CHECKED BY: VINCENT NGUYEN
FUNCTIONAL SUPERVISOR: GRISH BIGLARIAN

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

LAST REVISION 00-00-00 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 13:47

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	242	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT NGUYEN No. 57797 Exp. 3/31/12 CIVIL STATE OF CALIFORNIA

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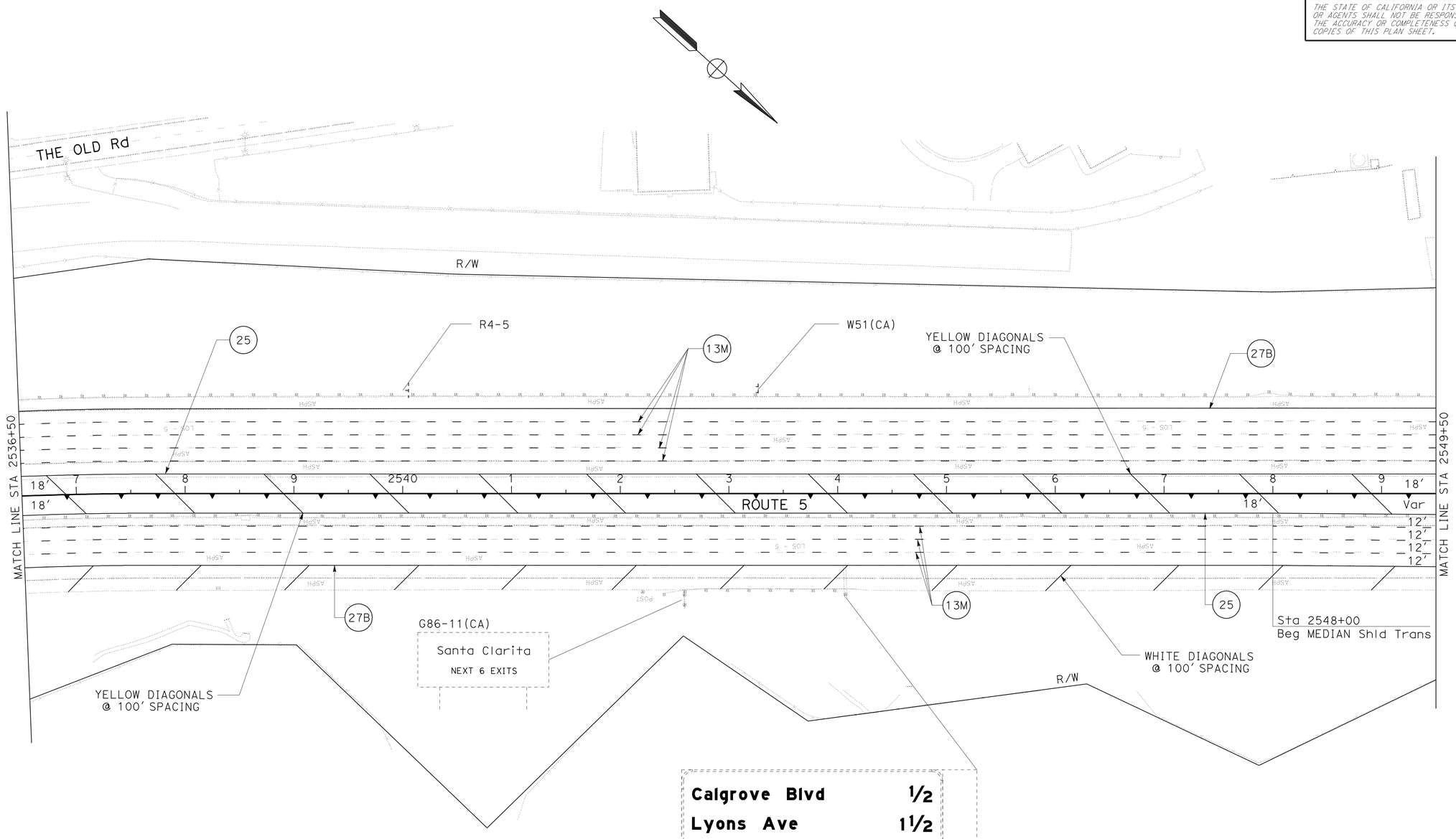

Calgrove Blvd	1/2
Lyons Ave	1 1/2
McBean Pkwy	2 1/2

(E) FNBT OVERHEAD SIGN STRUCTURE (TRUSS)

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

PD-10

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: GRISH BIGLARIAN
CALCULATED-DESIGNED BY: SYED ALI SHAH
CHECKED BY: VINCENT NGUYEN
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 13:47

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	243	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT NGUYEN No. 57797 Exp. 3/31/12 CIVIL STATE OF CALIFORNIA

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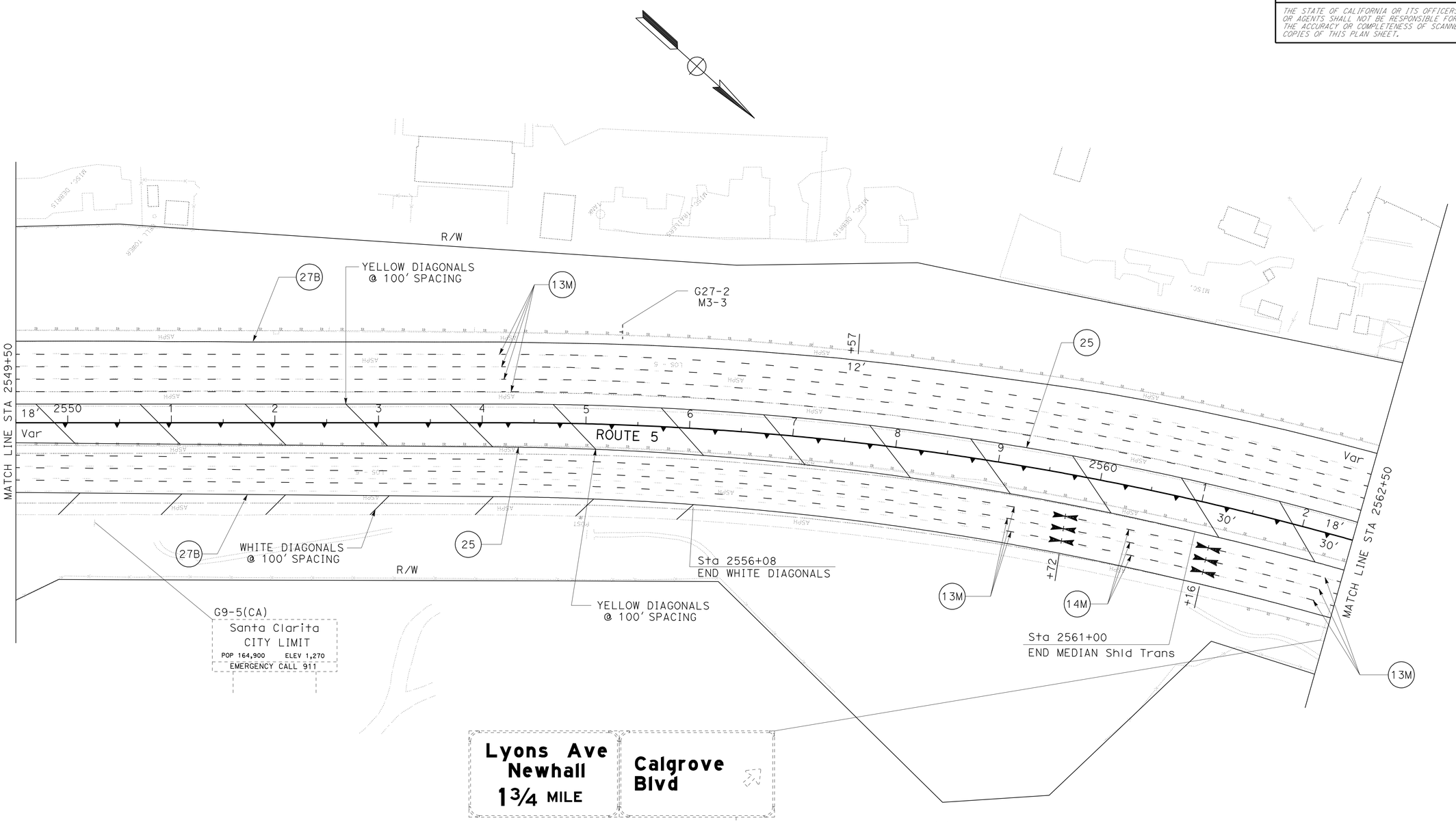

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

PD-11

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

FUNCTIONAL SUPERVISOR: GRISH BIGLARIAN
CALCULATED-DESIGNED BY: SYED ALI SHAH
CHECKED BY: VINCENT NGUYEN
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DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 13:47

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	244	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT NGUYEN No. 57797 Exp. 3/31/12 CIVIL STATE OF CALIFORNIA

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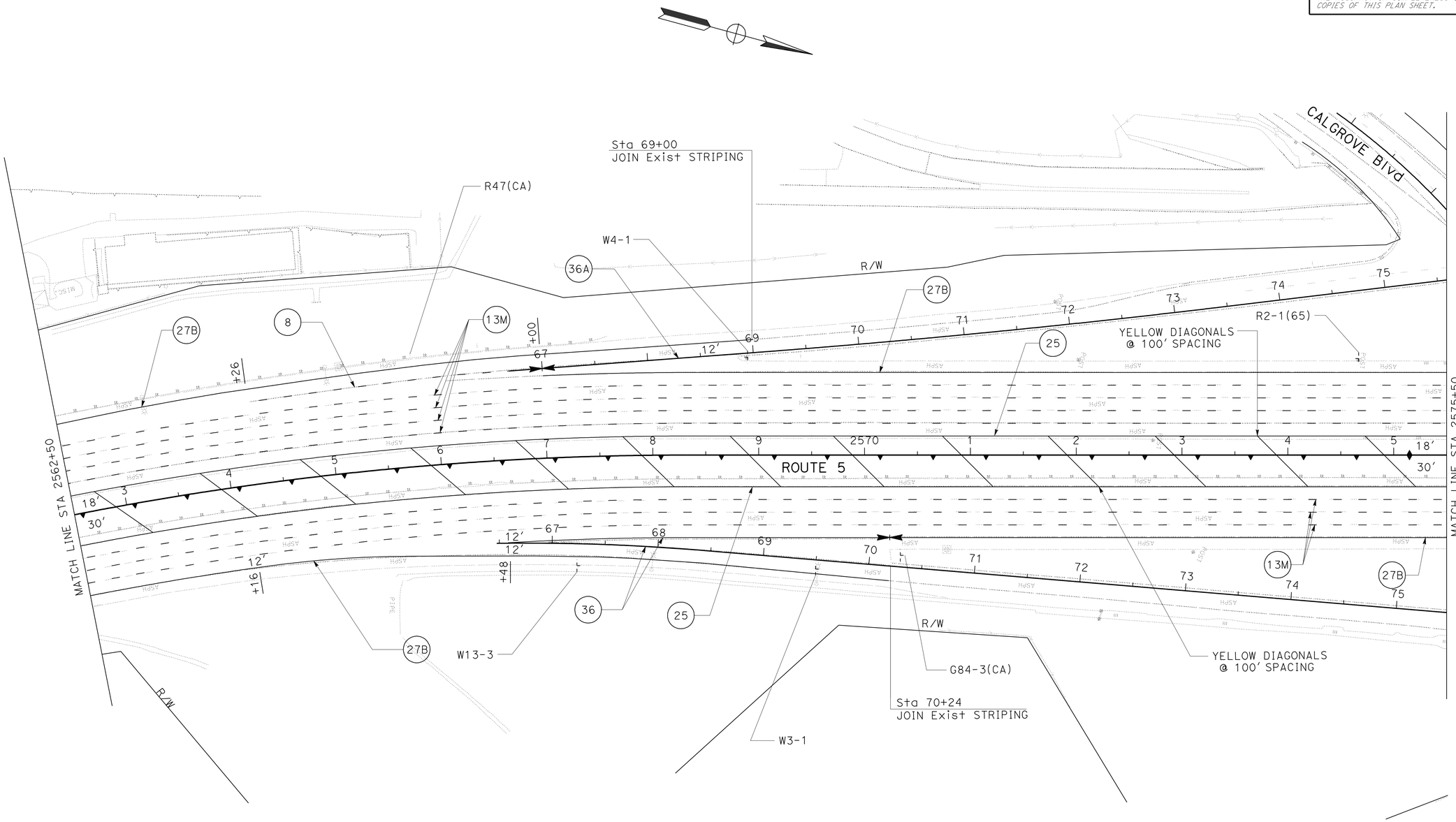

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

PD-12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: GRISH BIGLARIAN
CALCULATED-DESIGNED BY: SYED ALI SHAH
CHECKED BY: VINCENT NGUYEN
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 20-APR-2011
TIME PLOTTED => 8:47

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	245	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT NGUYEN No. 57797 Exp. 3/31/12 CIVIL STATE OF CALIFORNIA

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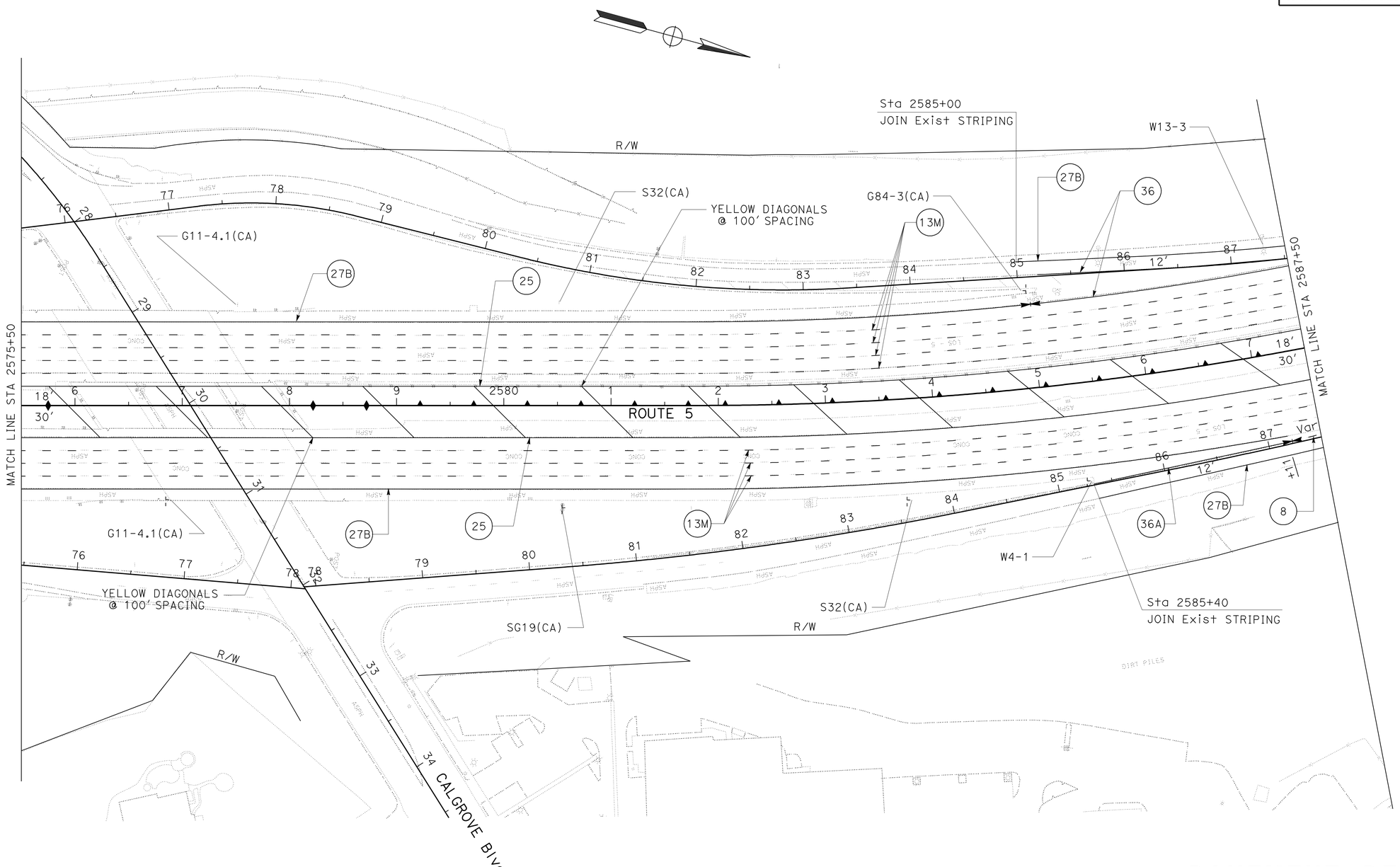

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

PD-13

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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REVISED BY / DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 13:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	246	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT NGUYEN No. 57797 Exp. 3/31/12 CIVIL STATE OF CALIFORNIA

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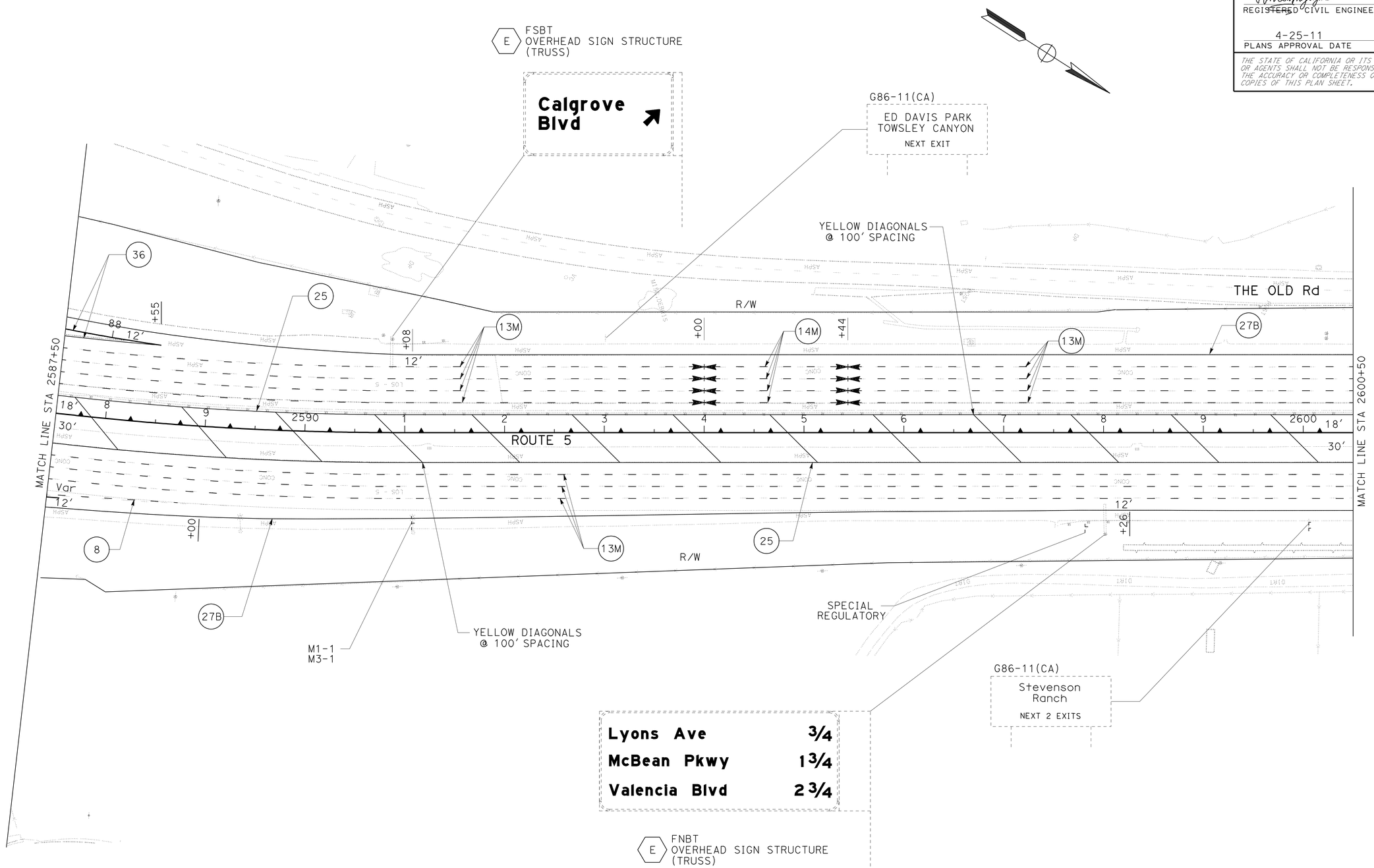

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

PD-14

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC DESIGN

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CHECKED BY: VINCENT NGUYEN
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 26-APR-2011
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	247	456

REGISTERED CIVIL ENGINEER — DATE 1/13/11

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VINCENT NGUYEN — No. 57797 — Exp. 3/31/12 — CIVIL — STATE OF CALIFORNIA

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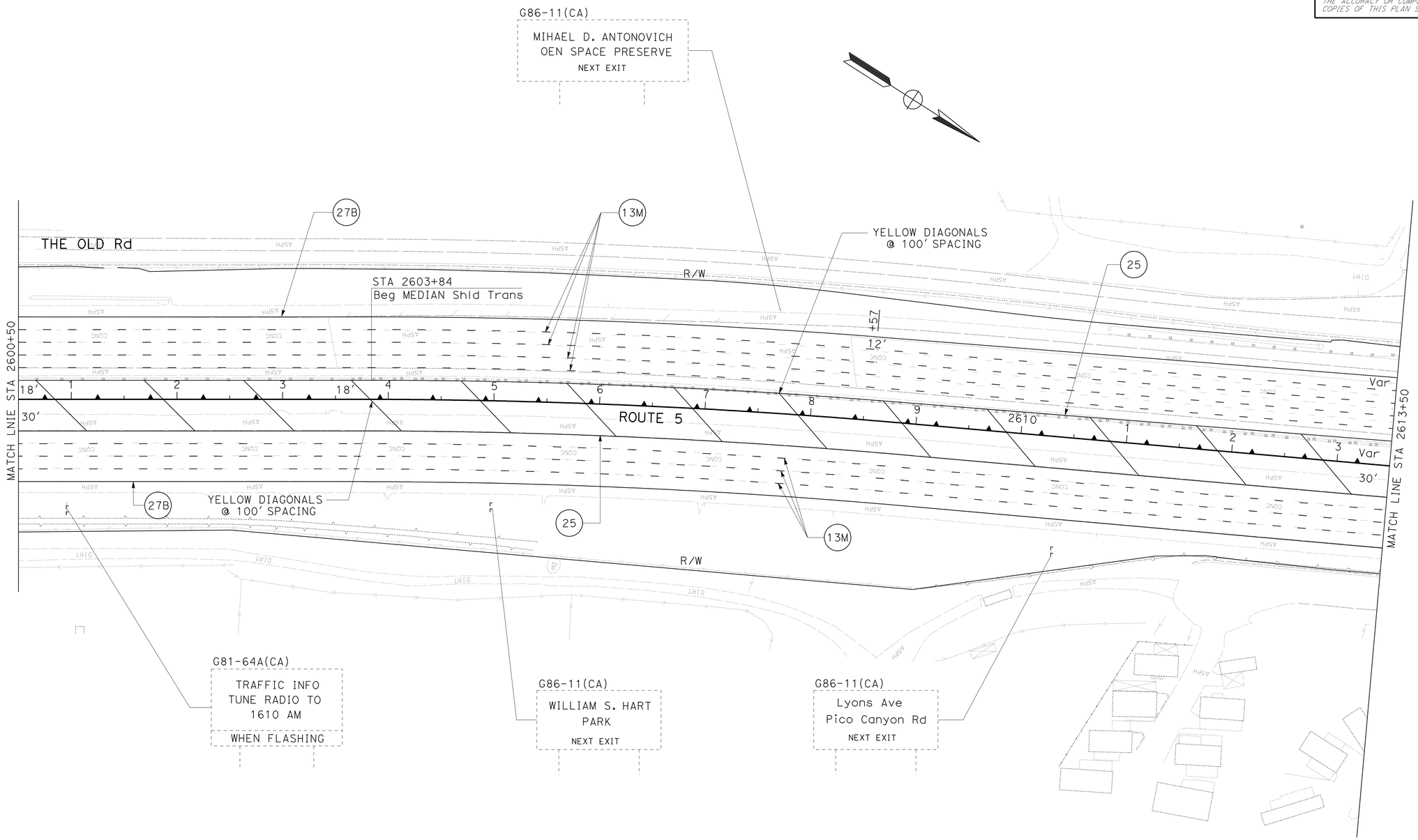

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

PD-15

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

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

FUNCTIONAL SUPERVISOR: GRISH BIGLARIAN
CALCULATED-DESIGNED BY: SYED ALI SHAH
CHECKED BY: VINCENT NGUYEN
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	248	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

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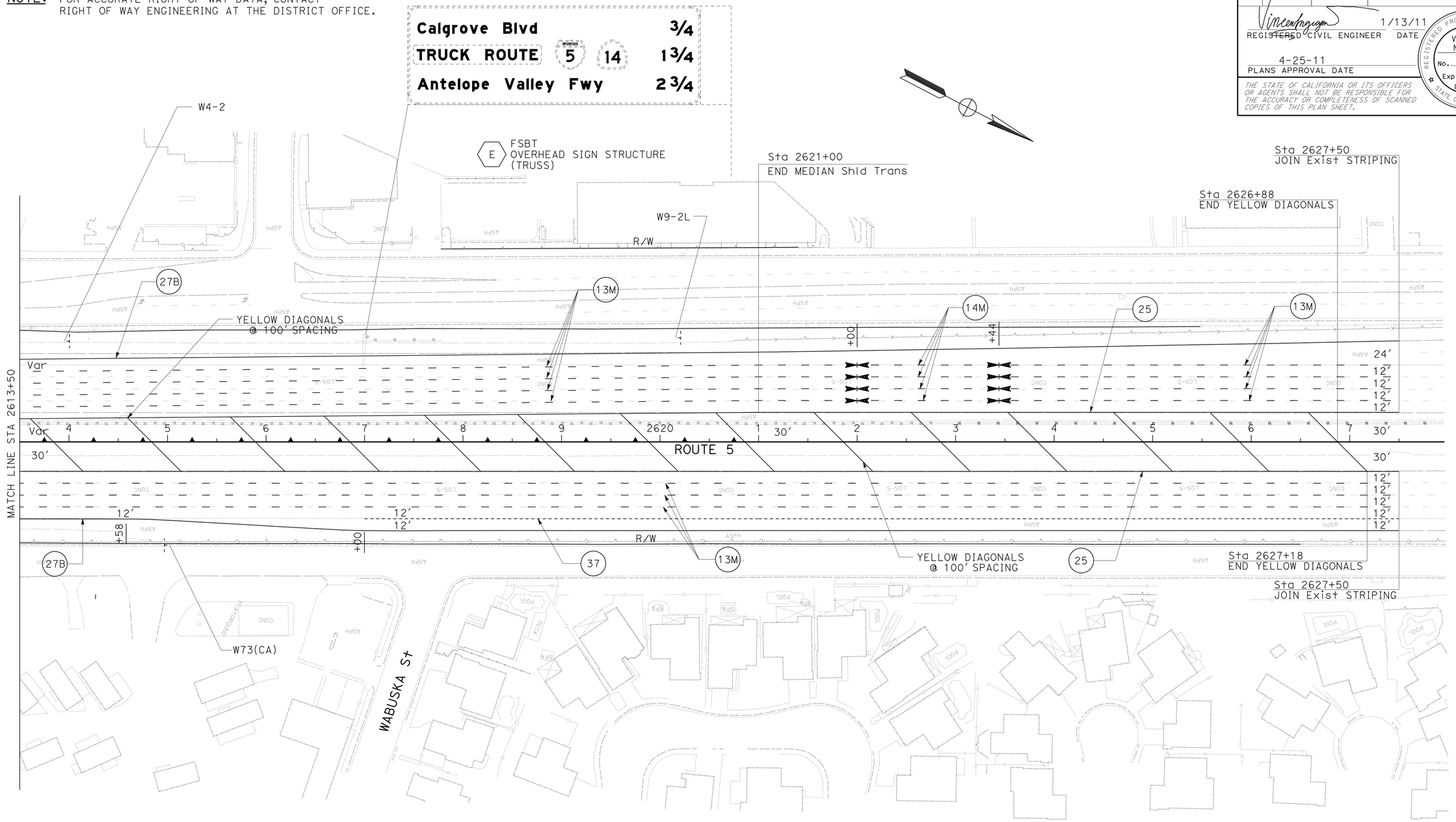

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNING ONLY.

PD-16

REVISED BY | DATE REVISED
SYED ALI SHAH | VINCENT NGUYEN
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
GRISH BIGLARIAN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC DESIGN

LAST REVISION 00-00-00 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 13:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	249	456

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PAVEMENT DELINEATION QUANTITIES

SHEET No.	THERMOPLASTIC TRAFFIC STRIPE 4" DETAIL 8 (BROKEN 17-7)	4" DETAIL 13M (BROKEN 36-12)	4" DETAIL 14M (BROKEN 36-12)	4" DETAIL 25 SOLID YELLOW STRIPE	4" DETAIL 25A SOLID YELLOW STRIPE	4" DETAIL 27B SOLID WHITE STRIPE	8" DETAIL 36 SOLID WHITE	8" DETAIL 36A SOLID WHITE	8" DETAIL 38B WHITE STRIPE	8" DETAIL 37 (BROKEN 12-3)	THERMOPLASTIC PAVEMENT MARKING ARROW	12" DIAGONALS	PAVEMENT MARKER TYPE A NON-REFLECTIVE	RETROREFLECTIVE TYPE C	RETROREFLECTIVE TYPE G	RETROREFLECTIVE TYPE H
	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	SQFT	SQFT	EA	EA	EA	EA
PD-1		3,400		850	130	980	1,280		145			118	283		131	23
PD-2		7,222		1,950		1,950			155	1,145		881	602	8	240	41
PD-3		8,400		2,400		2,400				1,200		305	700		255	50
PD-4		9,305		2,400		2,400				295		305	775		214	50
PD-5		10,400		2,600		2,600						559	867		217	54
PD-6		10,400		2,600		2,600						660	867		217	54
PD-7		9,824	576	2,600		2,600						660	867	16	205	54
PD-8		9,550		2,600		2,600					126	783	796		199	54
PD-9		8,668	432	2,600		2,600						1,077	758	12	181	54
PD-10		9,100		2,600		2,600						1,076	758		190	54
PD-11		8,668	432	2,600		2,600						967	758	12	181	54
PD-12	274	9,100		2,600		2,800	752	200				881	758		229	54
PD-13	39	8,400		2,400		2,571	500	171				814	700		203	50
PD-14	150	8,524	576	2,600		2,600	105					881	758	16	182	54
PD-15		9,100		2,600		2,600						876	758		190	54
PD-16		9,224	576	2,800		2,800				1,050		1,146	817	24	262	58
SUBTOTAL	463	139,285	2,592	38,800	130	39,301	2,637	371	300	3,690	126	11,989	11,822	88	3,296	812
TOTAL	463	141,877		78,231			3,308			3,690	12,115		11,822*	4,196*		

* FOR TOTAL QUANTITY SEE SCQ-1 SHEET.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: GRISH BIGLARIAN
CALCULATED-DESIGNED BY: SYED ALI SHAH
CHECKED BY: VINCENT NGUYEN
REVISED BY
DATE REVISED

PAVEMENT DELINEATION QUANTITIES

PDQ-1

LAST REVISION 00-00-00
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:05

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	250	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

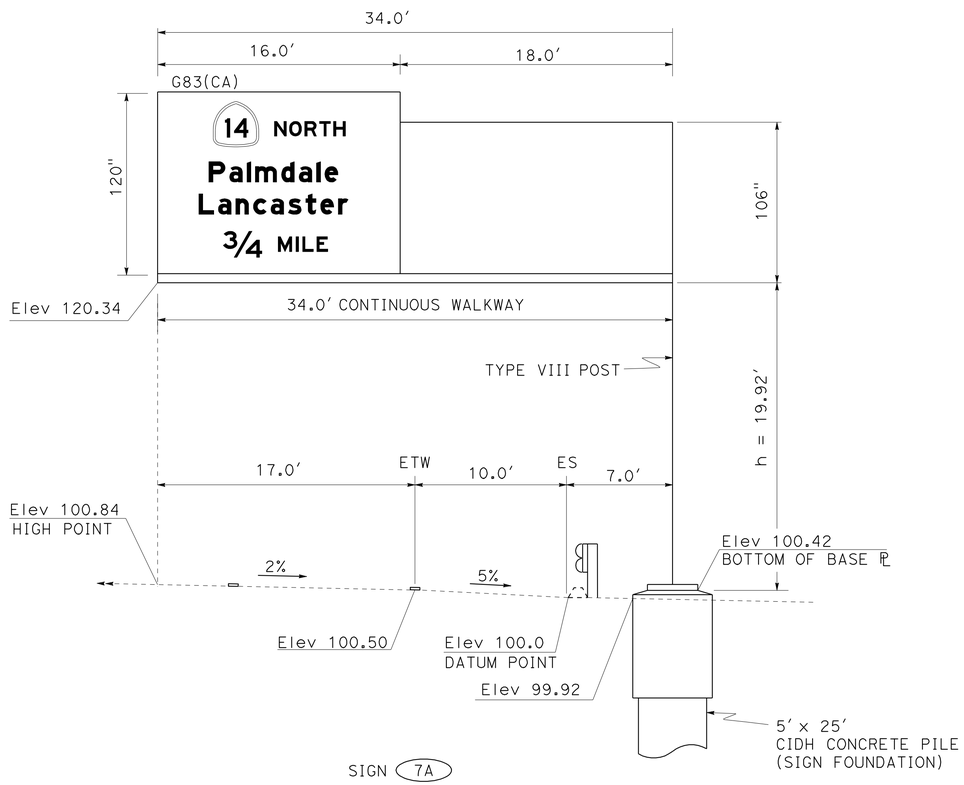
4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT NGUYEN No. 57797 Exp. 3/31/12 CIVIL 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.

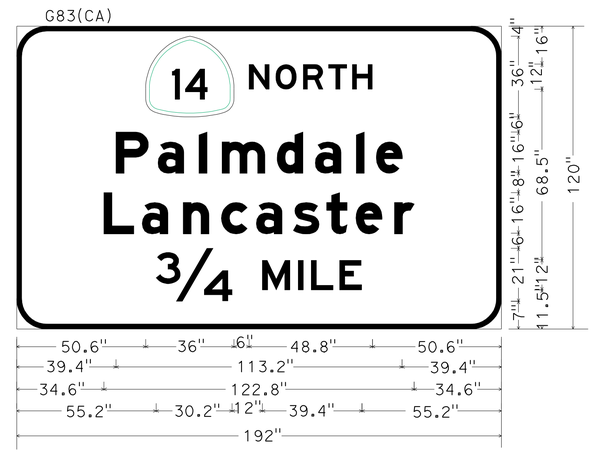
NOTES:

1. OVERHEAD SIGN INSTALLATIONS SHALL MAINTAIN A MINIMUM CLEARANCE OF 19.00 FT. BETWEEN THE HIGH POINT OF FINISHED SURFACE OF THE ROADBED AND THE BOTTOM OF THE WALKWAY.
2. SIGN PANELS FOR OVERHEAD SIGNS SHALL BE FORMED PANELS WITH REMOVABLE SIGN PANEL FRAME (RSPF).
3. REPLACEMENT SIGN PANEL DIMENSIONS SHALL BE VERIFIED IN THE FIELD BEFORE ORDERING MATERIAL.
4. PEDESTAL FOUNDATIONS SHALL BE SQUARE.
5. SEE ELECTRICAL PLANS FOR SIGN ILLUMINATION.
6. ALL NEW OVERHEAD SIGN STRUCTURE SHALL BE TRUSS STRUCTURE.
7. ALL DIMENSIONS SHALL BE FIELD VERIFY BY THE CONTRACTOR BEFORE PLACING ANY ORDER.



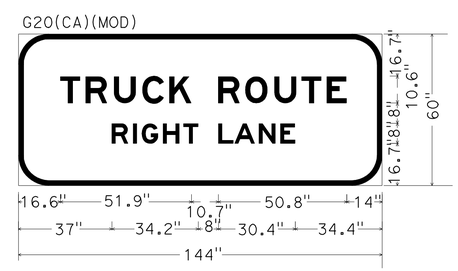
SIGN 7A

FSBT Sta 2503+00
OVERHEAD SIGN STRUCTURE



3B; 12.0" Radius, 2.0" Border, White on Green;
[NORTH] E; [Palmdale] E Mod; [Lancaster] E Mod; [MILE] E;

SIGN 7A



12.0" Radius, 2.0" Border, Black on White;
[TRUCK ROUTE] E; [RIGHT LANE] E;

SIGN 401

SIGN DETAILS

NO SCALE

SD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: GRISH BIGLARIAN
CALCULATED-DESIGNED BY: SYED ALI SHAH
CHECKED BY: VINCENT NGUYEN
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:05

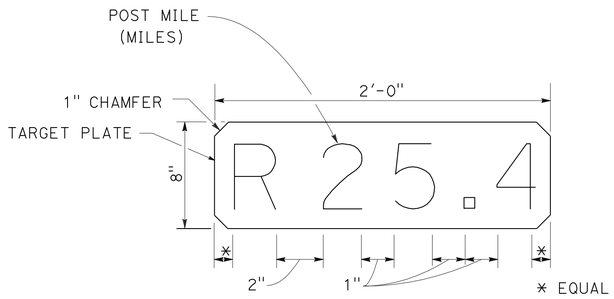
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	251	456

REGISTERED CIVIL ENGINEER 1/13/11 DATE

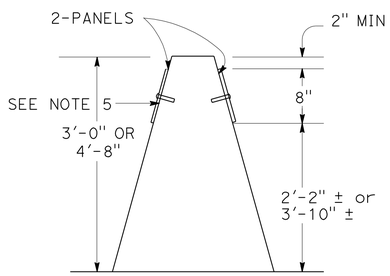
4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER VINCENT NGUYEN No. 57797 Exp. 3/31/12 CIVIL 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.



TYPICAL MEDIAN MILEAGE PANEL
WHITE BACKGROUND WITH BLACK LETTERS



CONCRETE BARRIER

QUANTITIES

MEDIAN MILEAGE PANEL		
ROUTE	POST MILES	INSTALL (EA)
5	R46.3/R50.0	38
	TOTAL	38

MEDIAN MILEAGE PANEL AND INSTALLATION DETAILS

NOTES:

1. INSTALL HORIZONTAL FACING EP ON BOTH SIDES OF BARRIER AT 0.2 MILE INTERVALS AS LOCATED BY THE ENGINEER.
2. LETTERS AND NUMERALS SHALL BE 6" SERIES D DIE CUT NON-REFLECTIVE PRESSURE SENSITIVE BLACK VINYL FROM AN APPROVED MANUFACTURER.
3. NUTS, BOLTS, WASHERS, ETC. ON PANEL FACE SHALL BE NEATLY PAINTED IN APPROPRIATE COLOR.
4. 2¼" EXPANSION ANCHORAGE DEVICES, ONE @ EACH END. HOLE DEPTH AND DIAMETER TO BE DETERMINED BY MANUFACTURER'S SPECIFICATIONS.
5. TARGET PLATE LEGEND SHALL BE IN POST MILES AS DIRECTED BY THE ENGINEER.

THIS PLAN ACCURATE FOR SIGN WORK ONLY

SIGN DETAILS
NO SCALE
SD-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: GRISH BIGLARIAN
CALCULATED-DESIGNED BY: SYED ALI SHAH
CHECKED BY: VINCENT NGUYEN
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:05

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	252	456

REGISTERED CIVIL ENGINEER — DATE 1/13/11

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VINCENT NGUYEN — No. 57797 — Exp. 3/31/12 — CIVIL — 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. EXACT LOCATION AND POSITION OF ROADSIDE SIGNS WILL BE DETERMINED BY THE ENGINEER.
2. SIGNS ARE MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, SEP 2006 EDITION) CODED EXCEPT AS NOTED.
3. (CA) DENOTES CALIFORNIA CODED SIGNS.

LEGEND:

L = LENGTH OF SIGN
D = DEPTH OF SIGN
B = BLACK ; Y = YELLOW ; R = RED ; W = WHITE ; G = GREEN ; BLU = BLUE ; BRW=BROWN

ROADSIDE SIGNS

SHEET No.	SIGN No.	SIGN CODE	PANEL SIZE	PANEL SIZE	POST SIZE	SIGN FACING MATERIAL: SINGLE FACED	BACKGROUND: SHEETING COLOR	BACKGROUND: RETRO-REFLECTIVE ASTM TYPE	LEGEND: SHEETING COLOR	LEGEND: RETRO-REFLECTIVE ASTM TYPE	LEGEND: NON-REFLECTIVE	GRAFFITI FILM PREMIUM	FURNISH SINGLE SHEET ALUMINIUM SIGN (0.080"-UNFRAMED)	FURNISH LAMINATED PANEL SIGN (1"-TYPE B)	ROADSIDE SIGN ONE POST	ROADSIDE SIGN TWO POST	RELOCATE ROADSIDE SIGN	REMARKS
				SQFT									SQFT	SQFT	EA	EA	EA	
PD-1	101	R8-4															2	EMERGENCY PARKING ONLY
		W8-5																SLIPPERY WHEN WET RELOCATE TO ELECTROLIER #46271
PD-2	201	W51(CA)															1	SLOW TRUCKS RELOCATE TO ELECTROLIER #46331
	202	S32(CA)															1	ADOPT-A-HIGHWAY
	203	W8-5															1	SLOW TRUCKS
PD-4	401	G20(CA)(MOD)	60" X 144"	60	6" X 8"	X	WHITE	IV	BLACK		X	X		60		1		TRUCK ROUTE (RIGHT LANE)
PD-7	701	W9-1	48" X 48"	16	4" X 6"	X	YELLOW	IV	BLACK		X	X	16		1			RIGHT LANE ENDS
PD-8	801	W4-2	48" X 48"	16	4" X 6"	X	YELLOW	IV	BLACK		X	X	16		1			MERGE
TOTAL													32	60	2	1	5	

OVERHEAD SIGN QUANTITIES

SHEET No.	SIGN No.	LOCATION	SIGN CODE	SIGN SIZE L X D	CAST-IN-DRILLED-HOLE CONCRETE PILE (SIGN FOUNDATION) 5'-0"	SIGN STRUCTURE (TRUSS): FURNISH	SIGN STRUCTURE (TRUSS): INSTALL	MATERIAL SUMMARY: SINGLE FACED	BACKGROUND: SHEETING COLOR	BACKGROUND: RETROREFLECTIVE ASTM TYPE	LEGEND: SHEETING COLOR	LEGEND: RETROREFLECTIVE ASTM TYPE	GRAFFITI FILM: STANDARD	GRAFFITI FILM: PREMIUM	FURNISH FORMED PANEL SIGN (OVERHEAD)	REMOVE SIGN STRUCTURE	REMARKS
					LF	LB	LB								SQFT	EA	
PD-4	4A	FSBT	G20(CA)													1	TRUCK ROUTE RIGHT LANE
PD-7	7A	FSBT Sta 2503+00	G83(CA)	192" x 120"	25	20,855	20,855	X	GREEN	IV	WHITE	IV		X	160		14 NORTH PALMDALE LANCASTER 3/4 MILE
TOTAL					25	20,855	20,855								160	1	

SIGN QUANTITIES
SQ-1

REVISED BY | DATE REVISED
SYED ALI SHAH | VINCENT NGUYEN
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: GRISH BIGLARIAN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC DESIGN

LAST REVISED 00-00-00 | DATE PLOTTED => 12-APR-2011 | TIME PLOTTED => 10:06

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	253	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL 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.

SUMMARY OF ROADWAY QUANTITIES

SHEET NUMBER	ROADWAY EXCAVATION	JOINTED PLAN CONCRETE PAVEMENT	LEAN CONCRETE BASE	CLASS 3 AGGREGATE BASE	SEAL ISOLATION JOINT	SEAL PAVEMENT JOINT	CONCRETE BARRIER (TYPE 60C Mod)	CONCRETE BARRIER (TYPE 60C)	CONCRETE BARRIER (TYPE 60D)	CONCRETE BARRIER (TYPE 60VF)	REMOVE CONCRETE BARRIER	REMOVE AC DIKE	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE F)	PLACE HMA DIKE (TYPE E)	HMA (TYPE B)	COLD PLANE AC PAVEMENT	GRIND EXISTING CONCRETE PAVEMENT	TACK COAT	ARCHITECTURAL TREATMENT
	CY	CY	CY	CY	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	TON	SQYD	SQYD	TON	SQFT
L-1	1,338	354.0	207.5	303.5	411	917	270.0				270.0					118.6	470.2	60.0	0.08	1,890
L-2	25,681	2,357.8	1,433.1	2,108.8	2,600	5,663	1,211.0			89.0	1,164.0	163.4	37.0	25.0	41.8	923.8	666.7	288.9	2.11	9,100
L-3	4,788	2,136.6	921.6	1,290.2	3,106	6,988	852.4		1,137.6			23.0	23.0			84.4	666.7	173.8	0.16	8,970
L-4	5,111	3,462.3	1,588.1	2,223.3	3,600	11,452		129.8	1,325.4		129.8			590.7		696.7	722.2	266.7	0.86	10,365
L-5	6,142	3,490.3	1,597.8	2,237.0	3,028	11,335		496.4	1300.0		493.4	96.8	71.8	501.0		551.8	247.1	288.9	0.63	11,229
L-6	5,566	3,322.2	1,479.8	2,071.7	2,600	10,978			1300.0					190.7		254.5	722.2	288.9	0.36	11,229
L-7	4,748	3,322.2	1,531.7	2,144.4	2,600	10,978			1300.0							514.9	722.2	288.9	0.71	11,229
L-8	1,310	1,181.6	520.5	728.7	2,600	10,978			376.3					36.5		45.2	103.5	141.9	0.07	3,275
L-9	5,145	3,322.2	1,444.5	2,022.2	2,600	10,978			1,300.0					48.2		104.2	1,022.9	168.6	0.23	11,388
L-10	3,867	3,322.2	1,491.5	2,088.1	2,600	10,978			1,300.0					438.3		390.5	1,444.4		0.80	11,388
L-11	4,488	3,322.2	1,500.2	2,100.3	2,600	10,978			1,300.0					398.8		433.9	1,444.4		0.66	11,388
L-12	4,768	3,322.2	1,499.8	2,099.8	2,600	10,978	60.2		1,239.9					299.1		430.7	1,444.4		0.50	11,277
L-13	3,412	2,528.5	1,165.4	2,123.7	2,400	10,133	32.1	167.0	853.0			95.6		263.1	95.6	355.7	642.5	211.1	0.33	10,535
L-14	4,574	3,322.2	1,463.8	2,049.3	2,600	10,978			1,300.0			210.0				166.9	248.4	478.4	0.17	12,560
L-15	4,275	3,322.2	1,444.5	2,022.2	2,600	10,978			1,300.0			530.0						577.8		9,512
L-16	2,311	1,916.7	833.3	1,166.7	1,500	6,333			750.0									333.4		4,814
SHEET TOTAL	87,524	44,005.4	20,123.1	28,779.9	40,045	151,623	2,425.7	793.2	16,082.2	89.0	2,057.2	1,118.8	131.8	2,791.4	137.4	5,071.8	10,567.8	3,567.3	7.67	150,149
FROM STRUCTURE PLANS																				28,122
TOTAL	87,524	44,005.4	20,123.1	28,779.9	40,045	151,623	2,425.7	793.2	16,082.2	89.0	2,057.2	1,118.8	131.8	2,791.4	137.4	5,071.8	10,567.8	3,567.3	7.67	178,271

SUMMARY OF QUANTITIES ROADWAY

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY DAN PHAM
CHECKED BY KATHY D PHAM
REVISED BY C. TRAN K. PHAM
DATE REVISED 06-24-10 08-30-10

LAST REVISION 06-24-10 DATE PLOTTED => 24-MAY-2011 TIME PLOTTED => 13:45

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	254	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL 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.

MINOR CONCRETE (MINOR STRUCTURE)

SHEET NUMBER	MINOR CONCRETE (MINOR STRUCTURE)
	CY
L-2	1.5*
DQ-25	407.1
TOTAL	408.6

* ANCHOR BLOCK FOR TRANSITION RAILING

REMOVE

SHEET NUMBER	REMOVE CONCRETE	REMOVE CHAIN LINK FENCE
	CY	LF
L-4	7.6	
L-8		152.0
DQ-25	10.4	
TOTAL	18.0	152.0

LEAD CONTAMINATED SOIL

TRASPORTAION AND DISPOSING OF LEAD CONTAMINATED SOIL
CY
9,500

TEMPORARY WATER POLLUTION CONTROL

TEMPORARY FENCE (TYPE ESA)	TEMPORARY FIBER ROLL	TEMPORARY SILT FENCE	TEMPORARY GRAVEL BAG BERM	TEMPORARY COVER	TEMPORARY HYDRAULIC MULCH (BONDED FIBER MATRIX)	TEMPORARY DRAINAGE INLET PROTECTION	TEMPORARY CONSTRUCTION ENTRANCE	MOVE-IN / MOVE-OUT (TEMPORARY EROSION CONTROL)
LF	LF	LF	LF	SQYD	SQYD	EA	EA	EA
950.0	10000	6600	3280	2000	3000	50	13	20

MBGR

SHEET NUMBER	REMOVE DTBB	REMOVE STBB	REMOVE MBGR	MBGR	ALTERNATIVE IN-LINE TERMINAL SYSTEM	ALTERNATIVE FLARED TERMINAL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT)	TRANSITION RAILING (TYPE WB)
	LF	LF	LF	LF	EA	EA	EA	EA
L-2	37.5		241.0	798.3	2		1	1
L-3	1,043.4	169.4						
L-4		1200.0	678.9	622.0		1	1	1
L-5		1300.0	476.0	476.0	1			1
L-6		1300.0						
L-7		1300.0		31.3		1	1	
L-8		571.1	188.6					
L-9		1300.0						
L-10		1300.0	254.2	254.2				
L-11		1300.0	301.2	301.2				
L-12		1300.0						
L-13		1039.6						
L-14		1300.0						
L-15	996.2	303.8						
L-16	750.0						1	
TOTAL	2,827.1	13,683.9	2,139.9	2,483.0	3	2	4	3

SUMMARY OF QUANTITIES

Q-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans®
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: AMIR ELSHARIEF
CHECKED BY: CUONG T. TRAN
REVISED BY: K. PHAM
DATE REVISED: 01/12/11

LAST REVISION 09-15-10
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:06

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	255	456

REGISTERED CIVIL ENGINEER 01-18-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL 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.

RETAINING WALL

SHEET NUMBER	STATION FROM	STATION TO	RETAINING WALL No. (N)	LENGTH (N)	STRUCTURAL CONCRETE, RETAINING WALL	BAR REINFORCING STEEL (RETAINING WALL)	STRUCTURE Exc (RETAINING WALL)	STRUCTURE BACKFILL (RETAINING WALL)	CONCRETE BARRIER (TYPE 736A Mod)	PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	MINOR Conc (GUTTER)
				LF	CY	LB	CY	CY	LF	CY	CY
R-1	2451+30.00	2456+20.00	RW 2451	490	217	16,608	493	411		59.0	16.13
R-2	2456+20.00	2461+00.00	RW 2451	480	476	12,901	500	126		24.6	14.94
R-7	2456+02.75	2459+50.00	RW 2452	347	244	16,116	719	398	347	8.6	
R-8	2459+50.00	2463+50.00	RW 2452	400	440	37,047	1,286	836	400	41.3	
R-9	2463+50.00	2467+50.00	RW 2452	400	545	53,899	1,586	1,164	400	72.6	
R-10	2467+50.00	2471+50.00	RW 2452	400	546	54,040	1,627	1,198	400	88.7	
R-11	2471+50.00	2475+50.00	RW 2452	400	593	67,979	1,778	1,353	400	95.9	
R-12	2475+50.00	2479+50.00	RW 2452	400	707	99,646	2,763	1,797	400	141.9	
R-13	2479+50.00	2483+50.00	RW 2452	400	949	147,148	4,393	2,158	400	163.5	
R-14	2483+50.00	2487+50.00	RW 2452	400	803	128,243	4,564	3,043	400	154.1	
R-15	2487+50.00	2491+50.00	RW 2452	400	708	99,768	4,331	2,930	400	141.3	
R-16	2491+50.00	2495+50.00	RW 2452	400	650	83,743	3,561	2,381	400	111.6	
R-17	2495+50.00	2499+50.00	RW 2452	400	568	57,646	1,939	1,160	400	86.4	
R-18	2499+50.00	2503+50.00	RW 2452	400	546	54,040	1,913	1,192	400	79.3	
R-19	2503+50.00	2507+50.00	RW 2452	400	682	92,564	2,939	2,132	400	60.3	
R-20	2507+50.00	2511+39.82	RW 2452	390	584	66,276	2,073	1,518	390	45.5	
R-31	2521+00.00	2524+50.00	RW 2521	350	377	31,256	1,322	864	350	29.9	
R-32	2524+50.00	2529+50.00	RW 2521	500	670	66,823	2,201	1,501	500	110.2	
R-33	2529+50.00	2534+50.00	RW 2521	500	773	94,435	2,853	2,092	500	111.9	
R-34	2534+50.00	2539+50.00	RW 2521	500	809	101,860	2,916	2,281	500	97.0	
R-35	2539+50.00	2544+50.00	RW 2521	500	594	52,763	1,532	1,126	500	75.1	
R-36	2544+50.00	2549+50.00	RW 2521	500	646	61,339	1,841	1,369	500	108.9	
R-37	2549+50.00	2554+50.00	RW 2521	500	889	115,844	3,064	2,430	500	146.9	
R-38	2554+50.00	2559+50.00	RW 2521	500	926	137,672	3,238	2,488	500	176.8	
R-39	2559+50.00	2564+50.00	RW 2521	500	1,018	161,881	3,873	2,984	500	175.3	
R-40	2564+50.00	2569+50.00	RW 2521	500	906	131,113	3,151	2,442	500	164.5	
R-41	2569+50.00	2574+50.00	RW 2521	500	656	65,431	2,153	1,382	500	66.6	
R-42	2574+50.00	2574+89.85	RW 2521	40	31	2,116	17	11	40		
R-50	2578+97.00	2583+25.00	RW 2578	428	432	35,817	1,223	771	428	52.1	
R-51	2583+25.00	2587+75.00	RW 2578	450	686	82,195	2,257	1,636	450	134.2	
R-52	2587+75.00	2592+25.00	RW 2578	450	664	75,527	1,883	1,380	450	126.9	
R-53	2592+25.00	2596+75.00	RW 2578	450	614	60,795	1,976	1,218	450	105.3	
R-54	2596+75.00	2601+25.00	RW 2578	450	594	57,364	1,778	1,094	450	104.6	
R-55	2601+25.00	2605+75.00	RW 2578	450	487	40,388	1,541	910	450	88.7	
R-56	2605+75.00	2610+25.00	RW 2578	450	465	37,313	1,261	801	450	73.4	
R-57	2610+25.00	2614+75.00	RW 2578	450	412	30,476	1,164	733	450	67.4	
R-58	2614+75.00	2619+25.00	RW 2578	450	421	31,482	1,089	653	450	66.5	
R-59	2619+25.00	2621+00.07	RW 2578	175	173	13,297	459	283	175	26.0	
SHEET TOTAL					22,501	2,574,851	79,257	54,246	15,130	3,482.8	31.07
FROM STRUCTURE PLANS					1,600	260,160	1,600	1,640		122	42.0
TOTAL					24,101	2,835,011	80,857	55,886	15,130	3,604.8	73.07

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

SUMMARY OF QUANTITIES

Q-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: AMIR ELSHARIEF
CHECKED BY: CUONG T. TRAN
REVISED BY: K. PHAM
DATE REVISED: 01/13/11

LAST REVISION 09-15-10 | DATE PLOTTED => 24-MAY-2011 | TIME PLOTTED => 13:45

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	256	456

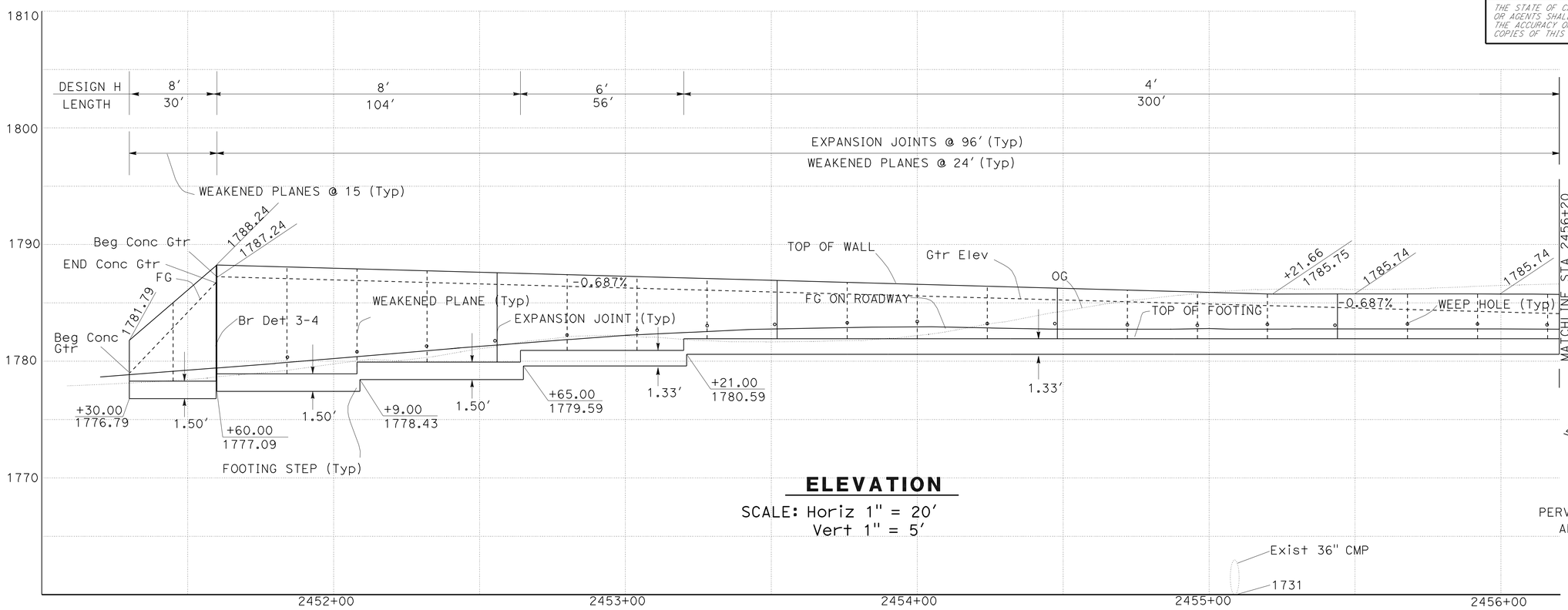
REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

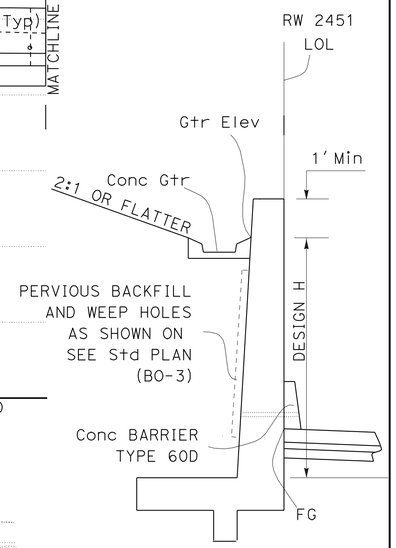
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:
1. SEE STRUCTURE PLANS FOR ARCHITECTURAL DETAILS.
2. WATERSTOP IN THE EXPANSION JOINT SHALL BE EXTEND 6 INCHES INTO CONCRETE BARRIER.
3. ALL ELEVATIONS ARE BASED ON NAVD 1988.



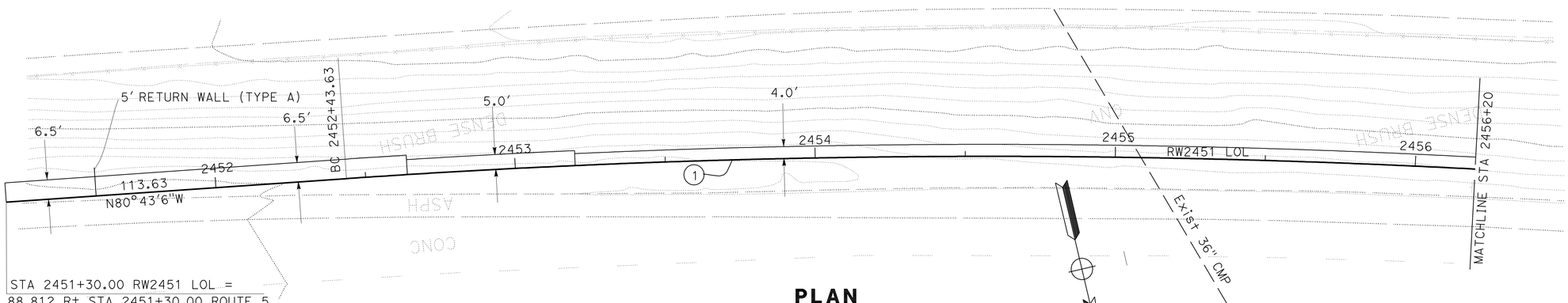
ELEVATION

SCALE: Horiz 1" = 20′
Vert 1" = 5′



RW 2451

(TYPE 5)
STA 2451+30 - STA 2461+00



PLAN

SCALE: 1" = 20′

CURVE DATA

No. O	R	Δ	T	L
1	3088.88′	19°13′11"	522.99′	1036.16′

RETAINING WALL 2451

SCALE AS SHOWN

R-1

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: AMIR ELSHARIEF
CHECKED BY
REVISED BY: CTT
DATE REVISED: 12-03-10

LAST REVISION 12-03-10
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:06

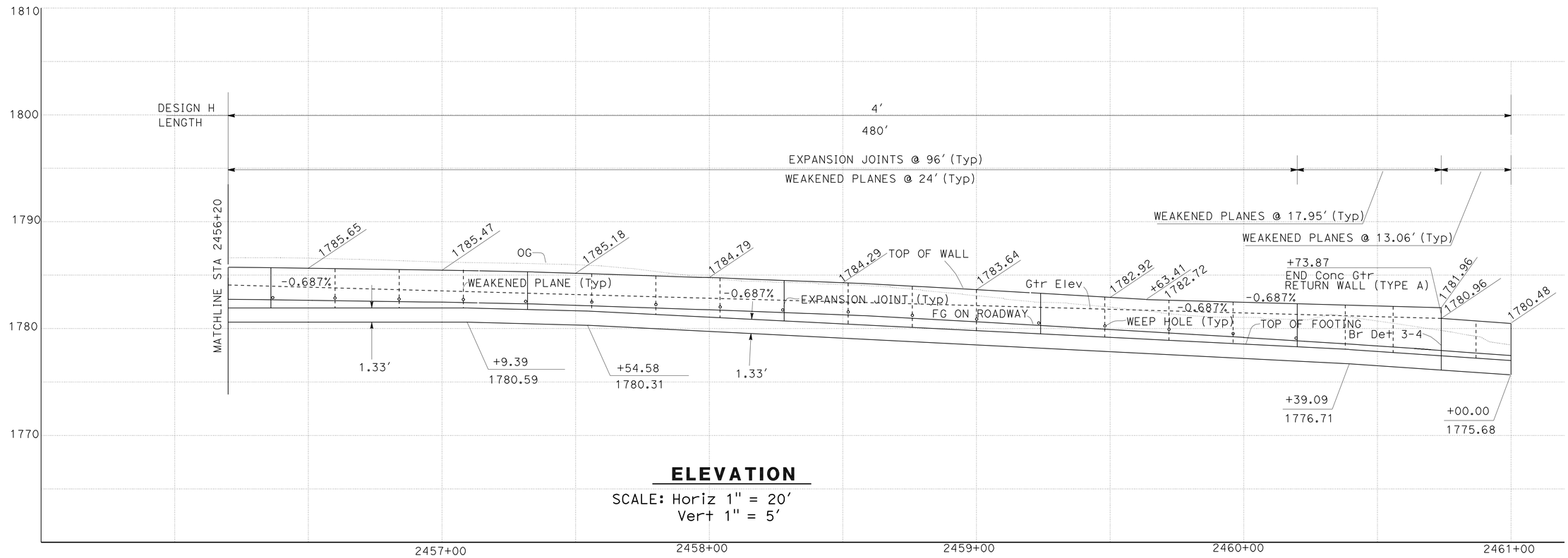
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	257	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL 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.

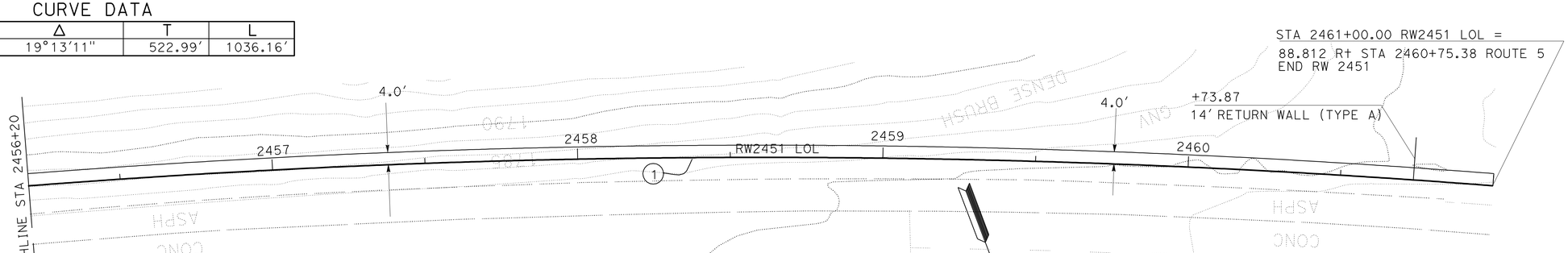


ELEVATION

SCALE: Horiz 1" = 20′
Vert 1" = 5′

CURVE DATA

No. O	R	Δ	T	L
1	3088.88′	19°13′11"	522.99′	1036.16′



PLAN

SCALE: 1" = 20′

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

RETAINING WALL 2451

SCALE AS SHOWN

R-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: AMIR ELSHARIEF
CHECKED BY
REVISED BY: CTT
DATE REVISED: 12-03-10

LAST REVISION 12-03-10 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 10:06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	258	456

REGISTERED CIVIL ENGINEER 10-14-10

4-25-11
PLANS APPROVAL DATE

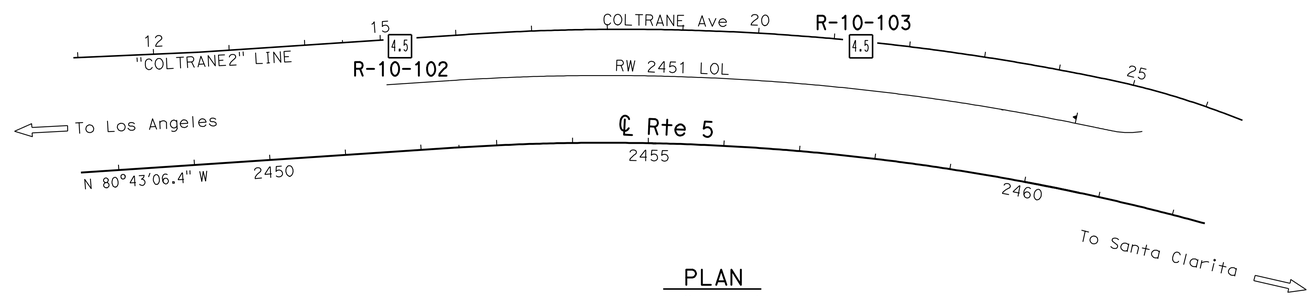
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
Hung Po Yang
No. C66376
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (June 2010).

BENCH MARK

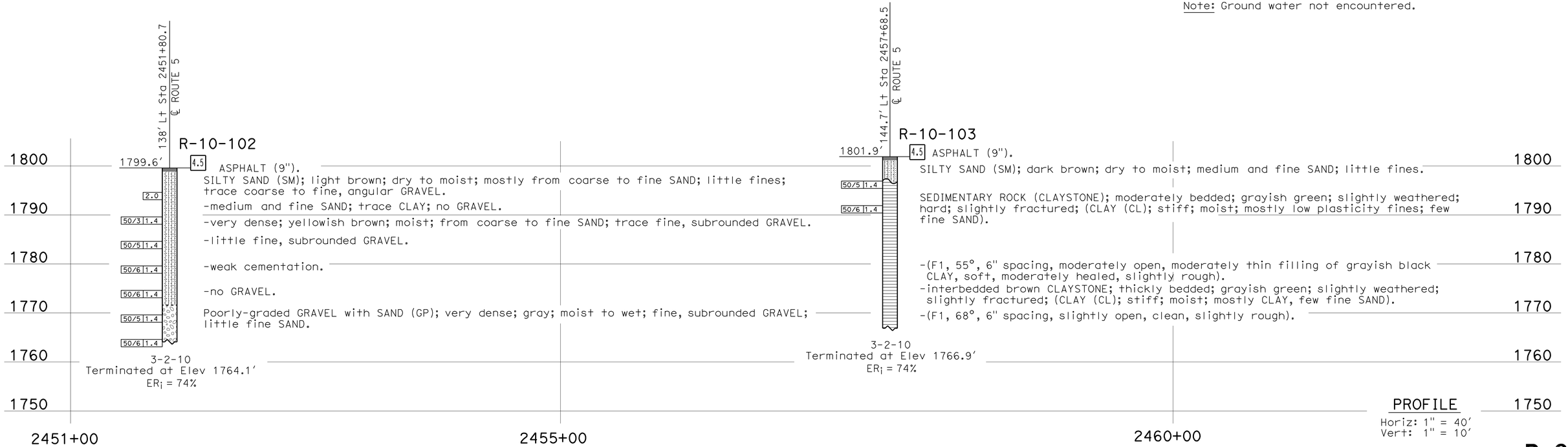
California Division of Highways
Brass Cap Monument, "LA-05-PM R46.5,"
85.299′ Rt ℄ Rte 5 Sta 2444+31.41
Elev 1765.58′
N 1946938.17, E 6404076.21



PLAN

1" = 100′

Note: Ground water not encountered.



PROFILE

Horiz: 1" = 40′
Vert: 1" = 10′

R-3

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. RW2451 / POST MILES R46.9/R47.1	RETAINING WALL NO 2451 LOG OF TEST BORINGS 1 OF 4
FUNCTIONAL SUPERVISOR NAME: T. Le	DRAWN BY: I.G-Remmen / CHECKED BY: B. Levine	FIELD INVESTIGATION BY: Hung Po Yang			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES 09-30-10 10-14-10

REVISION DATES | SHEET | OF

FILE => 72332Aqa003.dgn

USERNAME => tracorol DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 10:06

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	259	456

REGISTERED CIVIL ENGINEER 10-14-10

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Hung Po Yang
No. C66376
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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CEMENTATION

Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

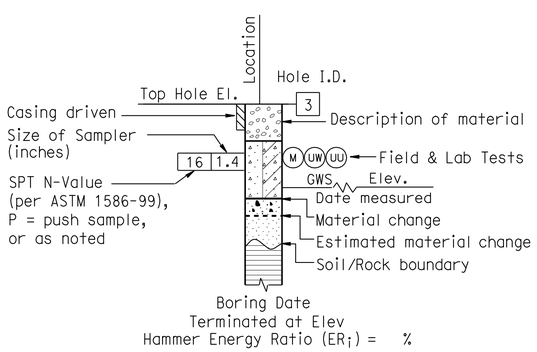
BOREHOLE IDENTIFICATION

Symbol	Hole Type	Description
Size	A	Auger Boring (hollow or solid stem bucket)
Size	R RW RC P	Rotary drilled boring (conventional) Rotary drilled with self-casing wire-line Rotary core with continuously-sampled, self-casing wire-line Rotary percussion boring (air)
Size	R	Rotary drilled diamond core
Size	HD HA	Hand driven (1-inch soil tube) Hand Auger
●	D	Dynamic Cone Penetration Boring
▲	CPT	Cone Penetration Test (ASTM D 5778)
⬚	O	Other (note on LOTB)

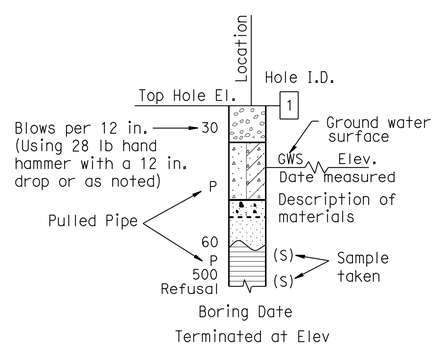
Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS

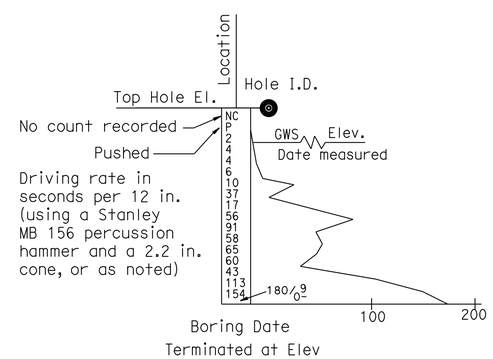
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium Stiff	0.25 - 0.5	0.5 - 1	0.25 - 0.5	0.25 - 0.5
Stiff	0.5 - 1	1 - 2	0.5 - 1	0.5 - 1
Very Stiff	1 - 2	2 - 4	1 - 2	1 - 2
Hard	Greater than 2	Greater than 4	Greater than 2	Greater than 2



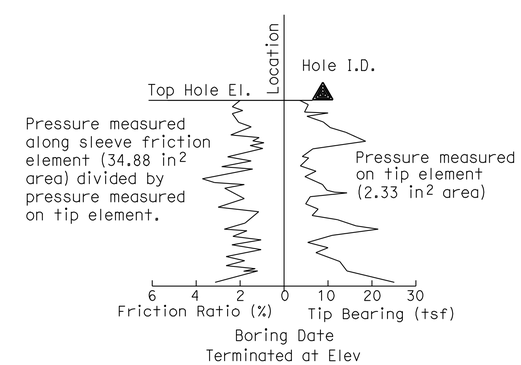
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) BORING

R-4

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. RW2451 POST MILE R46.9/R47.1	RETAINING WALL NO 2451 LOG OF TEST BORINGS 2 OF 4
	PREPARED BY: I.G-Remmen, 9/10				

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES | SHEET | OF

FILE => 72332Aqa004.dgn

USERNAME => trcarol DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 10:06

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	260	456

REGISTERED CIVIL ENGINEER 10-14-10

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Hung Po Yang No. C66376 Exp. 6-30-12 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.

GROUP SYMBOLS AND NAMES

Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
GW	Well-graded GRAVEL Well-graded GRAVEL with SAND	CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
GP	Poorly-graded GRAVEL Poorly-graded GRAVEL with SAND		
GW-GM	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND	CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
GP-GM	Poorly-graded GRAVEL with SILT Poorly-graded GRAVEL with SILT and SAND	ML	SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
GP-GC	Poorly-graded GRAVEL with CLAY (or SILTY CLAY) Poorly-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
GM	SILTY GRAVEL SILTY GRAVEL with SAND	OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL with SAND		
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND	OL	ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
SW	Well-graded SAND Well-graded SAND with GRAVEL		
SP	Poorly-graded SAND Poorly-graded SAND with GRAVEL	CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
SW-SM	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL		
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)	MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
SP-SM	Poorly-graded SAND with SILT Poorly-graded SAND with SILT and GRAVEL		
SP-SC	Poorly-graded SAND with CLAY (or SILTY CLAY) Poorly-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)	OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
SM	SILTY SAND SILTY SAND with GRAVEL		
SC	CLAYEY SAND CLAYEY SAND with GRAVEL	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL		
PT	PEAT	OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND
	COBBLES COBBLES and BOULDERS BOULDERS		

FIELD AND LABORATORY TESTING

- (C) Consolidation (ASTM D 2435)
- (CL) Collapse Potential (ASTM D 5333)
- (CP) Compaction Curve (CTM 216)
- (CR) Corrosivity Testing (CTM 643, CTM 422, CTM 417)
- (CU) Consolidated Undrained Triaxial (ASTM D 4767)
- (DS) Direct Shear (ASTM D 3080)
- (EI) Expansion Index (ASTM D 4829)
- (M) Moisture Content (ASTM D 2216)
- (OC) Organic Content-% (ASTM D 2974)
- (P) Permeability (CTM 220)
- (PA) Particle Size Analysis (ASTM D 422)
- (PI) Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
- (PL) Point Load Index (ASTM D 5731)
- (PM) Pressure Meter
- (R) R-Value (CTM 301)
- (SE) Sand Equivalent (CTM 217)
- (SG) Specific Gravity (AASHTO T 100)
- (SL) Shrinkage Limit (ASTM D 427)
- (SW) Swell Potential (ASTM D 4546)
- (UC) Unconfined Compression-Soil (ASTM D 2166) Unconfined Compression-Rock (ASTM D 2938)
- (UU) Unconsolidated Undrained Triaxial (ASTM D 2850)
- (UW) Unit Weight (ASTM D 4767)

APPARENT DENSITY OF COHESIONLESS SOILS

Description	SPT N_{60} (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

MOISTURE

Description	Criteria
Dry	No discernable moisture
Moist	Moisture present, but no free water
Wet	Visible free water

PERCENT OR PROPORTION OF SOILS

Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5% - 10%
Little	15% - 25%
Some	30% - 45%
Mostly	50% - 100%

PARTICLE SIZE

Description		Size (in.)
Boulder		Greater than 12
Cobble		3 - 12
Gravel	Coarse	3/4 - 3
	Fine	1/5 - 3/4
Sand	Coarse	1/16 - 1/5
	Medium	1/64 - 1/16
	Fine	1/300 - 1/64
Silt and Clay		Less than 1/300

R-5

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. RW2451 POST MILE R46.9/R47.1	RETAINING WALL NO 2451 LOG OF TEST BORINGS 3 OF 4
	PREPARED BY: I.G-Remmen, 9/10				

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES SHEET OF

FILE => 72332Aqa005.dgn

USERNAME => trcarol DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 10:07

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	261	456

REGISTERED CIVIL ENGINEER 10-14-10

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Hung Po Yang No. C66376 Exp. 6-30-12 CIVIL STATE OF CALIFORNIA

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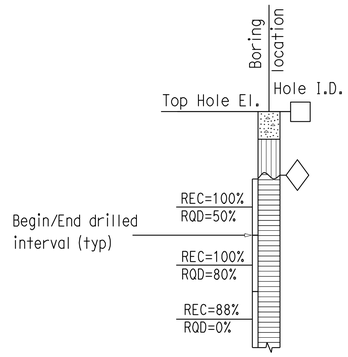
PERCENT CORE RECOVERY (REC) & ROCK QUALITY DESIGNATION (RQD)

$$REC = \frac{\sum \text{Length of the recovered core pieces (in.)}}{\text{Total length of core run (in.)}} \times 100\%$$

$$RQD = \frac{\sum \text{Length of intact core pieces} \geq 4 \text{ in.}}{\text{Total length of core run (in.)}} \times 100\%$$

RQD* Indicates soundness criteria not met.



BEDDING SPACING

Description	Thickness / Spacing
Massive	Greater than 10 ft
Very Thickly Bedded	3 ft - 10 ft
Thickly Bedded	1 ft - 3 ft
Moderately Bedded	4 in. - 1 ft
Thinly Bedded	1 in. - 4 in.
Very Thinly Bedded	1/4 in. - 1 in.
Laminated	Less than 1/4 in.

LEGEND OF ROCK MATERIALS

- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

ROCK HARDNESS

Description	Criteria
Extremely Hard	Cannot be scratched with a pocketknife or sharp pick. Can only be chipped with repeated heavy hammer blows.
Very Hard	Cannot be scratched with a pocketknife or sharp pick. Breaks with repeated heavy hammer blows.
Hard	Can be scratched with a pocketknife or sharp pick with difficulty (heavy pressure). Breaks with heavy hammer blows.
Moderately Hard	Can be scratched with pocketknife or sharp pick with light or moderate pressure. Breaks with moderate hammer blows.
Moderately Soft	Can be grooved 1/16 in. deep with a pocketknife or sharp pick with moderate or heavy pressure. Breaks with light hammer blow or heavy manual pressure.
Soft	Can be grooved or gouged easily by a pocketknife or sharp pick with light pressure, can be scratched with fingernail. Breaks with light to moderate manual pressure.
Very Soft	Can be readily indented, grooved or gouged with fingernail, or carved with a pocketknife. Breaks with light manual pressure.

FRACTURE DENSITY

Description	Observed Fracture Density
Unfractured	No fractures.
Very Slightly Fractured	Core lengths greater than 3 ft.
Slightly Fractured	Core lengths mostly from 1 to 3 ft.
Moderately Fractured	Core lengths mostly from 4 in. to 1 ft.
Intensely Fractured	Core lengths mostly from 1 to 4 in.
Very Intensely Fractured	Mostly chips and fragments.

WEATHERING DESCRIPTORS FOR INTACT ROCK

Description	Diagnostic Features					General Characteristics
	Chemical Weathering-Discoloration and/or Oxidation		Mechanical Weathering-Grain Boundary Conditions (Disaggregation) Primarily for Granitics and Some Coarse-Grained Sediments	Texture and Leaching		
	Body of Rock	Fracture Surfaces		Texture	Leaching	
Fresh	No discoloration, not oxidized.	No discoloration or oxidation.	No separation, intact (tight).	No change	No leaching	Hammer rings when crystalline rocks are struck.
Slightly Weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull.	Minor to complete discoloration or oxidation of most surfaces.	No visible separation, intact (tight).	Preserved	Minor leaching of some soluble minerals.	Hammer rings when crystalline rocks are struck. Body of rock not weakened.
Moderately Weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty," feldspar crystals are "cloudy."	All fracture surfaces are discolored or oxidized.	Partial separation of boundaries visible.	Generally preserved	Soluble minerals may be mostly leached.	Hammer does not ring when rock is struck. Body of rock is slightly weakened.
Intensely Weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in-situ disaggregation, see grain boundary conditions.	All fracture surfaces are discolored or oxidized, surfaces friable.	Partial separation, rock is friable; in semiarid conditions granitics are disaggregated.	Texture altered by chemical disintegration (hydration, argillation).	Leaching of soluble minerals may be complete.	Dull sound when struck with hammer, usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures, or veinlets. Rock is significantly weakened.
Decomposed	Discolored or oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay.		Complete separation of grain boundaries (disaggregated).	Resembles a soil, partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete.		Can be granulated by hand. Resistant minerals such as quartz may be present as "stringers" or "dikes."

R-6

ENGINEERING SERVICES

GEOTECHNICAL SERVICES
PREPARED BY: I.G-Remmen, 9/10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH

BRIDGE NO. RW2451
POST MILE R46.9/R47.1

RETAINING WALL NO 2451
LOG OF TEST BORINGS 4 OF 4

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES | SHEET | OF

FILE => 72332Aqa006.dgn

USERNAME => trcarol DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 10:07

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	262	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

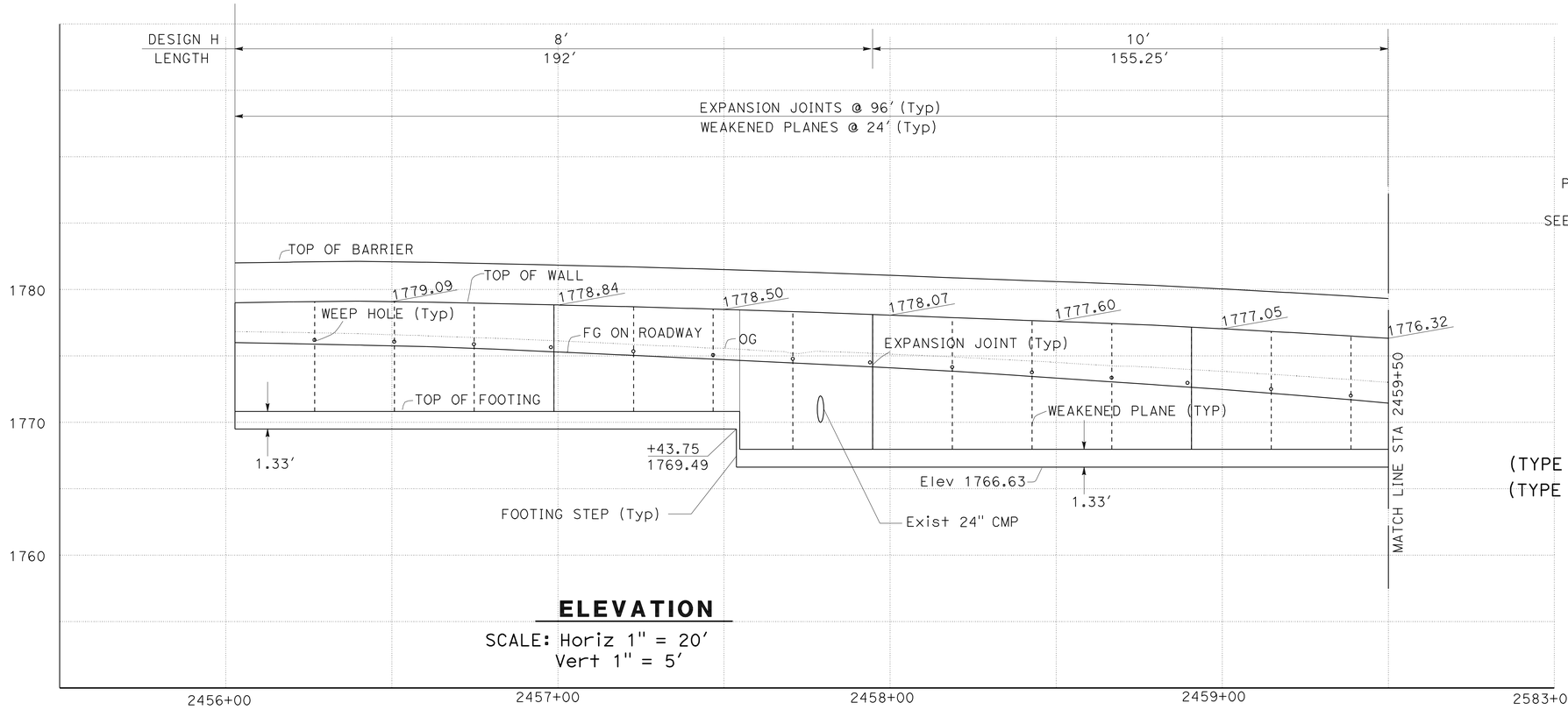
4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL 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 ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. SEE STRUCTURE PLANS FOR ARCHITECTURAL DETAILS.
3. WATERSTOP IN THE EXPANSION JOINT SHALL BE EXTEND 6 INCHES INTO CONCRETE BARRIER.
4. ALL ELEVATIONS ARE BASED ON NAVD 1988.



ELEVATION

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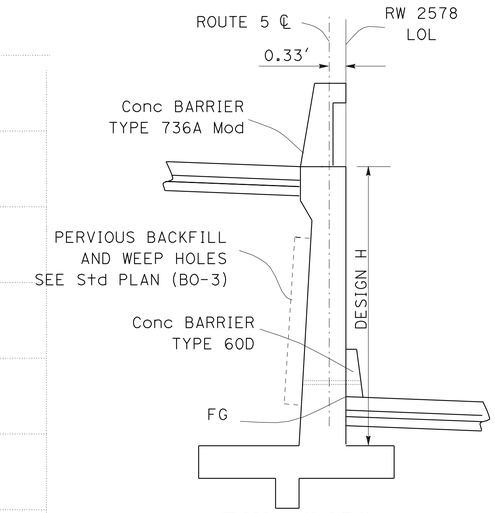
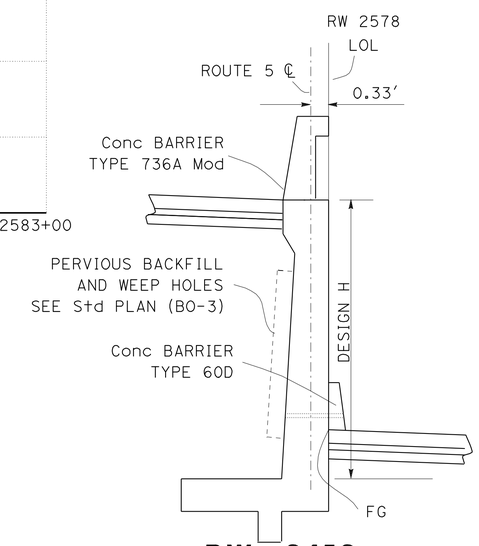
Vert 1" = 5′



RW 2452

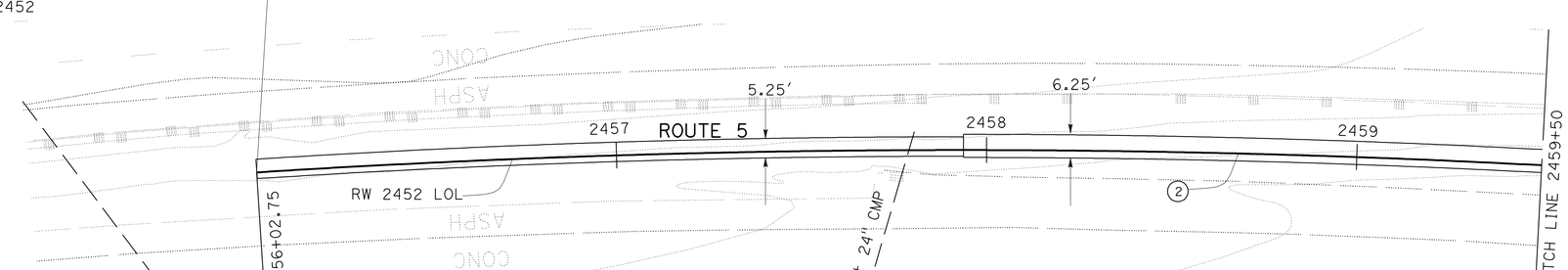
(TYPE 1) STA 2456+02.75 - STA 2497+88.75
(TYPE 1) STA 2498+73.75 - STA 2510+25.75



RW 2452

(TYPE 5) STA 2497+78.75 - STA 2498+73.75
(TYPE 5) STA 2510+25.75 - STA 2511+39.82

STA 2456+02.75 RW2452 LOL =
0.774 Rt STA 2456+02.37 ROUTE 5
Beg RW 2452



PLAN

SCALE: 1" = 20′

CURVE DATA

No.	R	Δ	T	L
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THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

RETAINING WALL 2452

SCALE AS SHOWN

R-7

REVISED BY	DATE REVISED
CTT	12/03/10

CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 12-03-10
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:07

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	263	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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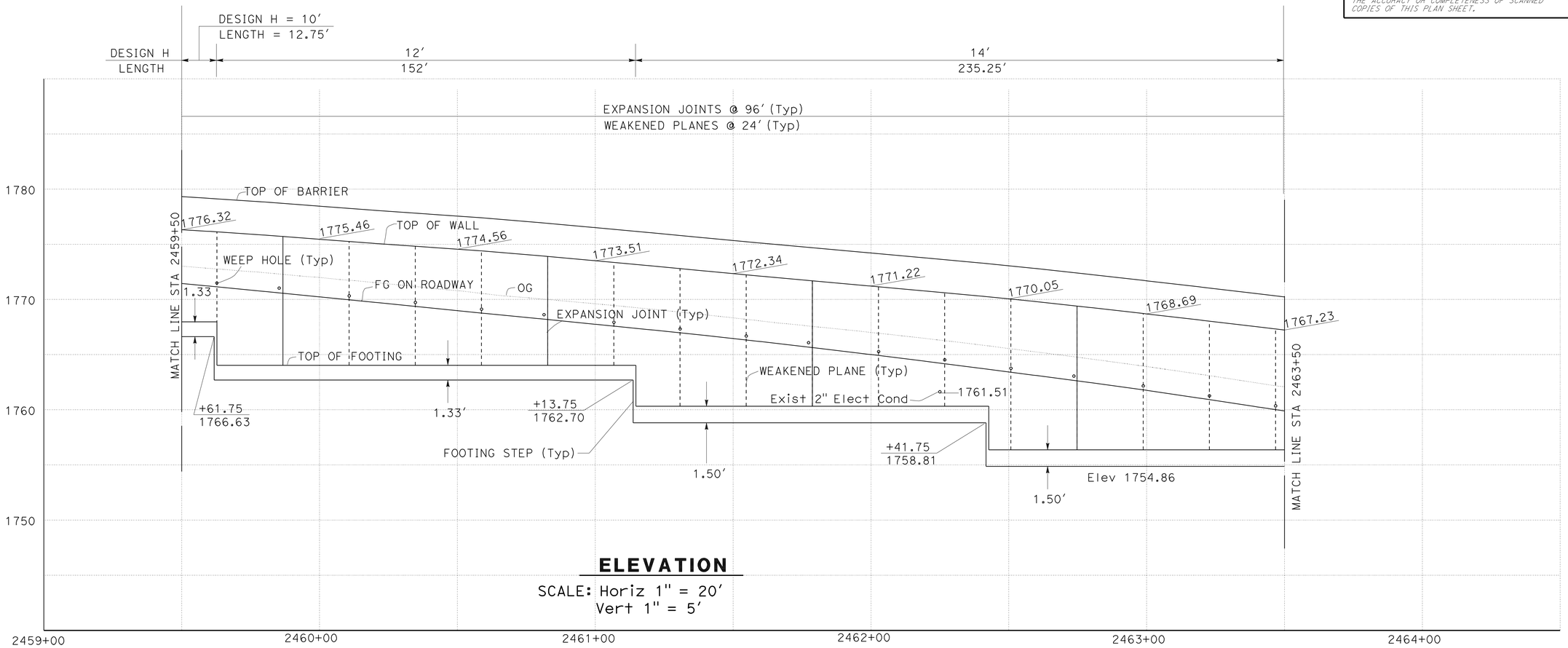

ELEVATION

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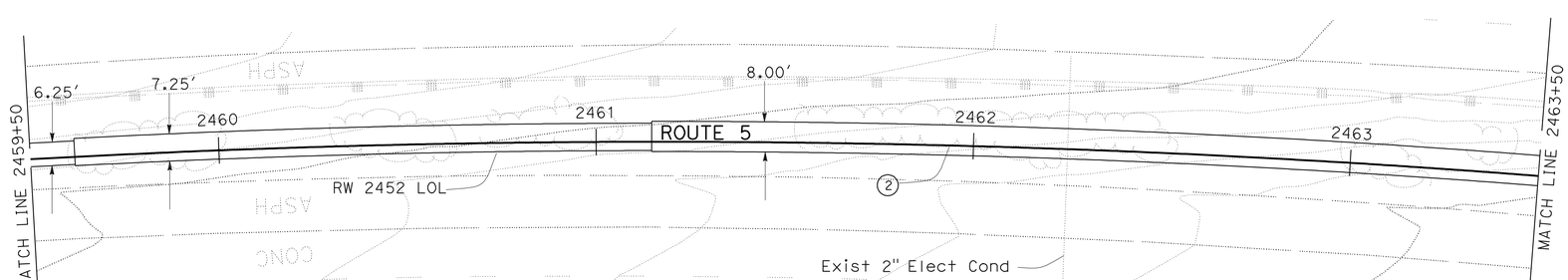
Vert 1" = 5'



PLAN

SCALE: 1" = 20'

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

CURVE DATA

No.	R	Δ	T	L
2	2999.23'	37°57'51"	1031.67'	1987.29'

RETAINING WALL 2452

SCALE AS SHOWN

R-8

REVISED BY	DATE REVISED
CTT	12/03/10

CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 12-03-10 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 10:07

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	264	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

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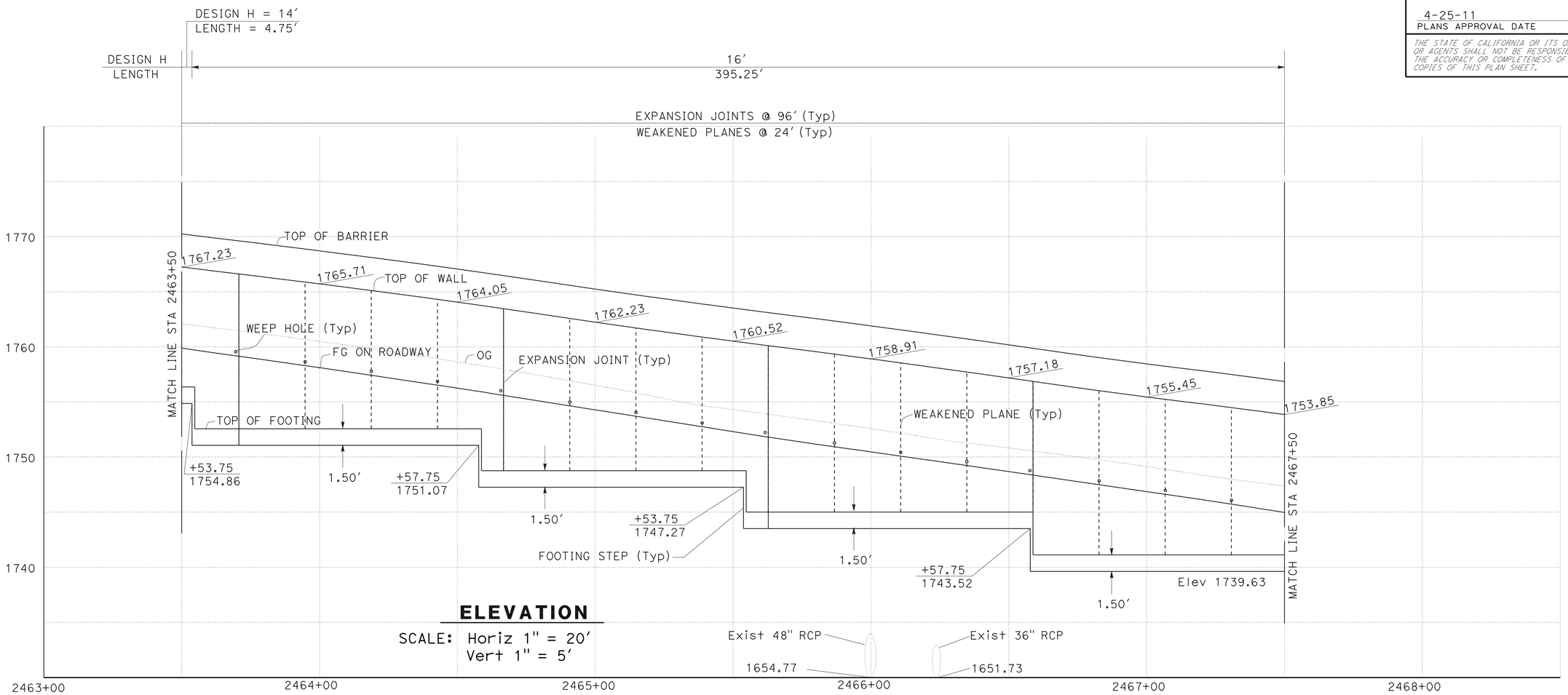

ELEVATION

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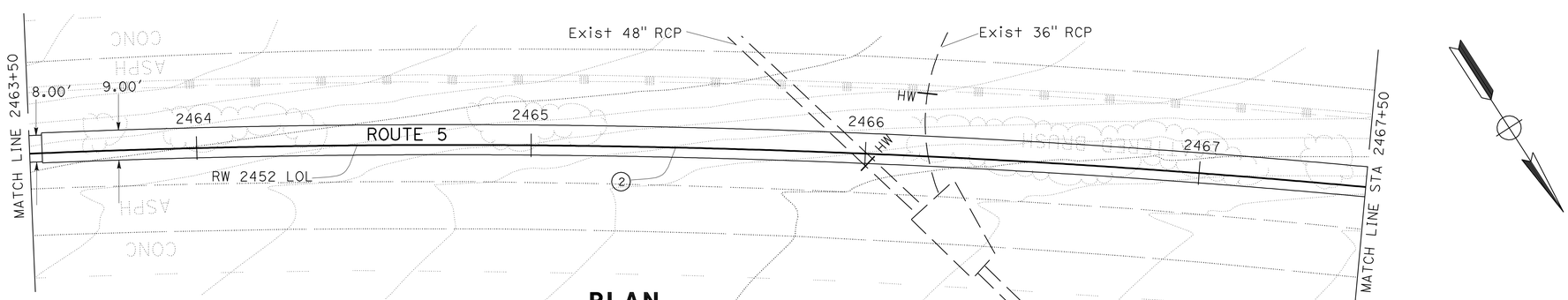
Vert 1" = 5'



PLAN

SCALE: 1" = 20'

CURVE DATA

No.	R	Δ	T	L
2	2999.23'	37°57'51"	1031.67'	1987.29'

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

RETAINING WALL 2452

SCALE AS SHOWN

R-9

REVISED BY	DATE REVISED
CTT	12/03/10

CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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LAST REVISION 12-03-10
DATE PLOTTED => 26-APR-2011
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REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

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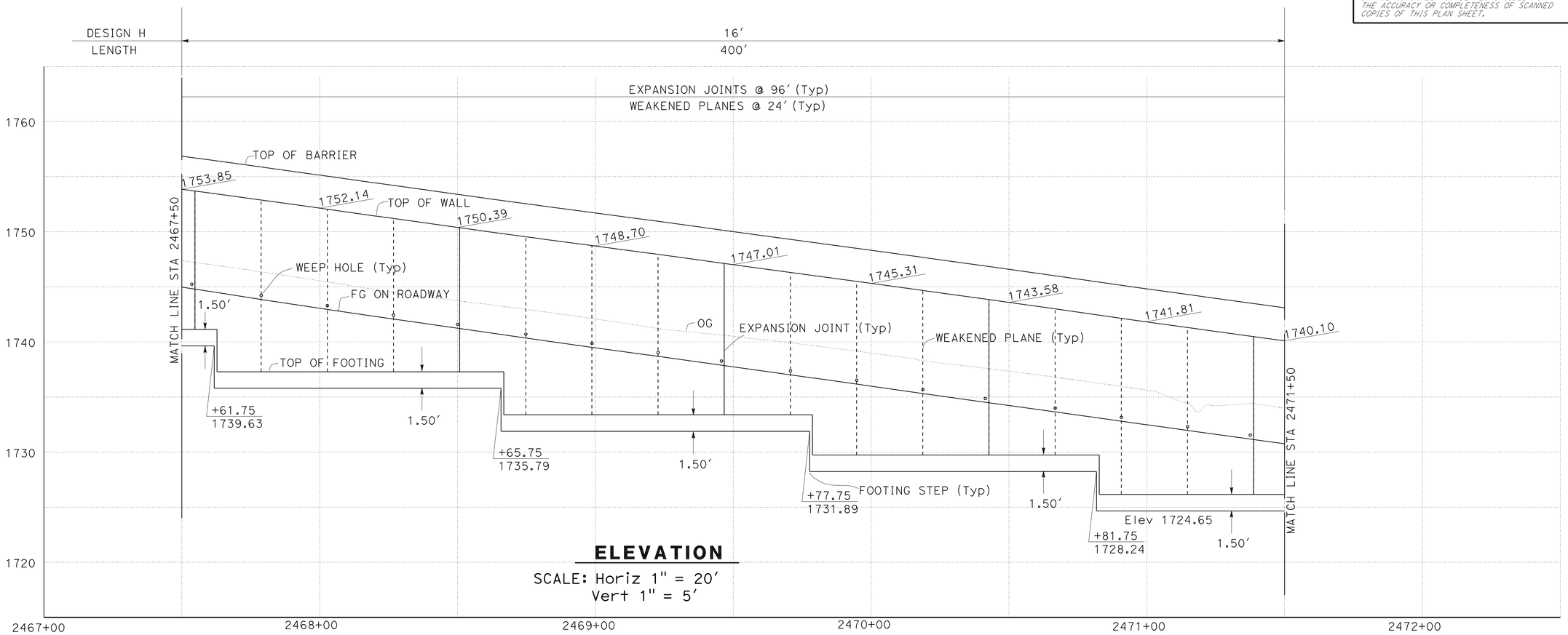

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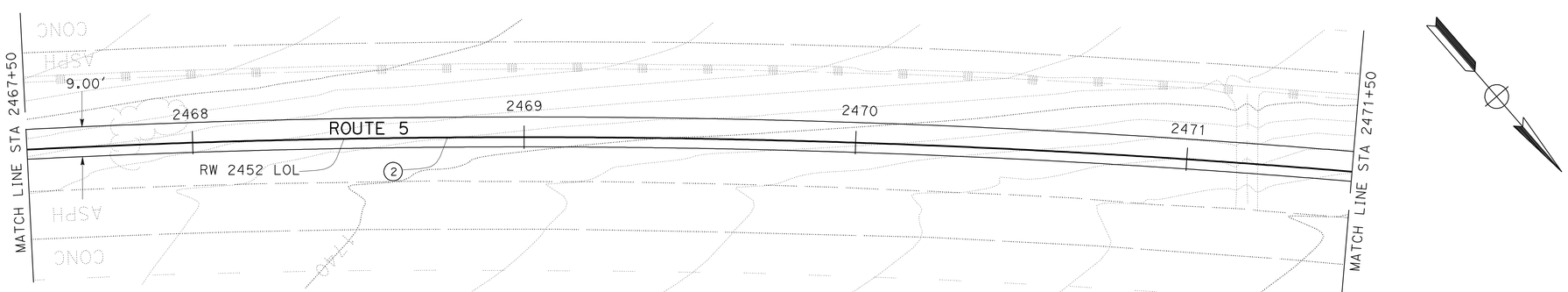
Vert 1" = 5′



PLAN

SCALE: 1" = 20′

CURVE DATA

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THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

RETAINING WALL 2452

SCALE AS SHOWN

R-10

REVISED BY	DATE REVISED
CTT	12/03/10

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LAST REVISION 12-03-10
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:07

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	266	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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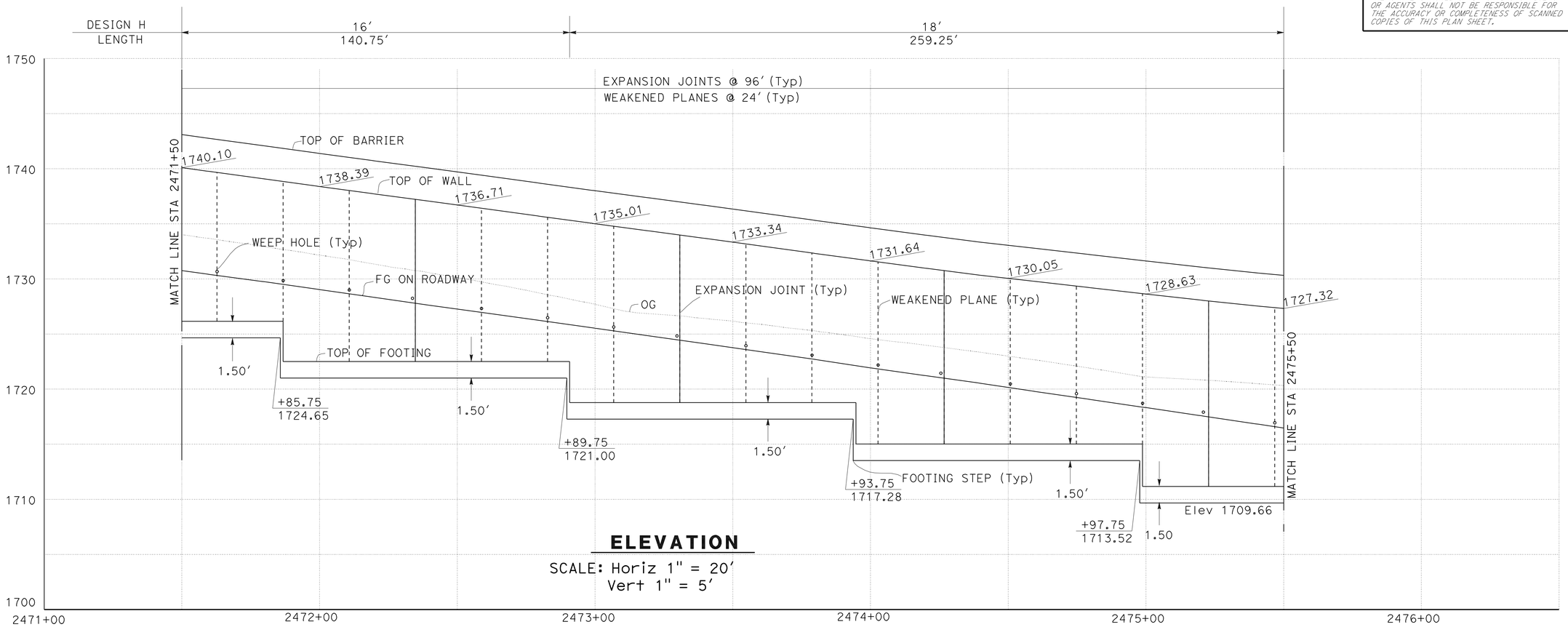

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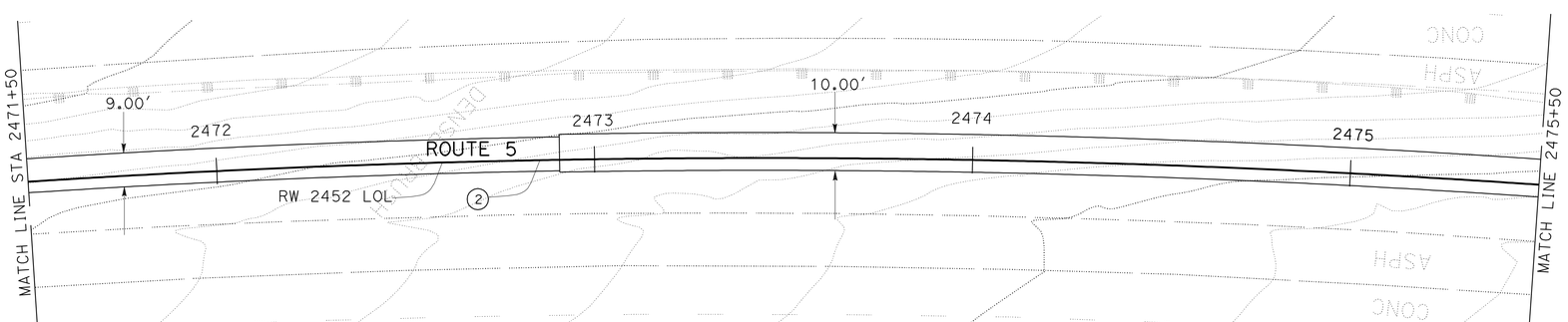

PLAN

SCALE: 1" = 20′

CURVE DATA

No.	R	Δ	T	L
2	2999.23′	37°57′51"	1031.67′	1987.29′

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

RETAINING WALL 2452

SCALE AS SHOWN

R-11

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY: CTT
DATE REVISED: 12/03/10

LAST REVISION 12-03-10
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:08

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	267	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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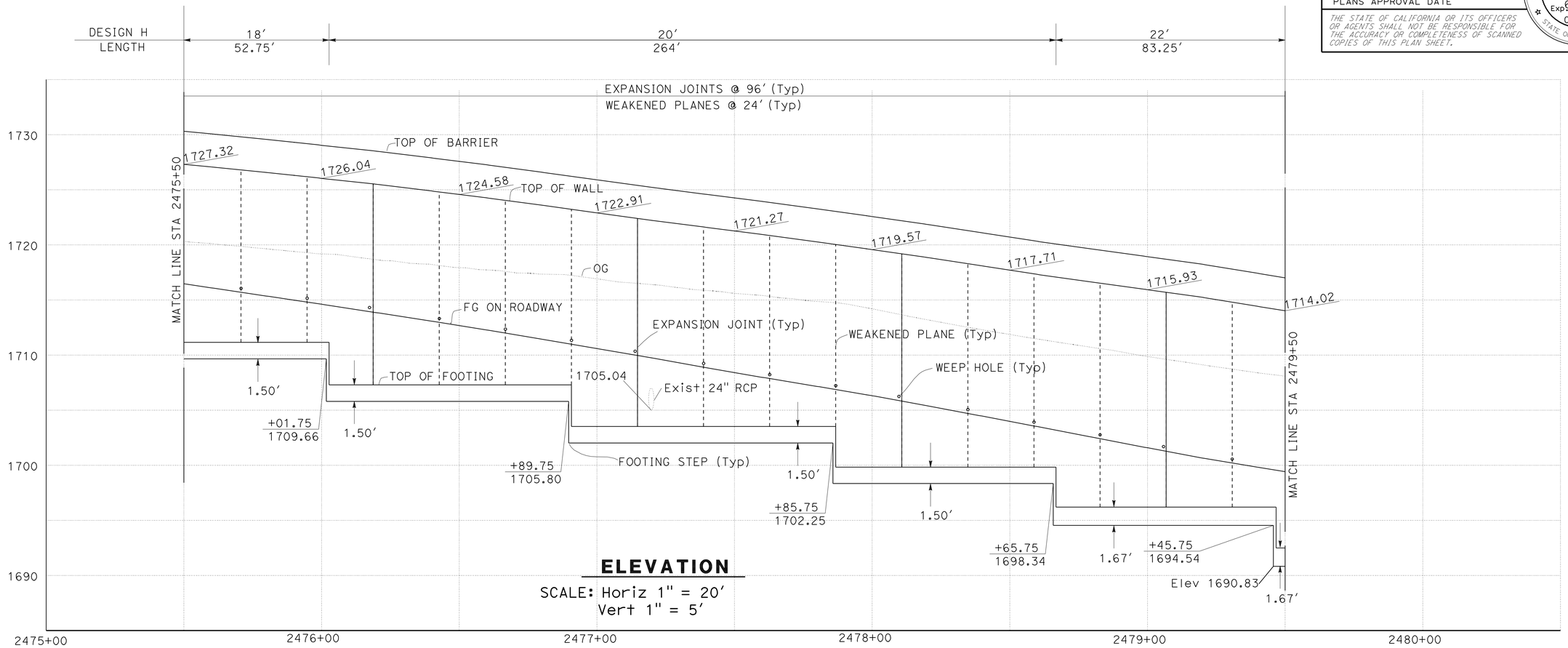

ELEVATION

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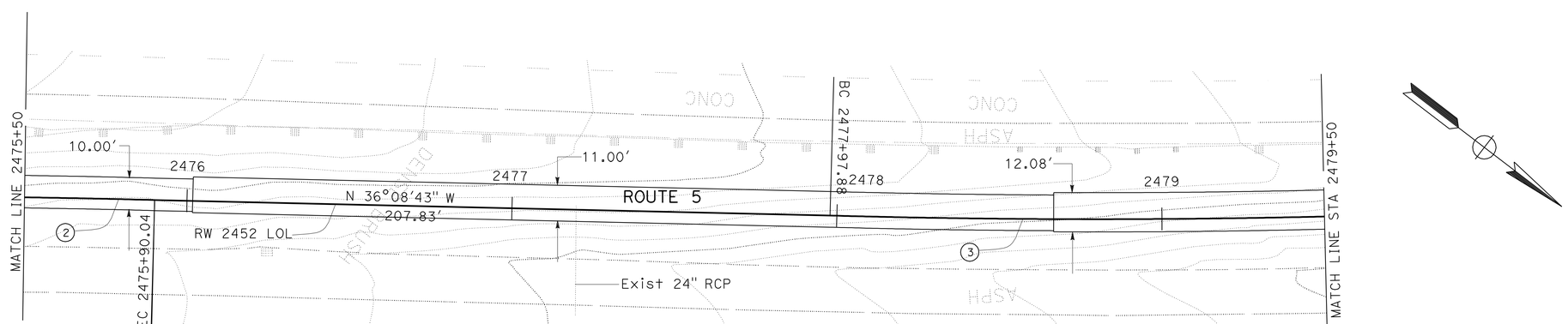
Vert 1" = 5′



PLAN

SCALE: 1" = 20′

CURVE DATA

No.	R	Δ	T	L
2	2999.23′	37°57′51"	1031.67′	1987.29′
3	2999.89′	28°58′53"	775.30′	1517.40′

RETAINING WALL 2452

SCALE AS SHOWN

R-12

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

REVISED BY	DATE REVISED
CTT	12-06-10

CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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DESIGN

LAST REVISION 12-06-10
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:08

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	268	456

REGISTERED CIVIL ENGINEER DATE 01-11-11

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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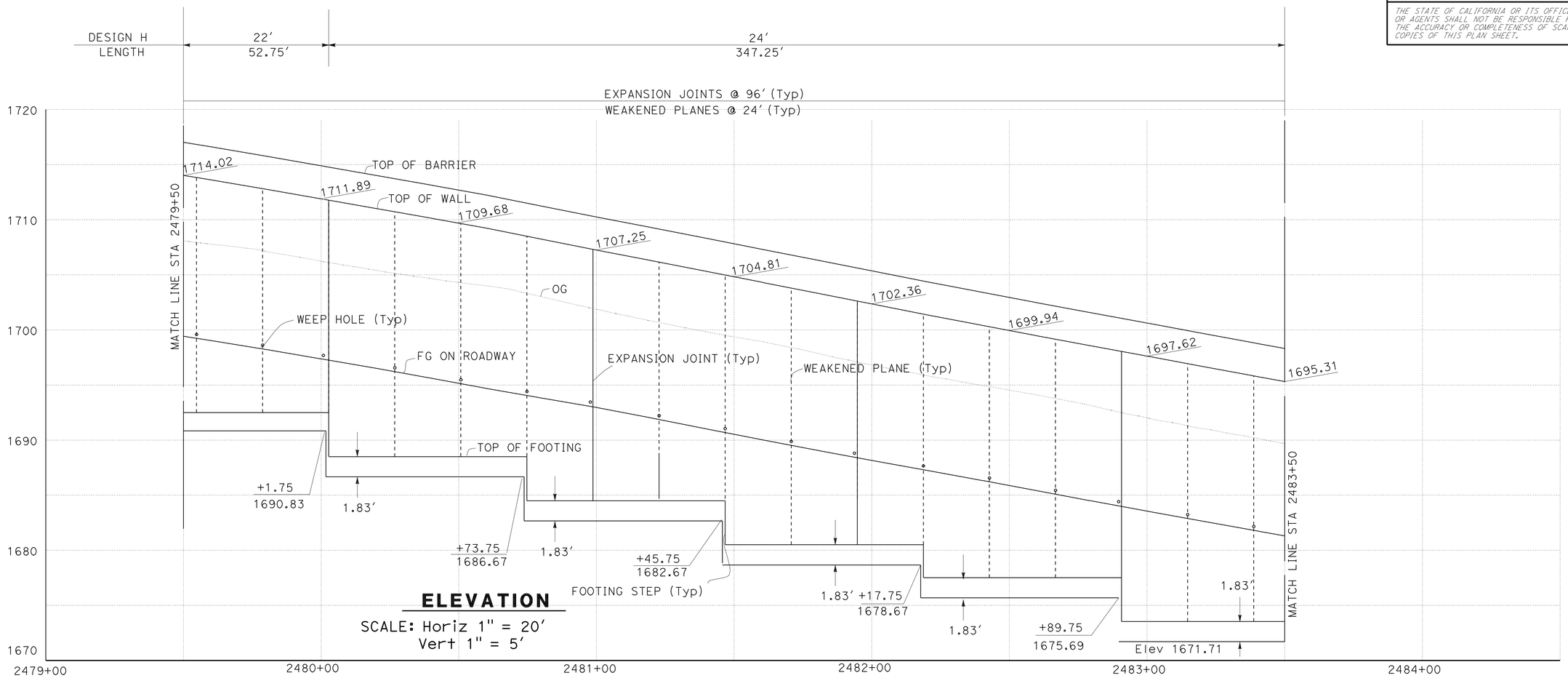

ELEVATION

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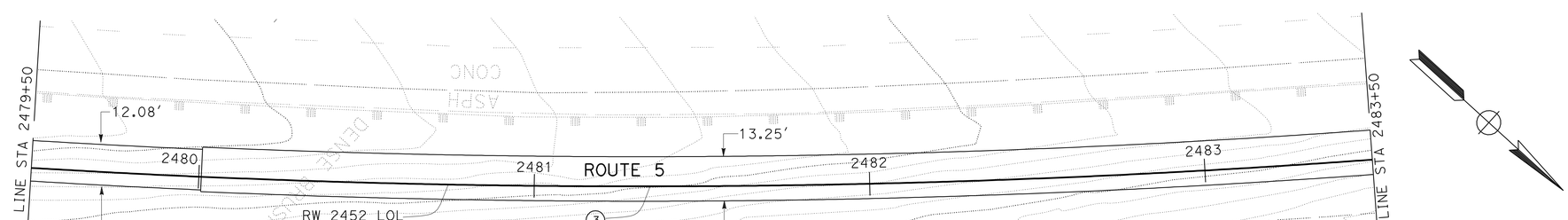

PLAN

SCALE: 1" = 20′

CURVE DATA

No.	R	Δ	T	L
3	2999.89′	28°58′53"	775.30′	1517.40′

RETAINING WALL 2452

SCALE AS SHOWN

R-13

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

REVISED BY	DATE REVISED
CTT	12-06-10

CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 04-14-10
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:08

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	269	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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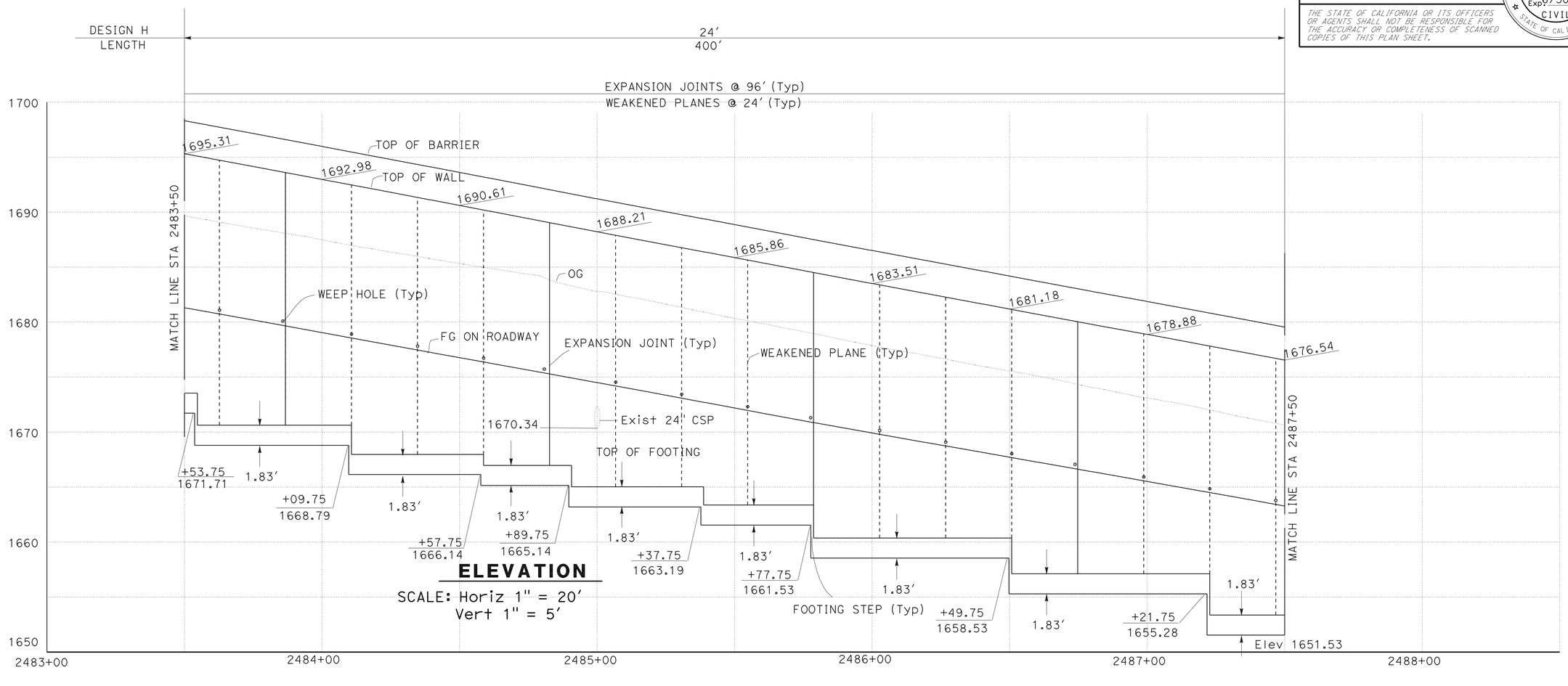

ELEVATION

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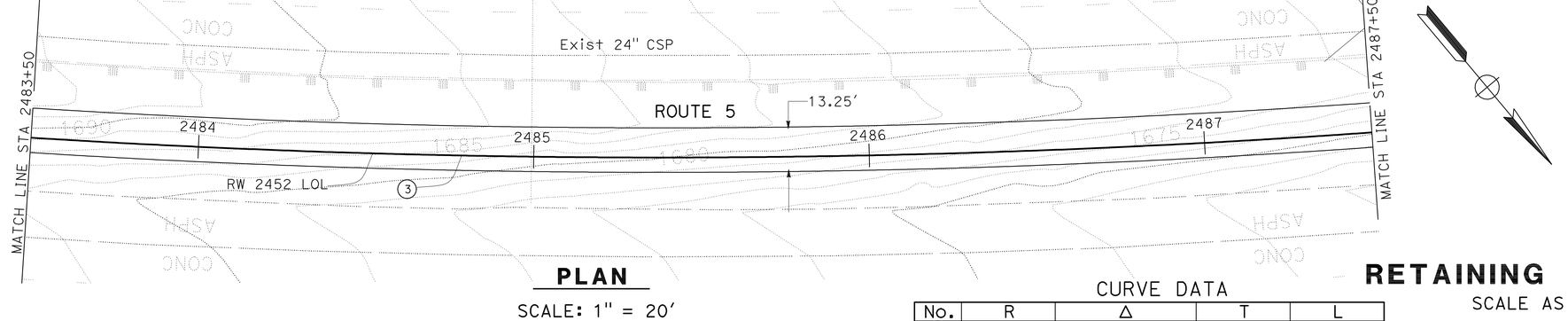
Vert 1" = 5′



PLAN

SCALE: 1" = 20′

CURVE DATA

No.	R	Δ	T	L
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THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

RETAINING WALL 2452

SCALE AS SHOWN

R-14

REVISED BY	DATE REVISED
CTT	12/13/10

CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 12-13-10
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:08

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	270	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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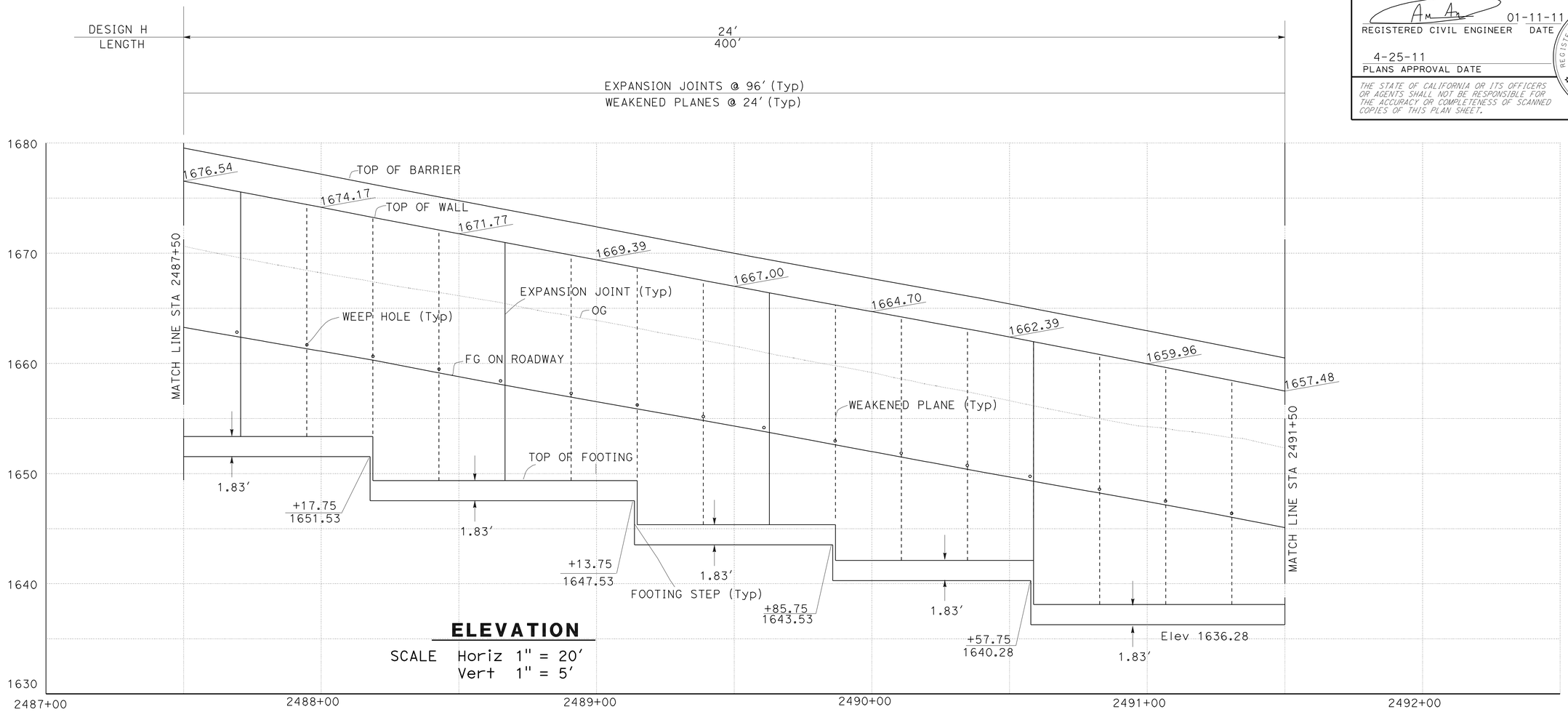
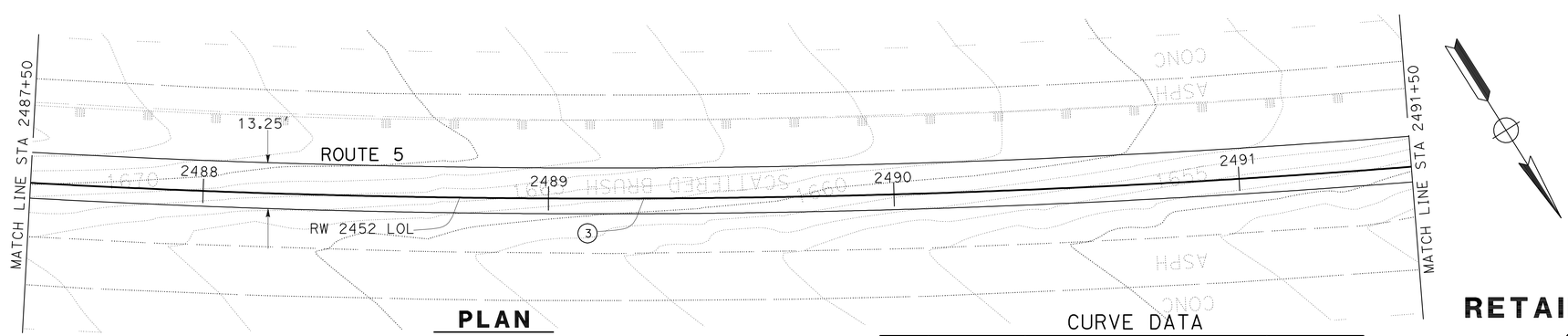


ELEVATION

SCALE Horiz 1" = 20'
Vert 1" = 5'



PLAN

SCALE 1" = 20'

CURVE DATA

No.	R	Δ	T	L
3	2999.89'	28°58'53"	775.30'	1517.40'

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

RETAINING WALL 2452

SCALE AS SHOWN

R-15

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY: CTT
DATE REVISED: 04/14/10

LAST REVISION 04-01-10
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:06

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	271	456

REGISTERED CIVIL ENGINEER DATE 01-11-11

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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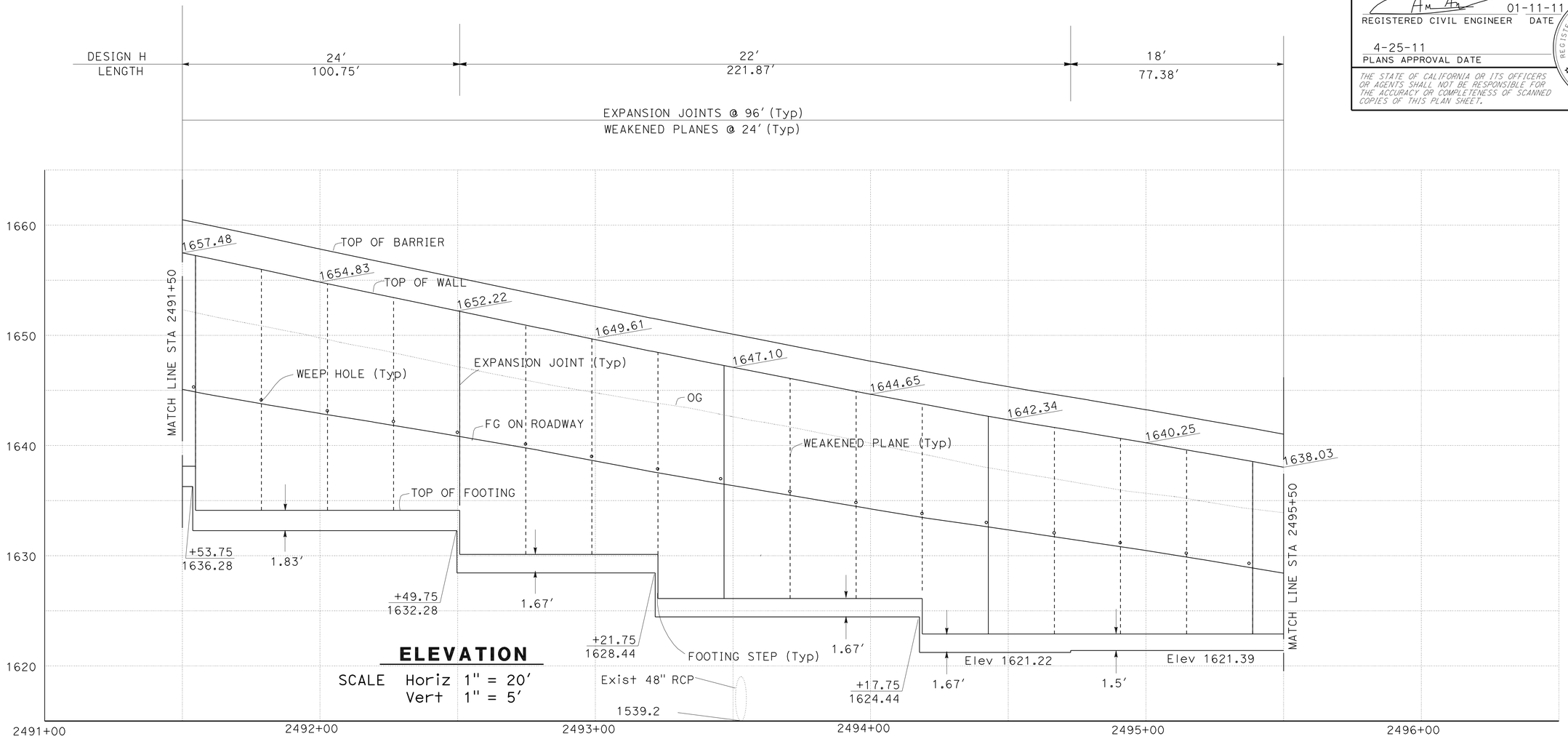
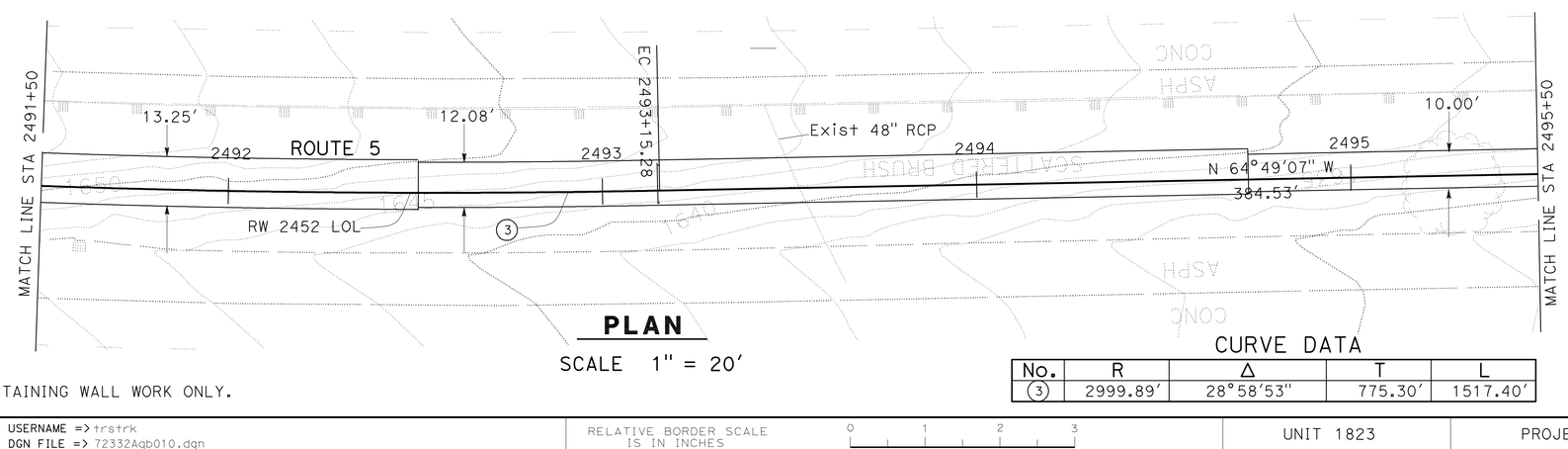


ELEVATION

SCALE Horiz 1" = 20′
Vert 1" = 5′



PLAN

SCALE 1" = 20′

CURVE DATA

No.	R	Δ	T	L
3	2999.89′	28°58′53"	775.30′	1517.40′

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

RETAINING WALL 2452

SCALE AS SHOWN

R-16

REVISED BY	DATE REVISED
CTT	04/14/10

CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 04-14-10 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 10:06

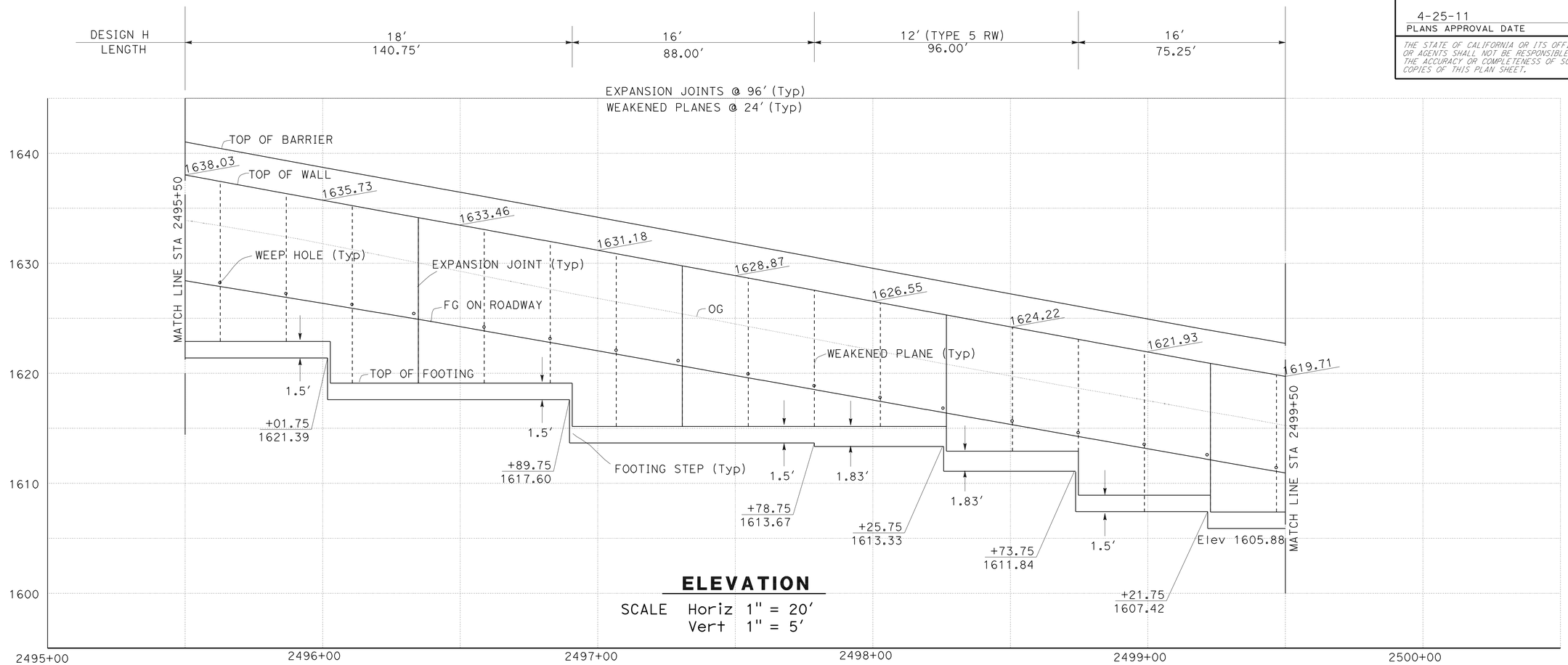
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	272	456

REGISTERED CIVIL ENGINEER DATE 01-11-11

PLANS APPROVAL DATE 4-25-11

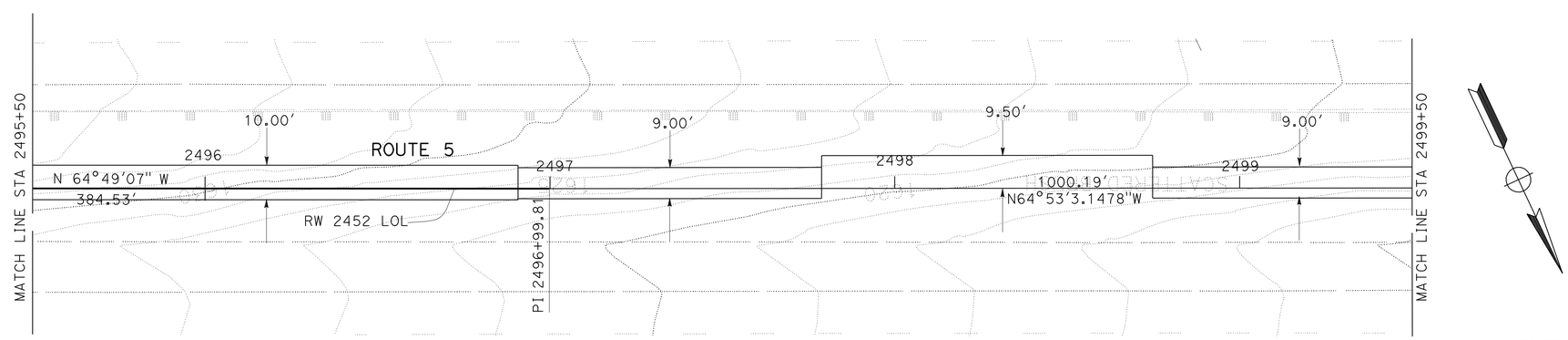
REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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.



ELEVATION

SCALE Horiz 1" = 20′
Vert 1" = 5′



PLAN

SCALE 1" = 20′

RETAINING WALL 2452

SCALE AS SHOWN

R-17

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

REVISED BY	DATE REVISED
CTT	04/14/10

CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DESIGN

LAST REVISION 04-14-10 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 10:06

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	273	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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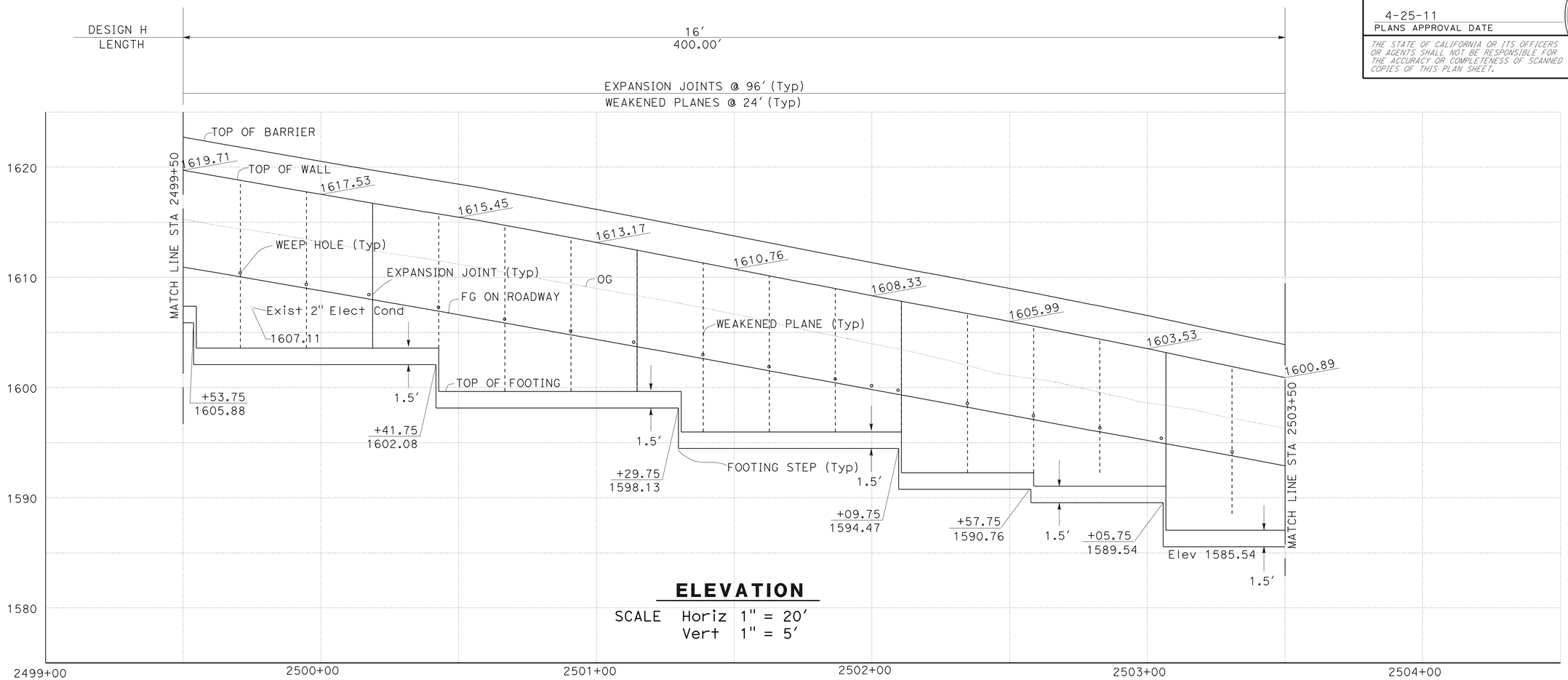
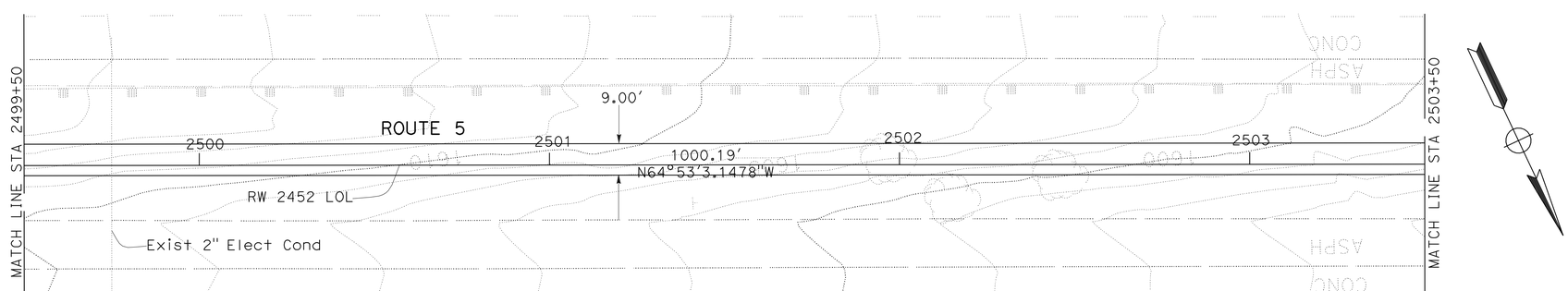


ELEVATION

SCALE Horiz 1" = 20′
Vert 1" = 5′



PLAN

SCALE 1" = 20′

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

RETAINING WALL 2452

SCALE AS SHOWN

R-18

REVISED BY	DATE REVISED
CTT	04/15/10

DAN PHAM — AMIR ELSHARIEF — CALCULATED-DESIGNED BY — CHECKED BY

FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans — DESIGN

LAST REVISION 04-15-10 — DATE PLOTTED => 26-APR-2011 — TIME PLOTTED => 10:06

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	274	456

REGISTERED CIVIL ENGINEER DATE 01-11-11

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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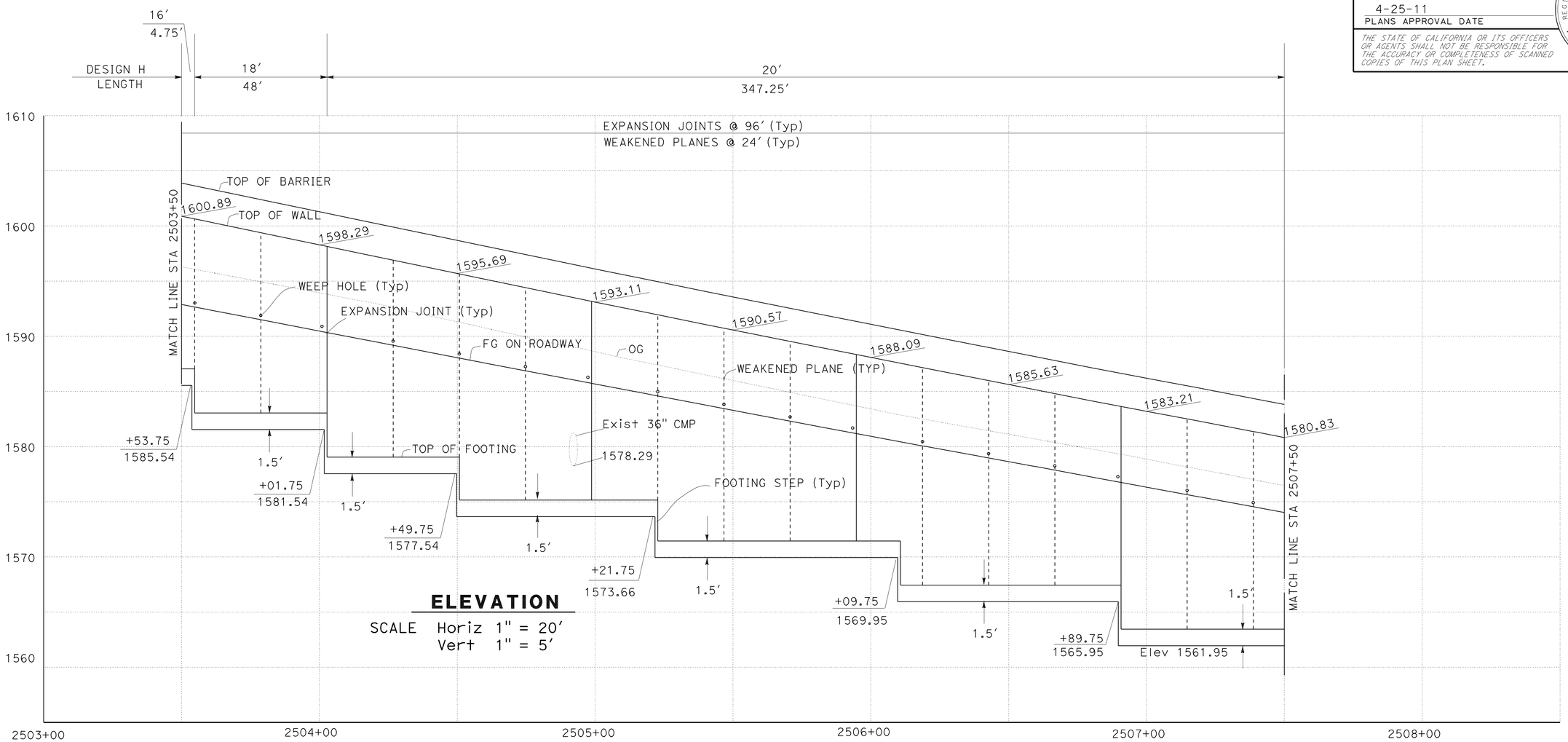
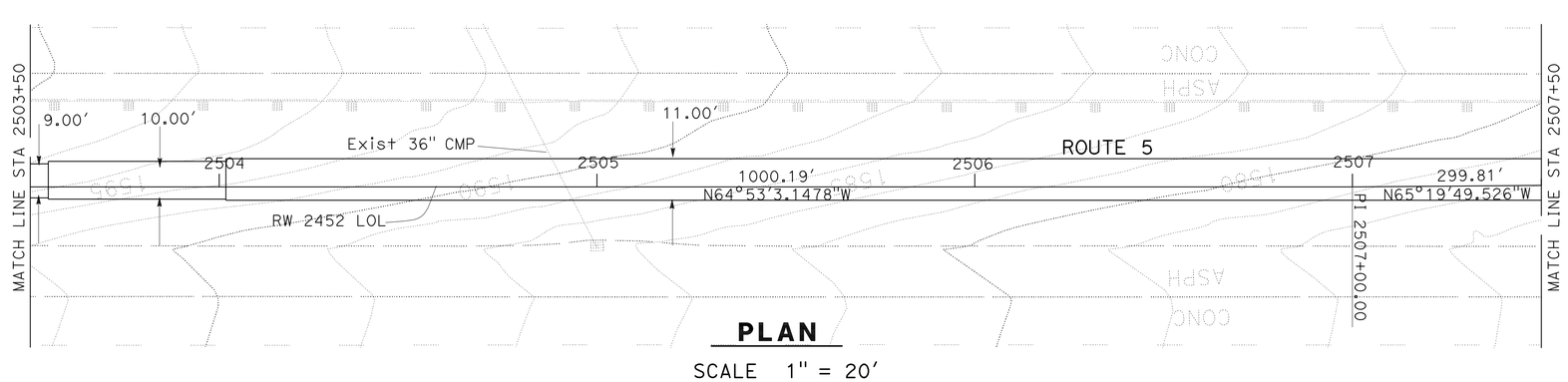


ELEVATION

SCALE Horiz 1" = 20′
Vert 1" = 5′



PLAN

SCALE 1" = 20′

RETAINING WALL 2452

SCALE AS SHOWN

R-19

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
CELINA AVILES	DAN PHAM	AMIR ELSHARIEF	CTT	04/15/10

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 04-15-10 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 10:06

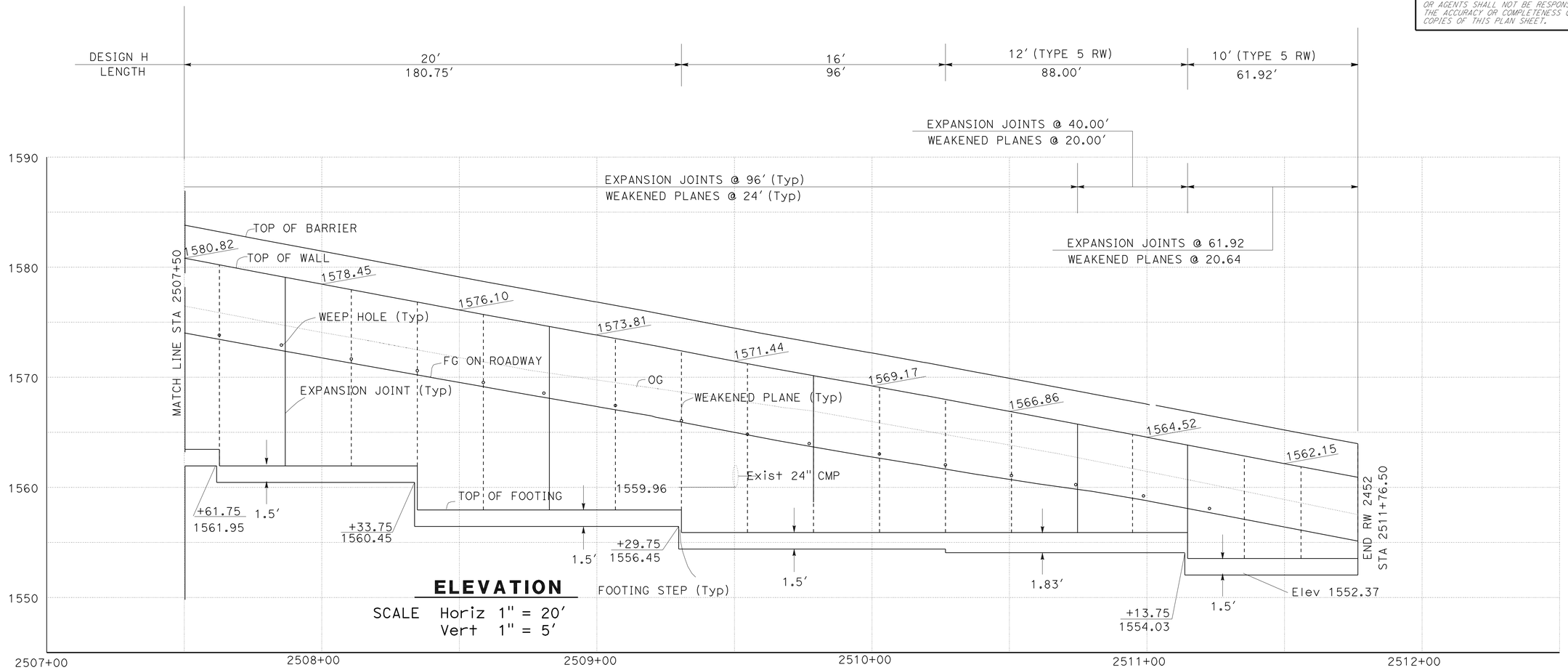
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	275	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

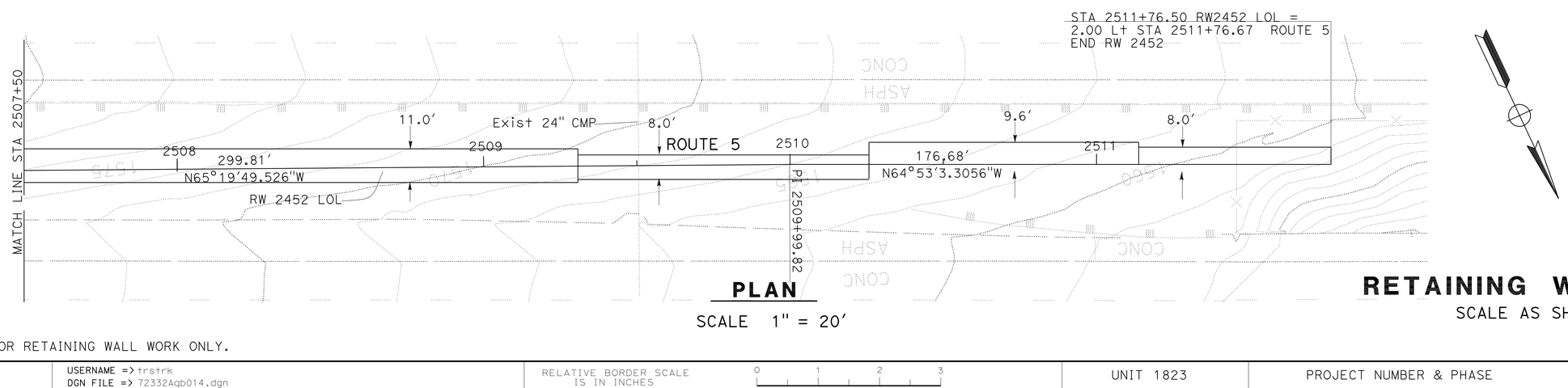
REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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.



ELEVATION

SCALE Horiz 1" = 20′
Vert 1" = 5′



PLAN

SCALE 1" = 20′

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

RETAINING WALL 2452

SCALE AS SHOWN

R-20

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans®
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: DAN PHAM
CHECKED BY: AMIR ELSHARIEF
REVISED BY: CTT
DATE REVISED: 04/15/10

LAST REVISION 04-15-10 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 10:06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	276	456

REGISTERED CIVIL ENGINEER 12-21-10

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Hung Po Yang
No. C66376
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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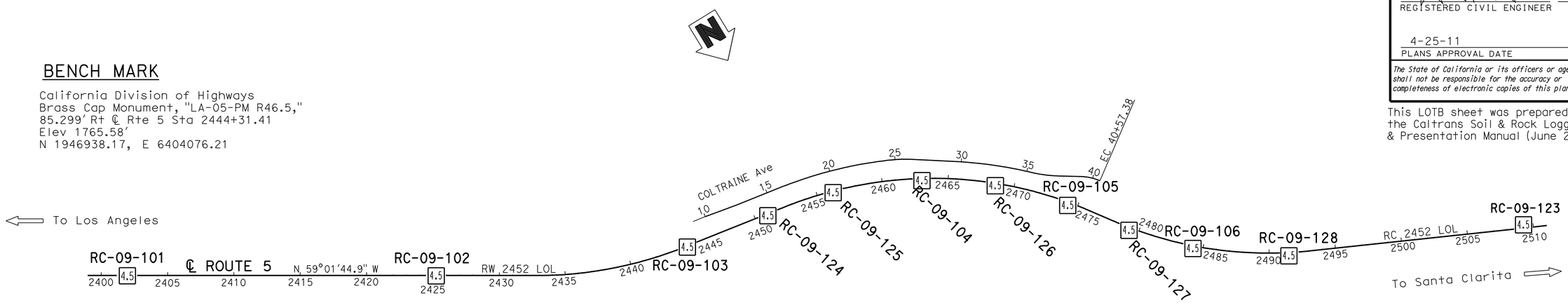
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (June 2010).

BENCH MARK

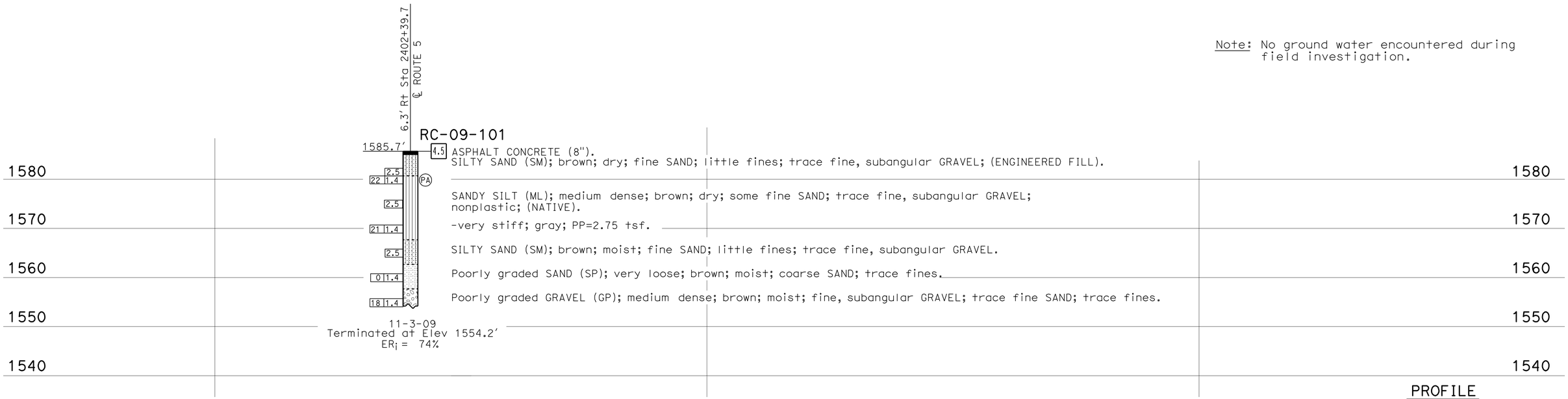
California Division of Highways
Brass Cap Monument, "LA-05-PM R46.5,"
85.299′ Rt ℄ Rte 5 Sta 2444+31.41
Elev 1765.58′
N 1946938.17, E 6404076.21



PLAN

1" = 400′

Note: No ground water encountered during field investigation.



PROFILE

Horiz: 1" = 10′
Vert: 1" = 10′

R-21

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. RW2452 / POST MILES R47.6/R48.7	RETAINING WALL NO 2452 LOG OF TEST BORINGS 1 OF 10
FUNCTIONAL SUPERVISOR NAME: T. Le	DRAWN BY: I.G-Remmen / CHECKED BY: X. Zheng	FIELD INVESTIGATION BY: Hung Po Yang			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 11-02-10 12-17-10 12-21-10

SHEET OF

FILE => 72332Aqb015.dgn

USERNAME => trstrk DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 10:06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	277	456

REGISTERED CIVIL ENGINEER 12-21-10

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Hung Po Yang
No. C66376
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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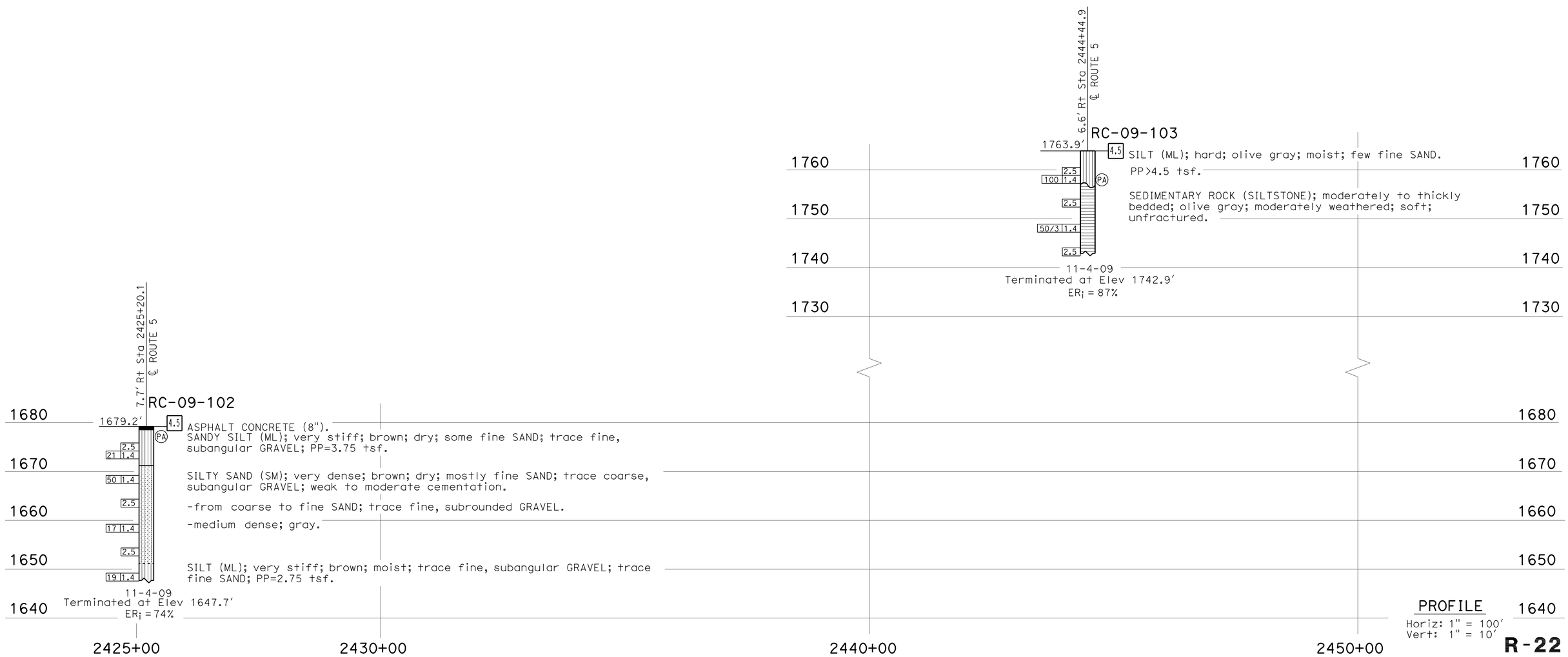
FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 10"



R-22

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO. RW2452	RETAINING WALL NO 2452
FUNCTIONAL SUPERVISOR	DRAWN BY: I.G-Remmen		DESIGN BRANCH	POST MILES R47.6/R48.7	LOG OF TEST BORINGS 2 OF 10
NAME: T. Le	CHECKED BY: X. Zheng	FIELD INVESTIGATION BY: Hung Po Yang			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES 11-09-11 12-12-10 12-21-10

REVISION DATES

SHEET OF

FILE => 72332Aqb016.dgn

USERNAME => trstrk DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 10:06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	278	456

REGISTERED CIVIL ENGINEER 12-21-10

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Hung Po Yang
No. C66376
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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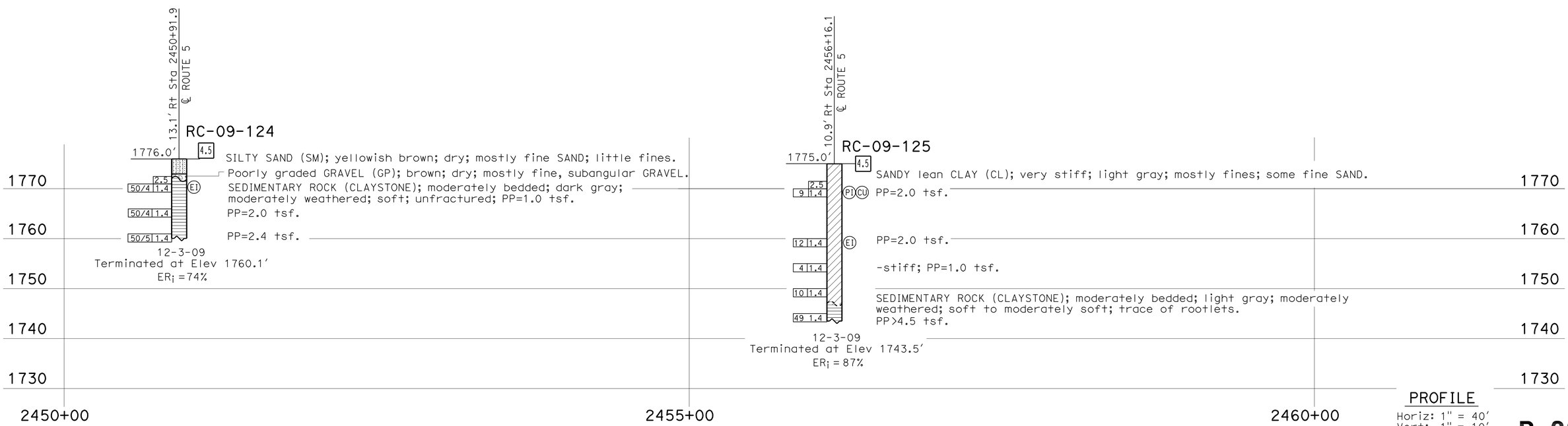
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (June 2010).

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 10"



PROFILE
Horiz: 1" = 40'
Vert: 1" = 10'

R-23

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. RW2452 POST MILES R47.6/R48.7	RETAINING WALL NO 2452 LOG OF TEST BORINGS 3 OF 10
FUNCTIONAL SUPERVISOR NAME: T. Le	DRAWN BY: I.G-Remmen CHECKED BY: X. Zheng	FIELD INVESTIGATION BY: H. Shiwakoti, Hung Po Yang			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES 11-02-10 12-17-10 12-21-10

REVISION DATES | SHEET | OF

FILE => 72332Aqb017.dgn

USERNAME => ttrstrk DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 10:07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	279	456

REGISTERED CIVIL ENGINEER 12-21-10

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Hung Po Yang
No. C66376
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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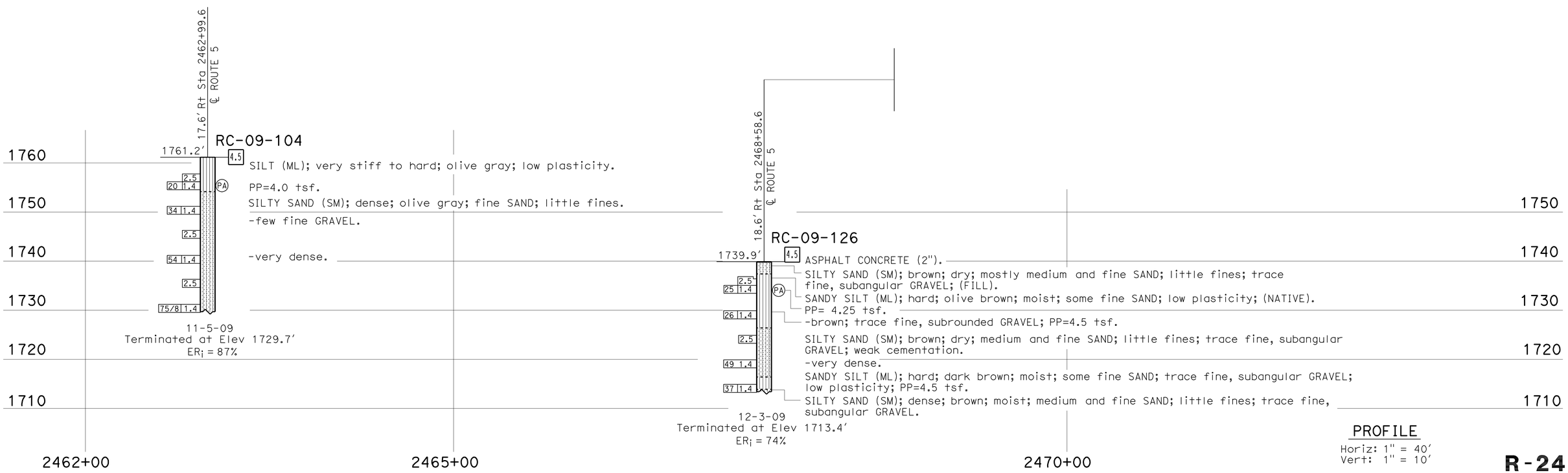
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (June 2010).

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 10"



PROFILE
Horiz: 1" = 40'
Vert: 1" = 10'

R-24

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. RW2452 POST MILES R47.6/R48.7	RETAINING WALL NO 2452 LOG OF TEST BORINGS 4 OF 10
FUNCTIONAL SUPERVISOR NAME: T. Le	DRAWN BY: I.G-Remmen CHECKED BY: X. Zheng	FIELD INVESTIGATION BY: H. Shiwakoti, Hung Po Yang	CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 11-08-10 12-17-10 12-21-10 SHEET OF

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

FILE => 72332Aqb018.dgn

USERNAME => frstrk DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 10:07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	280	456

REGISTERED CIVIL ENGINEER 12-21-10

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Hung Po Yang
No. C66376
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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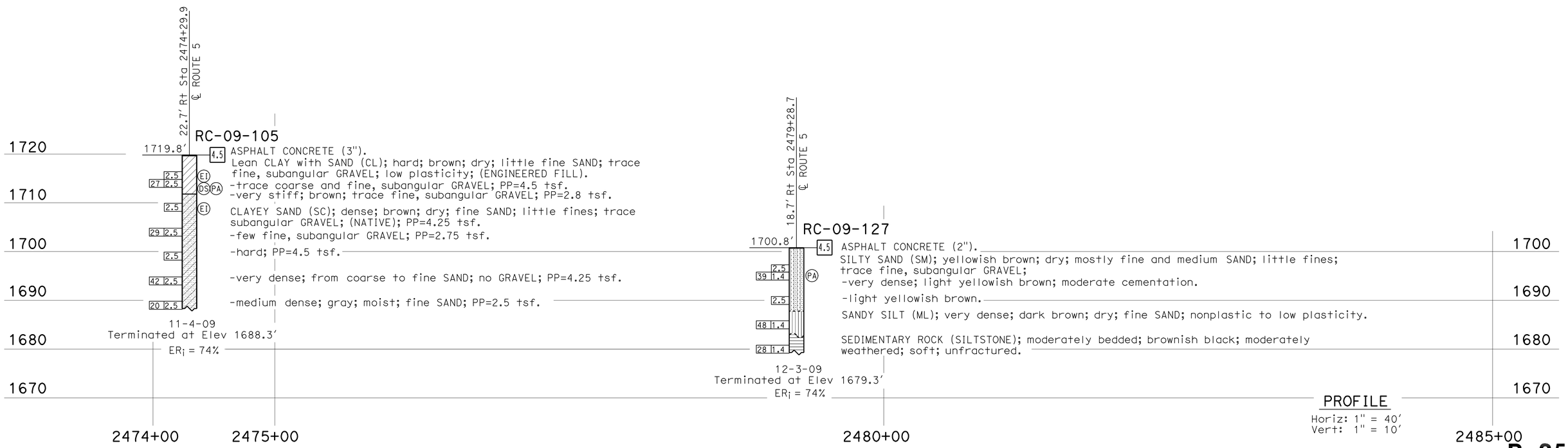
FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 10"



R-25

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. RW2452	RETAINING WALL NO 2452
FUNCTIONAL SUPERVISOR	DRAWN BY: I.G-Remmen	FIELD INVESTIGATION BY:		POST MILES R47.6/R48.7	LOG OF TEST BORINGS 5 OF 10
NAME: T. Le	CHECKED BY: X. Zheng	Hung Po Yang			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 11-02-10 12-17-10 12-21-10

SHEET OF

FILE => 72332Aqb019.dgn

USERNAME => trstrk DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 10:07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	281	456

REGISTERED CIVIL ENGINEER 12-21-10

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Hung Po Yang
No. C66376
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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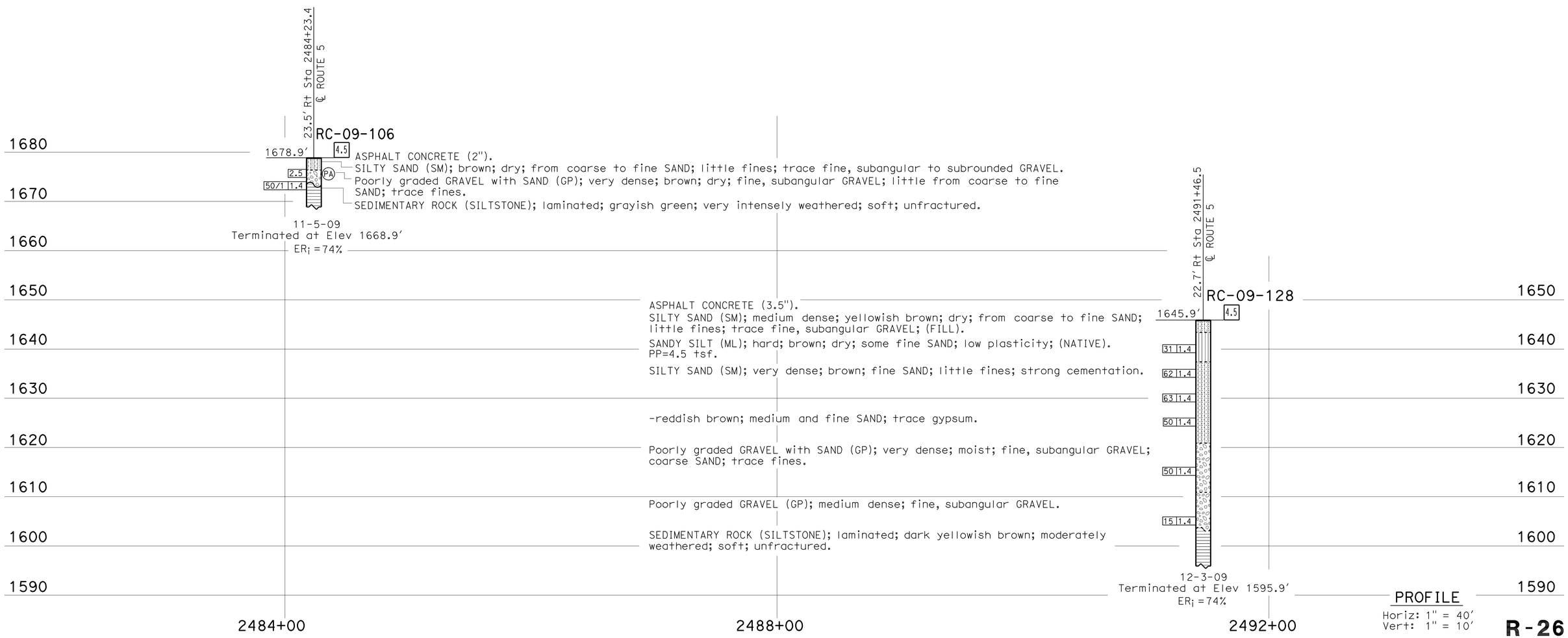
FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 10"



PROFILE
Horiz: 1" = 40'
Vert: 1" = 10'

R-26

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. RW2452 POST MILES R47.6/R48.7	RETAINING WALL NO 2452 LOG OF TEST BORINGS 6 OF 10
FUNCTIONAL SUPERVISOR	DRAWN BY: I.G-Remmen	FIELD INVESTIGATION BY:			
NAME: T. Le	CHECKED BY: X. Zheng	Hung Po Yang			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: ~~11-02-10~~ ~~12-17-10~~ 12-21-10

SHEET OF

FILE => 72332Aqb020.dgn

USERNAME => trestrk DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 10:07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	282	456

12-21-10
REGISTERED CIVIL ENGINEER

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Hung Po Yang
No. C66376
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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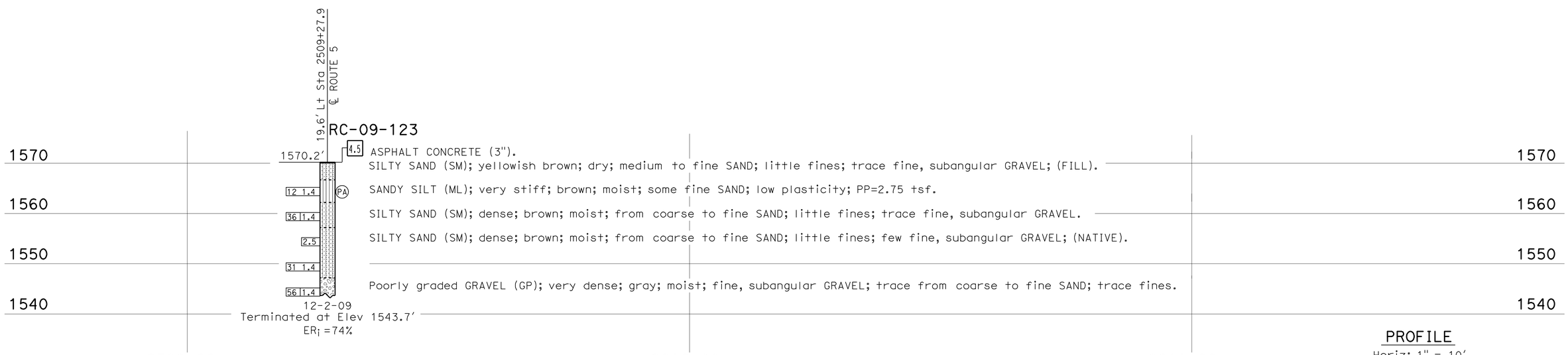
FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 10"



PROFILE
Horiz: 1" = 10'
Vert: 1" = 10'

R-27

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. RW2452 POST MILES R47.6/R48.7	RETAINING WALL NO 2452 LOG OF TEST BORINGS 7 OF 10
FUNCTIONAL SUPERVISOR NAME: T. Le	DRAWN BY: I.G-Remmen CHECKED BY: X. Zheng	FIELD INVESTIGATION BY: Hung Po Yang			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: ~~11-08-10~~ ~~12-17-10~~ 12-21-10

SHEET OF

FILE => 72332Aqb021.dgn

USERNAME => trstrk DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 10:07

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	283	456

REGISTERED CIVIL ENGINEER 12-21-10

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Hung Po Yang
No. C66376
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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CEMENTATION

Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

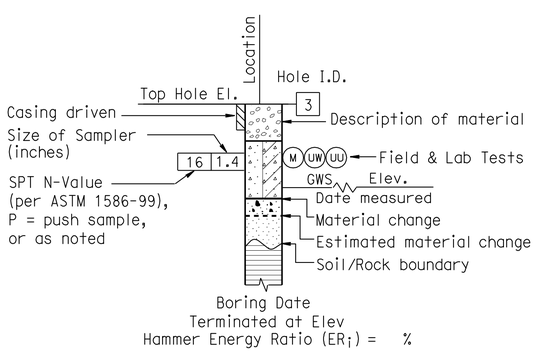
BOREHOLE IDENTIFICATION

Symbol	Hole Type	Description
Size	A	Auger Boring (hollow or solid stem bucket)
Size	R RW RC P	Rotary drilled boring (conventional) Rotary drilled with self-casing wire-line Rotary core with continuously-sampled, self-casing wire-line Rotary percussion boring (air)
Size	R	Rotary drilled diamond core
Size	HD HA	Hand driven (1-inch soil tube) Hand Auger
●	D	Dynamic Cone Penetration Boring
▲	CPT	Cone Penetration Test (ASTM D 5778)
⬚	O	Other (note on LOTB)

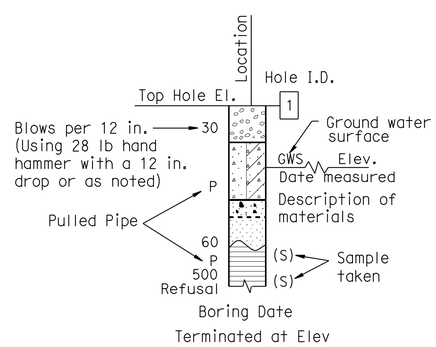
Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS

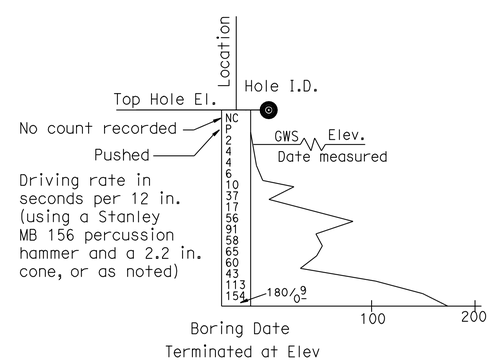
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium Stiff	0.25 - 0.5	0.5 - 1	0.25 - 0.5	0.25 - 0.5
Stiff	0.5 - 1	1 - 2	0.5 - 1	0.5 - 1
Very Stiff	1 - 2	2 - 4	1 - 2	1 - 2
Hard	Greater than 2	Greater than 4	Greater than 2	Greater than 2



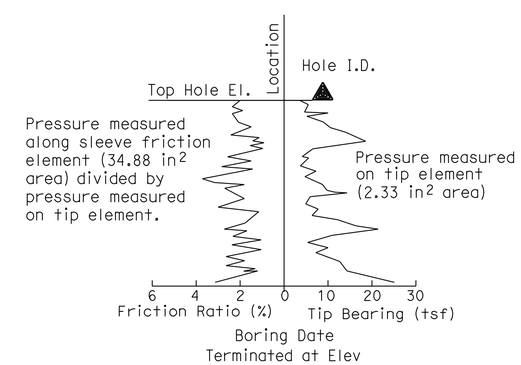
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) BORING

R-28

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. RW2452 / POST MILE R47.6/R48.7	RETAINING WALL NO 2452 LOG OF TEST BORINGS 8 OF 10
	PREPARED BY: I.G-Remmen, 9/10				

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES | SHEET | OF

FILE => 72332Aqb022.dgn

USERNAME => trstrk DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 10:07

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	284	456

REGISTERED CIVIL ENGINEER 12-21-10

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Hung Po Yang No. C66376 Exp. 6-30-12 CIVIL STATE OF CALIFORNIA

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GROUP SYMBOLS AND NAMES

Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
GW	Well-graded GRAVEL Well-graded GRAVEL with SAND	CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
GP	Poorly-graded GRAVEL Poorly-graded GRAVEL with SAND		
GW-GM	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND	CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
GP-GM	Poorly-graded GRAVEL with SILT Poorly-graded GRAVEL with SILT and SAND	ML	SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
GP-GC	Poorly-graded GRAVEL with CLAY (or SILTY CLAY) Poorly-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
GM	SILTY GRAVEL SILTY GRAVEL with SAND	OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL with SAND		
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND	OL	ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
SW	Well-graded SAND Well-graded SAND with GRAVEL		
SP	Poorly-graded SAND Poorly-graded SAND with GRAVEL	CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
SW-SM	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL		
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)	MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
SP-SM	Poorly-graded SAND with SILT Poorly-graded SAND with SILT and GRAVEL		
SP-SC	Poorly-graded SAND with CLAY (or SILTY CLAY) Poorly-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)	OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
SM	SILTY SAND SILTY SAND with GRAVEL		
SC	CLAYEY SAND CLAYEY SAND with GRAVEL	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL		
PT	PEAT	OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND
	COBBLES COBBLES and BOULDERS BOULDERS		

FIELD AND LABORATORY TESTING

- (C) Consolidation (ASTM D 2435)
- (CL) Collapse Potential (ASTM D 5333)
- (CP) Compaction Curve (CTM 216)
- (CR) Corrosivity Testing (CTM 643, CTM 422, CTM 417)
- (CU) Consolidated Undrained Triaxial (ASTM D 4767)
- (DS) Direct Shear (ASTM D 3080)
- (EI) Expansion Index (ASTM D 4829)
- (M) Moisture Content (ASTM D 2216)
- (OC) Organic Content-% (ASTM D 2974)
- (P) Permeability (CTM 220)
- (PA) Particle Size Analysis (ASTM D 422)
- (PI) Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
- (PL) Point Load Index (ASTM D 5731)
- (PM) Pressure Meter
- (R) R-Value (CTM 301)
- (SE) Sand Equivalent (CTM 217)
- (SG) Specific Gravity (AASHTO T 100)
- (SL) Shrinkage Limit (ASTM D 427)
- (SW) Swell Potential (ASTM D 4546)
- (UC) Unconfined Compression-Soil (ASTM D 2166) Unconfined Compression-Rock (ASTM D 2938)
- (UU) Unconsolidated Undrained Triaxial (ASTM D 2850)
- (UW) Unit Weight (ASTM D 4767)

APPARENT DENSITY OF COHESIONLESS SOILS

Description	SPT N_{60} (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

MOISTURE

Description	Criteria
Dry	No discernable moisture
Moist	Moisture present, but no free water
Wet	Visible free water

PERCENT OR PROPORTION OF SOILS

Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5% - 10%
Little	15% - 25%
Some	30% - 45%
Mostly	50% - 100%

PARTICLE SIZE

Description		Size (in.)
Boulder		Greater than 12
Cobble		3 - 12
Gravel	Coarse	3/4 - 3
	Fine	1/5 - 3/4
Sand	Coarse	1/16 - 1/5
	Medium	1/64 - 1/16
	Fine	1/300 - 1/64
Silt and Clay		Less than 1/300

R-29

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. RW2452 POST MILE R47.6/R8.7	RETAINING WALL NO 2452 LOG OF TEST BORINGS 9 OF 10
	PREPARED BY: I.G-Remmen, 9/10				

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES | SHEET | OF

FILE => 72332Aqb023.dgn

USERNAME => ttstrk DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 10:08

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	285	456

REGISTERED CIVIL ENGINEER 12-21-10

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Hung Po Yang No. C66376 Exp. 6-30-12 CIVIL STATE OF CALIFORNIA

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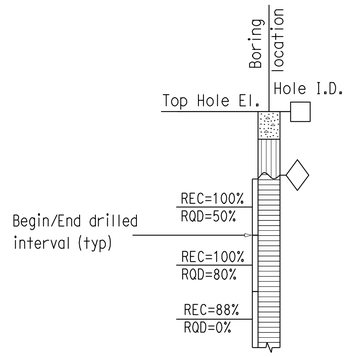
PERCENT CORE RECOVERY (REC) & ROCK QUALITY DESIGNATION (RQD)

$$REC = \frac{\sum \text{Length of the recovered core pieces (in.)}}{\text{Total length of core run (in.)}} \times 100\%$$

$$RQD = \frac{\sum \text{Length of intact core pieces} \geq 4 \text{ in.}}{\text{Total length of core run (in.)}} \times 100\%$$

RQD* Indicates soundness criteria not met.



BEDDING SPACING

Description	Thickness / Spacing
Massive	Greater than 10 ft
Very Thickly Bedded	3 ft - 10 ft
Thickly Bedded	1 ft - 3 ft
Moderately Bedded	4 in. - 1 ft
Thinly Bedded	1 in. - 4 in.
Very Thinly Bedded	1/4 in. - 1 in.
Laminated	Less than 1/4 in.

LEGEND OF ROCK MATERIALS

- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

ROCK HARDNESS

Description	Criteria
Extremely Hard	Cannot be scratched with a pocketknife or sharp pick. Can only be chipped with repeated heavy hammer blows.
Very Hard	Cannot be scratched with a pocketknife or sharp pick. Breaks with repeated heavy hammer blows.
Hard	Can be scratched with a pocketknife or sharp pick with difficulty (heavy pressure). Breaks with heavy hammer blows.
Moderately Hard	Can be scratched with pocketknife or sharp pick with light or moderate pressure. Breaks with moderate hammer blows.
Moderately Soft	Can be grooved 1/16 in. deep with a pocketknife or sharp pick with moderate or heavy pressure. Breaks with light hammer blow or heavy manual pressure.
Soft	Can be grooved or gouged easily by a pocketknife or sharp pick with light pressure, can be scratched with fingernail. Breaks with light to moderate manual pressure.
Very Soft	Can be readily indented, grooved or gouged with fingernail, or carved with a pocketknife. Breaks with light manual pressure.

FRACTURE DENSITY

Description	Observed Fracture Density
Unfractured	No fractures.
Very Slightly Fractured	Core lengths greater than 3 ft.
Slightly Fractured	Core lengths mostly from 1 to 3 ft.
Moderately Fractured	Core lengths mostly from 4 in. to 1 ft.
Intensely Fractured	Core lengths mostly from 1 to 4 in.
Very Intensely Fractured	Mostly chips and fragments.

WEATHERING DESCRIPTORS FOR INTACT ROCK

Description	Diagnostic Features					General Characteristics
	Chemical Weathering-Discoloration and/or Oxidation		Mechanical Weathering-Grain Boundary Conditions (Disaggregation) Primarily for Granitics and Some Coarse-Grained Sediments	Texture and Leaching		
	Body of Rock	Fracture Surfaces		Texture	Leaching	
Fresh	No discoloration, not oxidized.	No discoloration or oxidation.	No separation, intact (tight).	No change	No leaching	Hammer rings when crystalline rocks are struck.
Slightly Weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull.	Minor to complete discoloration or oxidation of most surfaces.	No visible separation, intact (tight).	Preserved	Minor leaching of some soluble minerals.	Hammer rings when crystalline rocks are struck. Body of rock not weakened.
Moderately Weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty," feldspar crystals are "cloudy."	All fracture surfaces are discolored or oxidized.	Partial separation of boundaries visible.	Generally preserved	Soluble minerals may be mostly leached.	Hammer does not ring when rock is struck. Body of rock is slightly weakened.
Intensely Weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in-situ disaggregation, see grain boundary conditions.	All fracture surfaces are discolored or oxidized, surfaces friable.	Partial separation, rock is friable; in semiarid conditions granitics are disaggregated.	Texture altered by chemical disintegration (hydration, argillation).	Leaching of soluble minerals may be complete.	Dull sound when struck with hammer, usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures, or veinlets. Rock is significantly weakened.
Decomposed	Discolored or oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay.		Complete separation of grain boundaries (disaggregated).	Resembles a soil, partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete.		Can be granulated by hand. Resistant minerals such as quartz may be present as "stringers" or "dikes."

R-30

ENGINEERING SERVICES

GEOTECHNICAL SERVICES
PREPARED BY: I.G-Remmen, 9/10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH

BRIDGE NO. RW2452
POST MILE R47.6/R48.7

RETAINING WALL NO. 2452
LOG OF TEST BORINGS 10 OF 10

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES SHEET OF

FILE => 72332Aqb024.dgn

USERNAME => ttstrk DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 10:08

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	286	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL STATE OF CALIFORNIA

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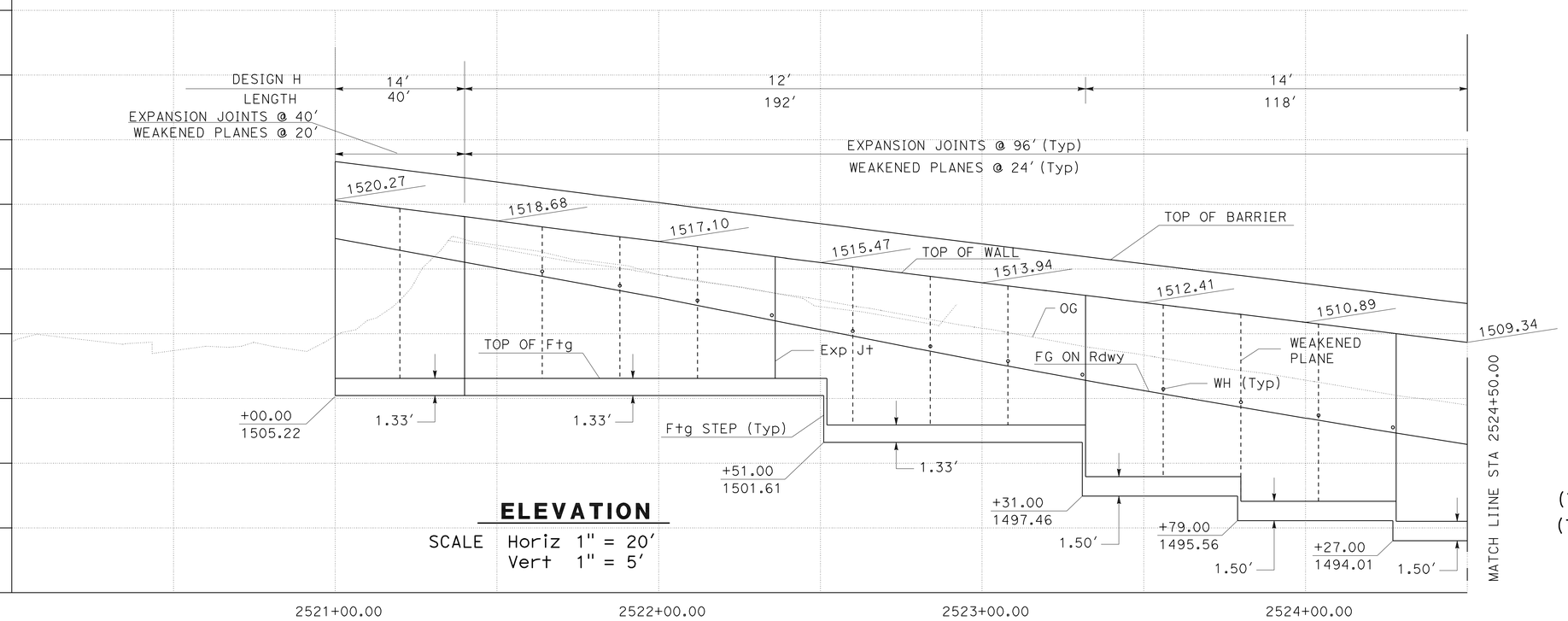
NOTES:

1. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. SEE STRUCTURE PLANS FOR ARCHITECTURAL DETAILS.
3. WATERSTOP IN THE EXPANSION JOINT SHALL BE EXTEND 6 INCHES INTO CONCRETE BARRIER.



ELEVATION

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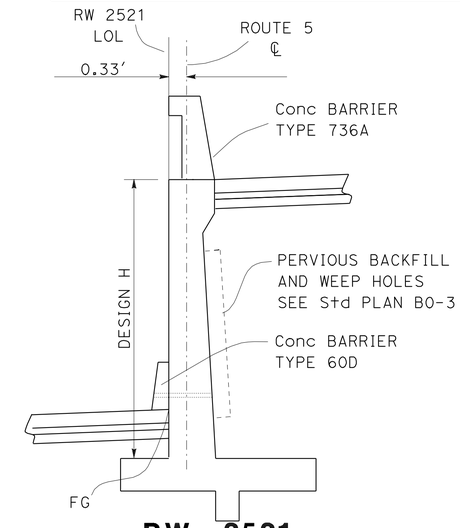
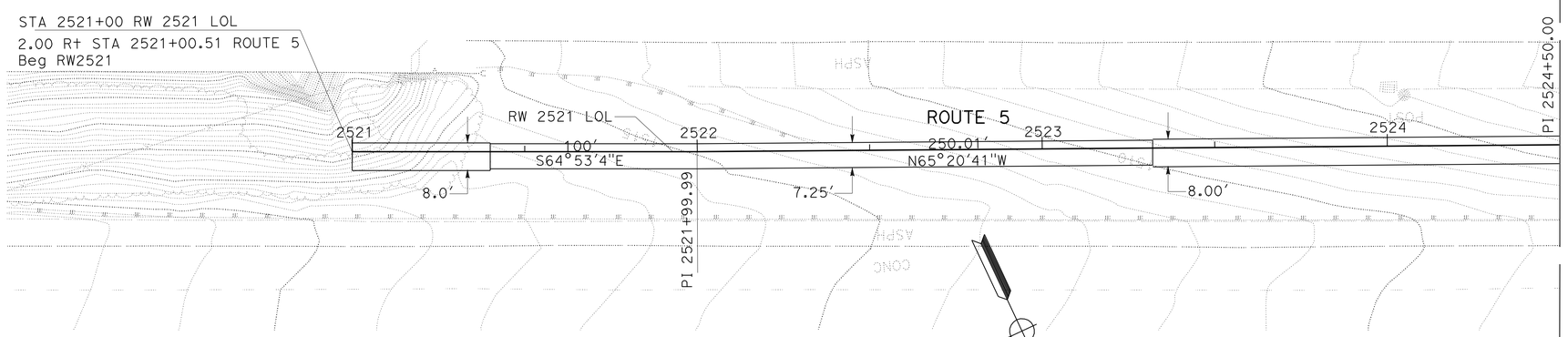
Vert 1" = 5'



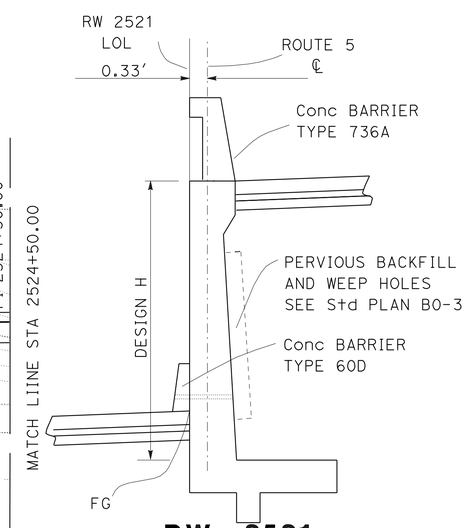
RW 2521

(TYPE 1) STA 2521+00 - STA 2571+80
(TYPE 1) STA 2572+27 - STA 2575+99.91



PLAN

SCALE 1" = 20'



RW 2521

(TYPE 5) STA 2571+80-STA 2572+27

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

RETAINING WALL 2521

SCALE AS SHOWN

R-31

REVISED BY	DATE REVISED
CUONG T. TRAN	AMIR ELSHARIEF
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

LAST REVISION 04-15-10 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 10:08

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	287	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL STATE OF CALIFORNIA

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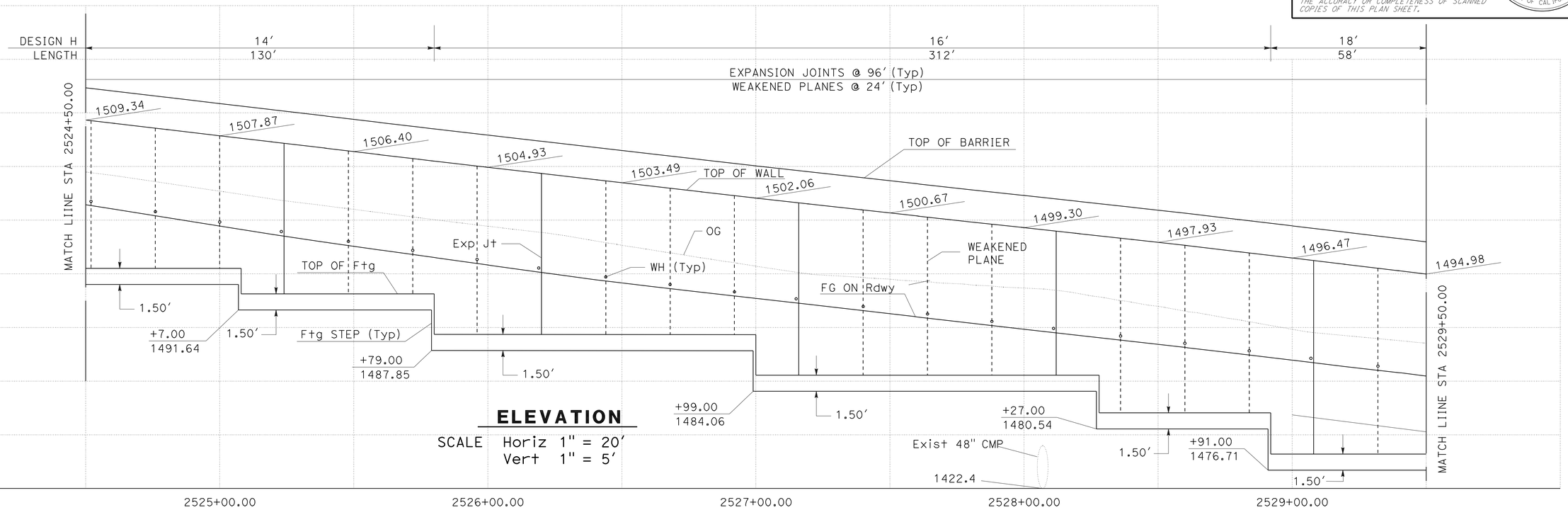

ELEVATION

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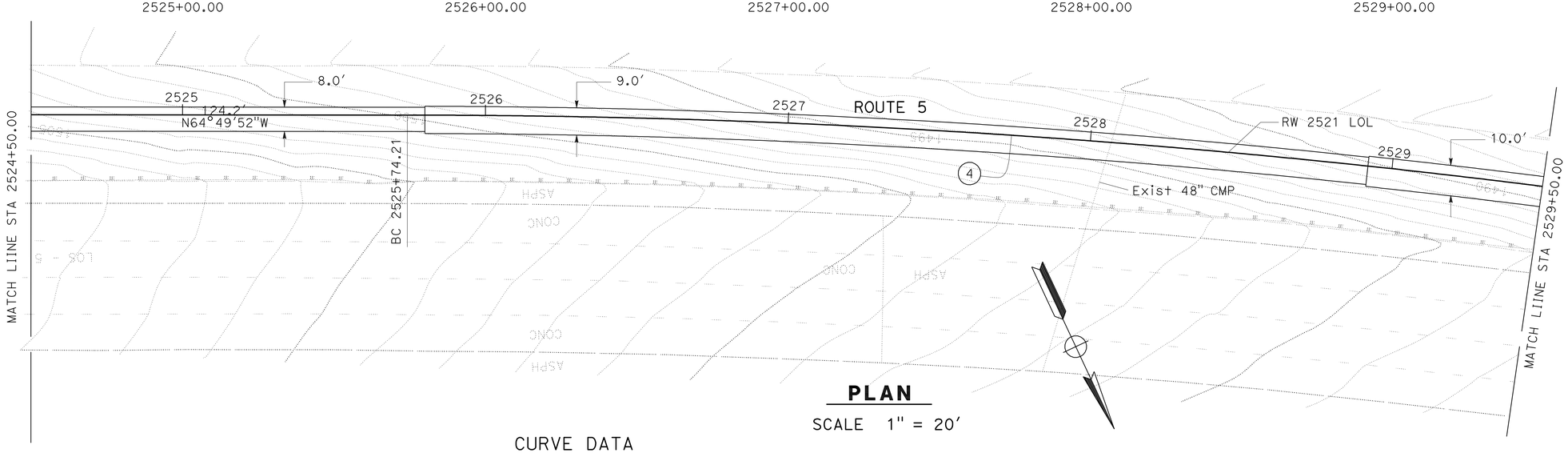
Vert 1" = 5′



PLAN

SCALE 1" = 20′

CURVE DATA

No. O	R	Δ	T	L
4	2999.90′	22°46′00"	603.98′	1192.03′

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

RETAINING WALL 2521

SCALE AS SHOWN

R-32

REVISED BY	DATE REVISED
CUONG T. TRAN	AMIR ELSHARIEF
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 04-15-10 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 10:08

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	288	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
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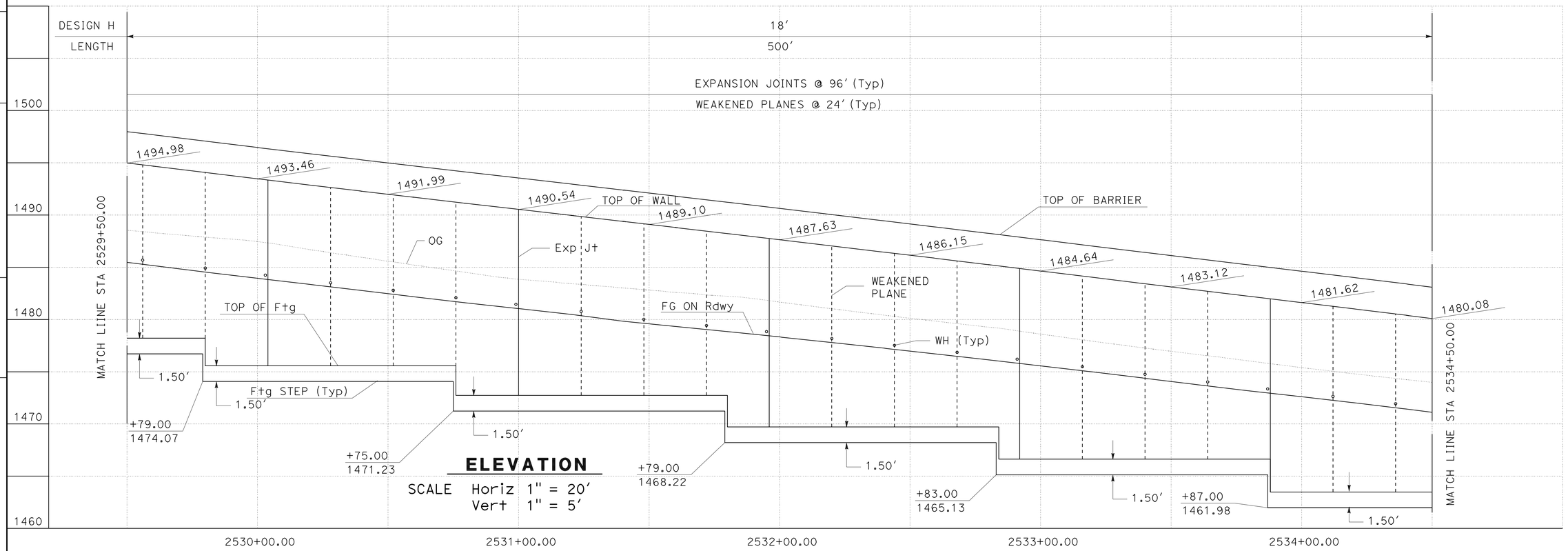
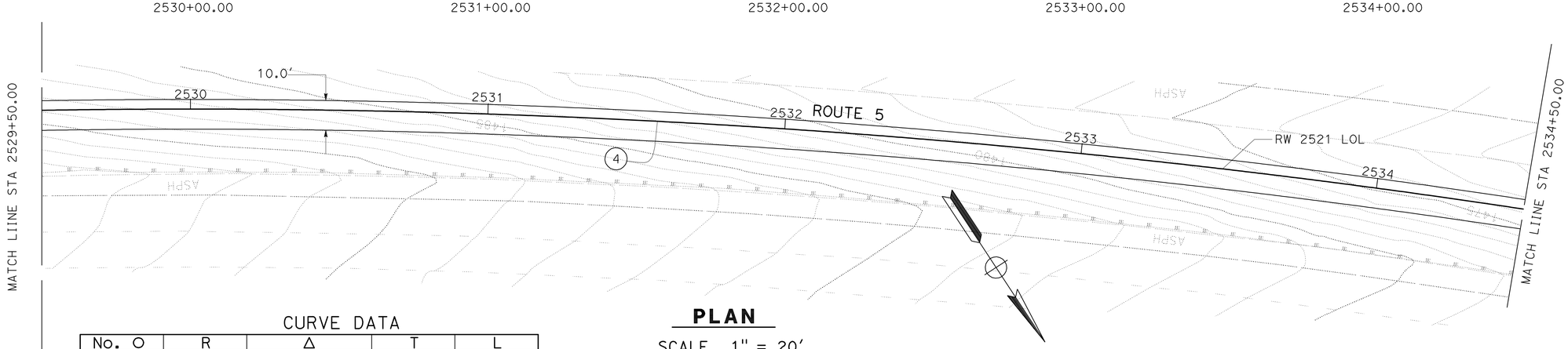


ELEVATION

SCALE Horiz 1" = 20'
Vert 1" = 5'



PLAN

SCALE 1" = 20'

CURVE DATA

No. O	R	Δ	T	L
④	2999.90'	22°46'00"	603.98'	1192.03'

RETAINING WALL 2521

SCALE AS SHOWN

R-33

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: CUONG T. TRAN
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 04-15-10
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:08

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	289	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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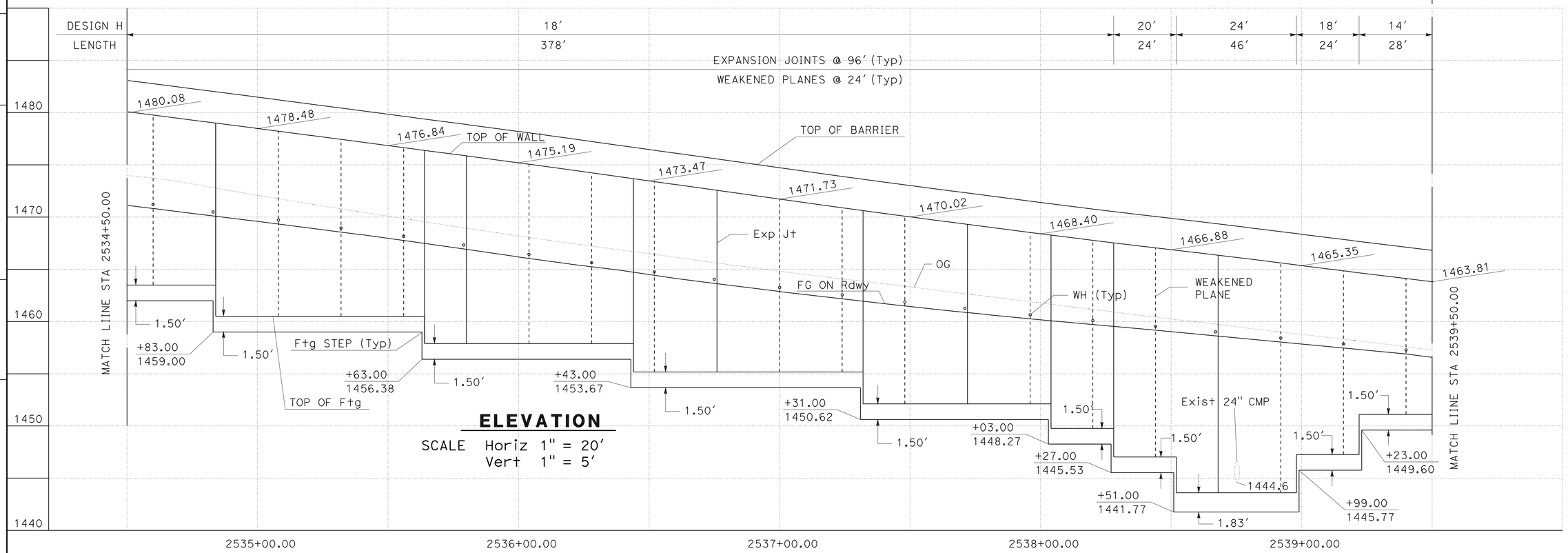

ELEVATION

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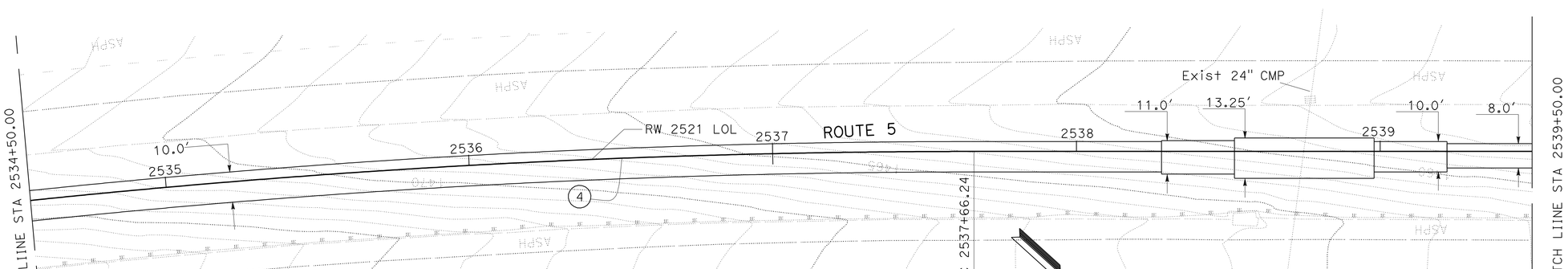
Vert 1" = 5′



PLAN

SCALE 1" = 20′

CURVE DATA

No. O	R	Δ	T	L
4	2999.90′	22°46′00"	603.98′	1192.03′

RETAINING WALL 2521

SCALE AS SHOWN

R-34

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: CUONG T. TRAN
CHECKED BY: AMIR ELSHARIEF
REVISED BY / DATE REVISED

LAST REVISION 04-15-10
DATE PLOTTED => 26-APR-2011
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REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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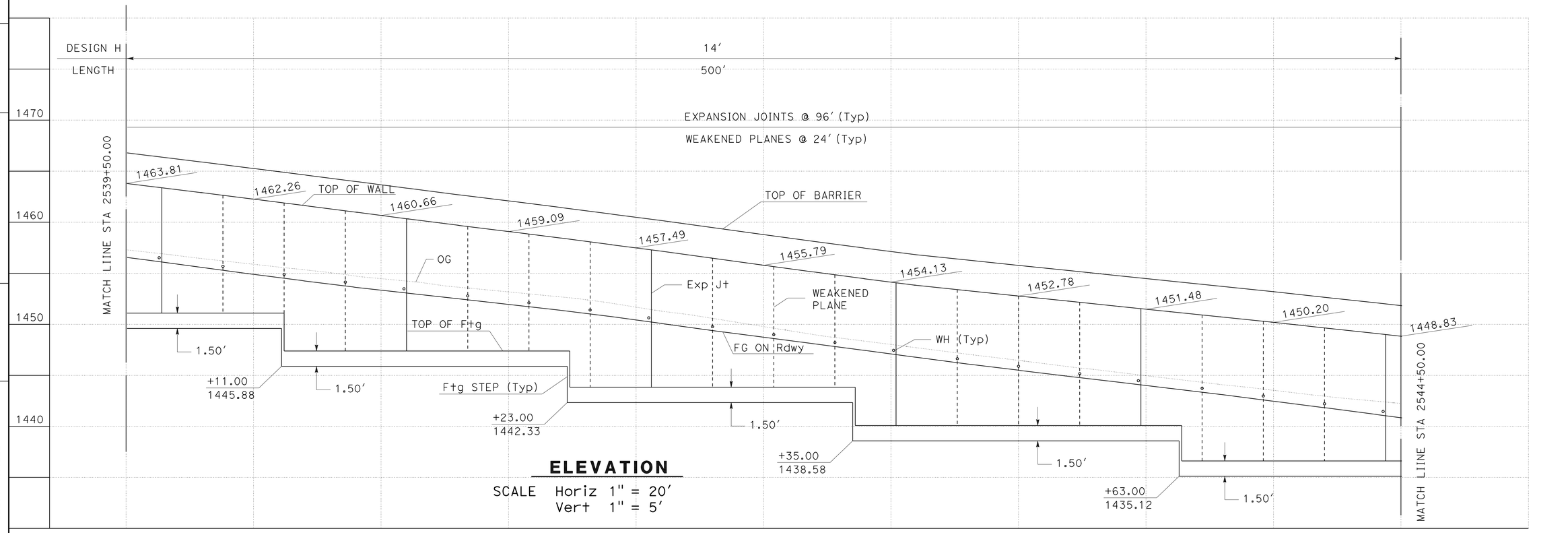
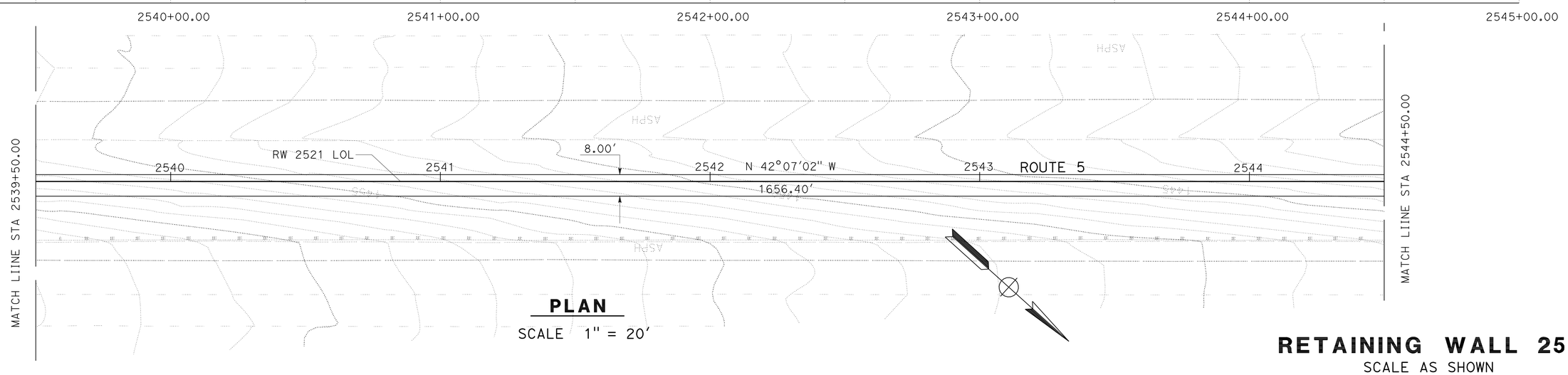


ELEVATION

SCALE Horiz 1" = 20'
Vert 1" = 5'



PLAN

SCALE 1" = 20'

RETAINING WALL 2521

SCALE AS SHOWN

R-35

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: CUONG T. TRAN
CHECKED BY: AMIR ELSHARIEF
REVISED BY
DATE REVISED

LAST REVISION 04-15-10
DATE PLOTTED => 26-APR-2011
TIME PLOTTED => 10:08

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	291	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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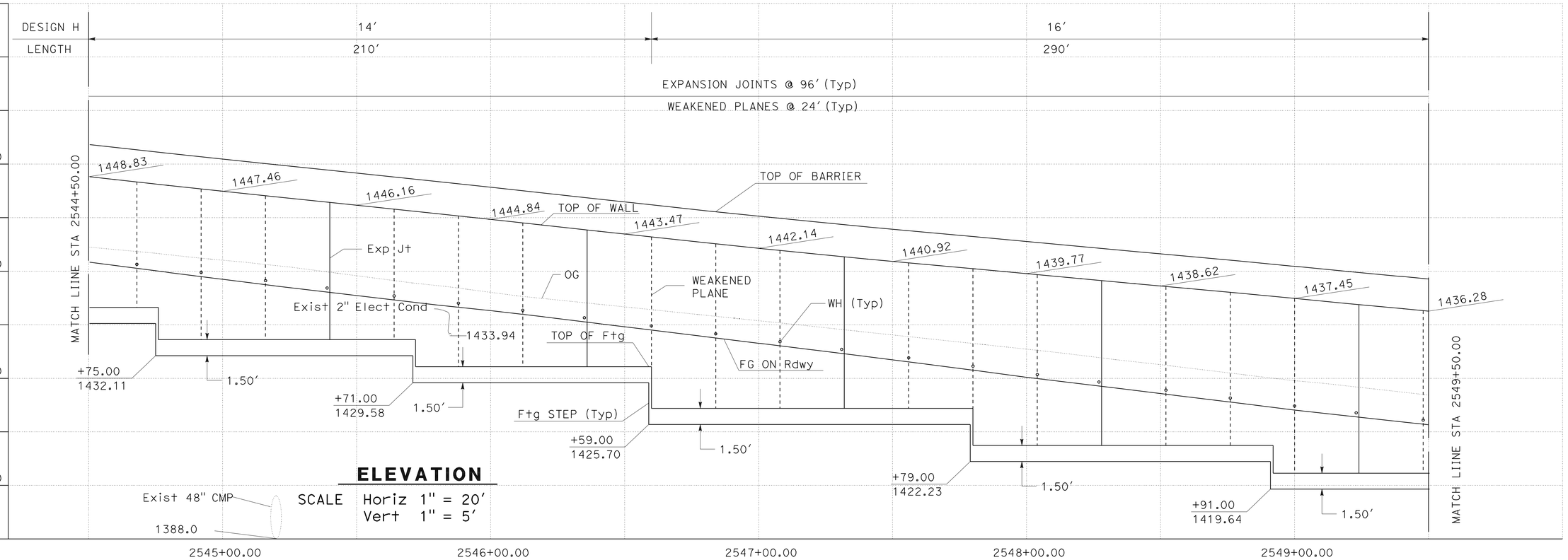
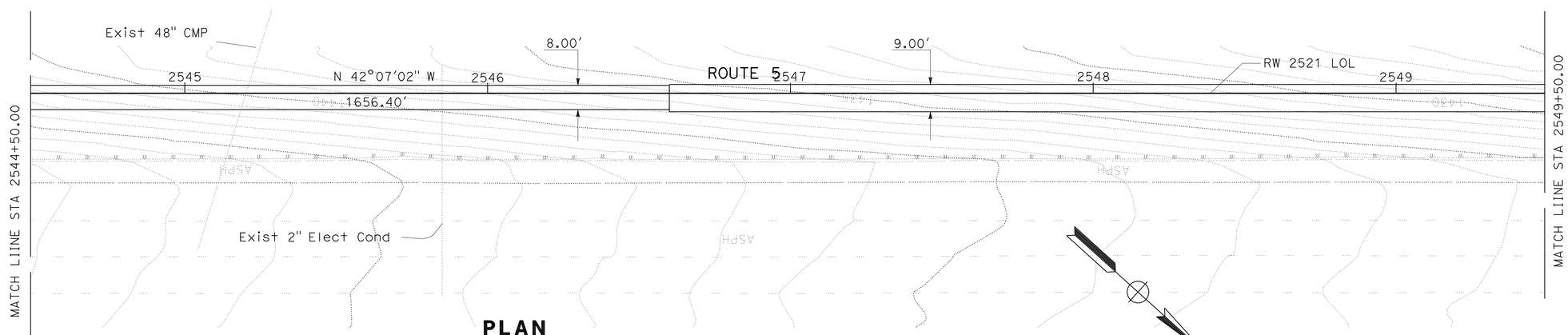


ELEVATION

SCALE Horiz 1" = 20′
Vert 1" = 5′



PLAN

SCALE 1" = 20′

RETAINING WALL 2521

SCALE AS SHOWN

R-36

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

REVISED BY | DATE REVISED
CUONG T. TRAN | AMIR ELSHARIEF
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 04-15-10 | DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 12:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	292	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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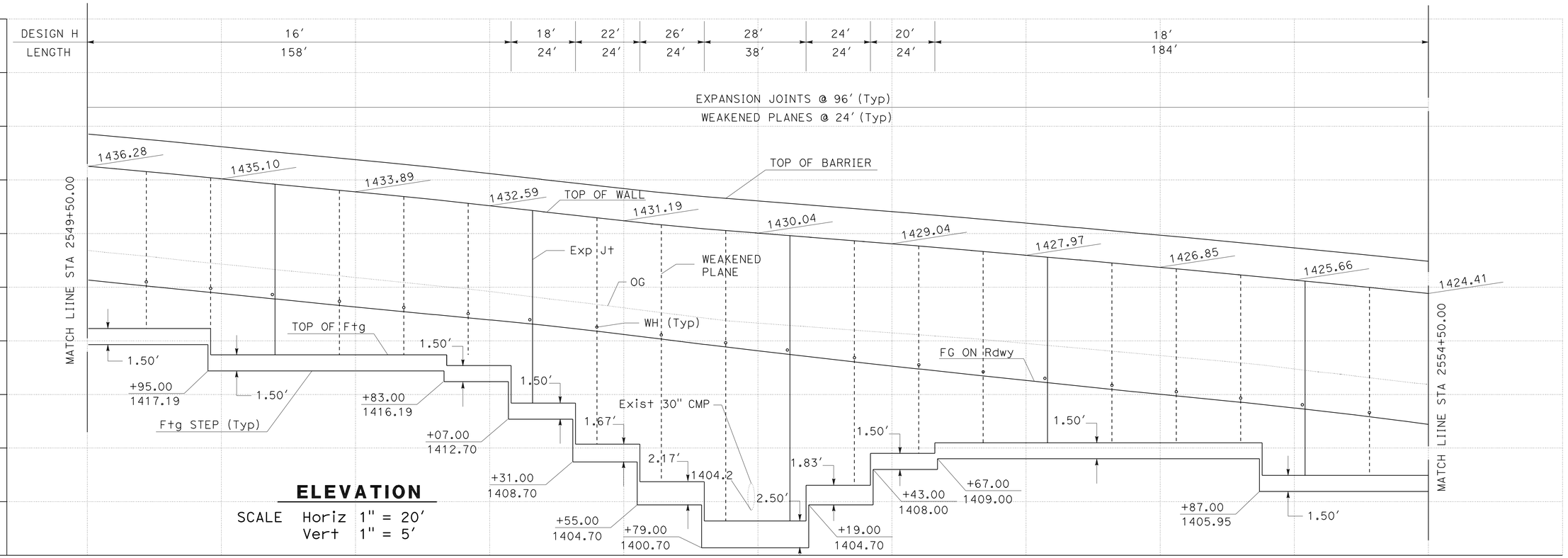
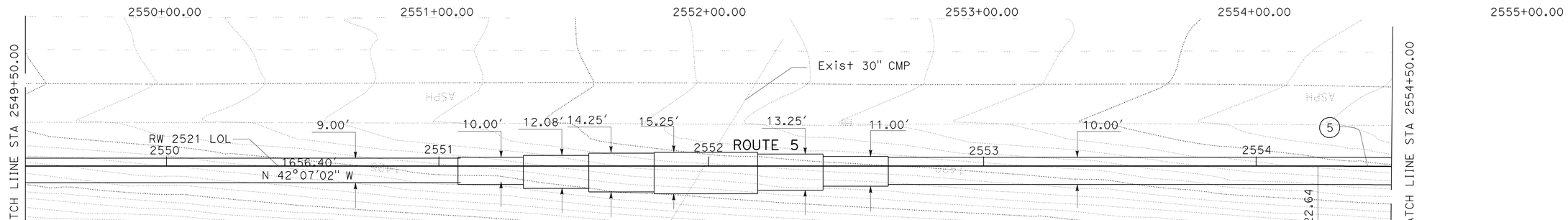


ELEVATION

SCALE Horiz 1" = 20′
Vert 1" = 5′



PLAN

SCALE 1" = 20′

CURVE DATA

No. O	R	Δ	T	L
5	2999.90′	26°55′49"	718.28′	1410.02′

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

RETAINING WALL 2521

SCALE AS SHOWN

R-37

REVISED BY | DATE REVISED
CUONG T. TRAN | AMIR ELSHARIEF
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR | CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

LAST REVISION 04-15-10 | DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 12:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	293	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL STATE OF CALIFORNIA

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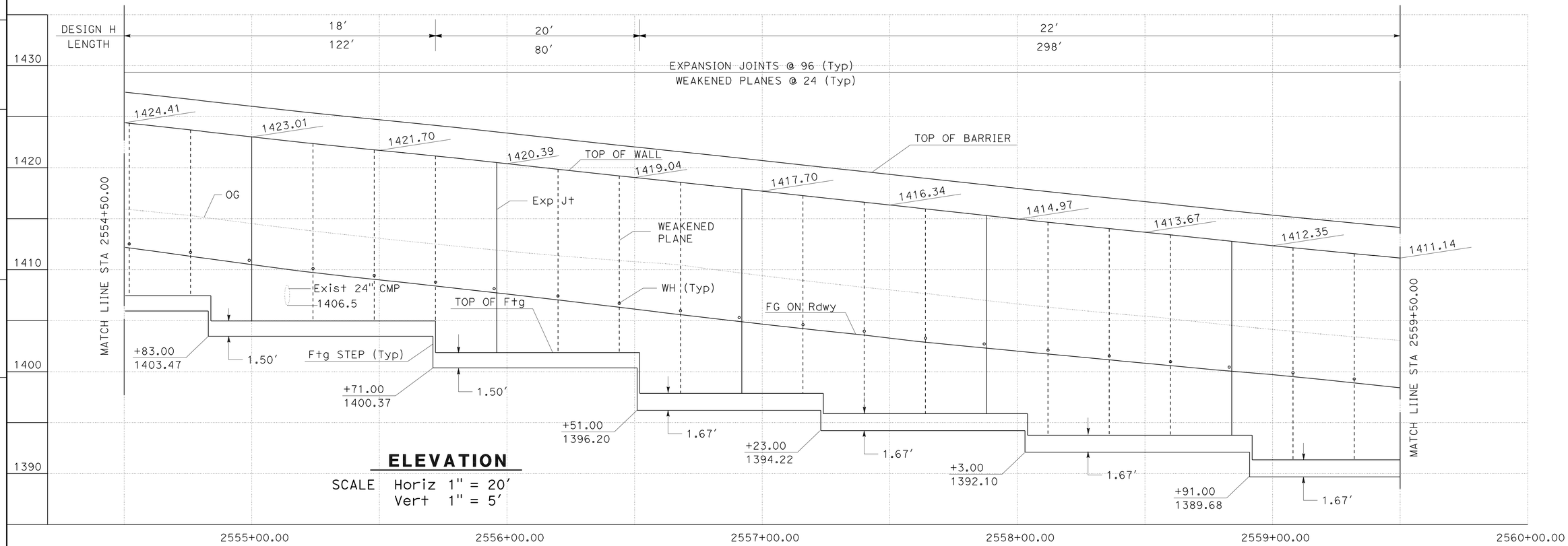
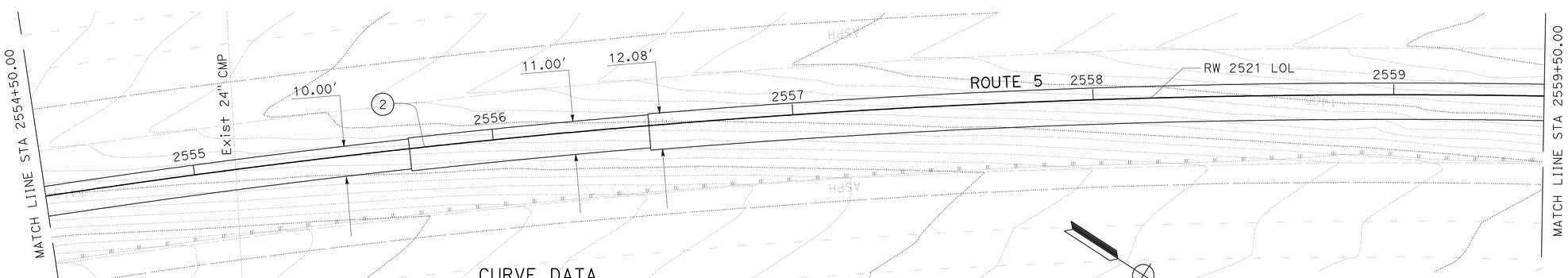


ELEVATION

SCALE Horiz 1" = 20′
Vert 1" = 5′



CURVE DATA

No. O	R	Δ	T	L
1	2999.90′	22°46′00"	603.98′	1192.03′
2	2999.90′	26°55′49"	718.28′	1410.02′

PLAN

SCALE 1" = 20′

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

RETAINING WALL 2521

SCALE AS SHOWN

R-38

REVISED BY | DATE REVISED
CUONG T. TRAN | AMIR ELSHARIEF
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 04-07-10 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 12:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	294	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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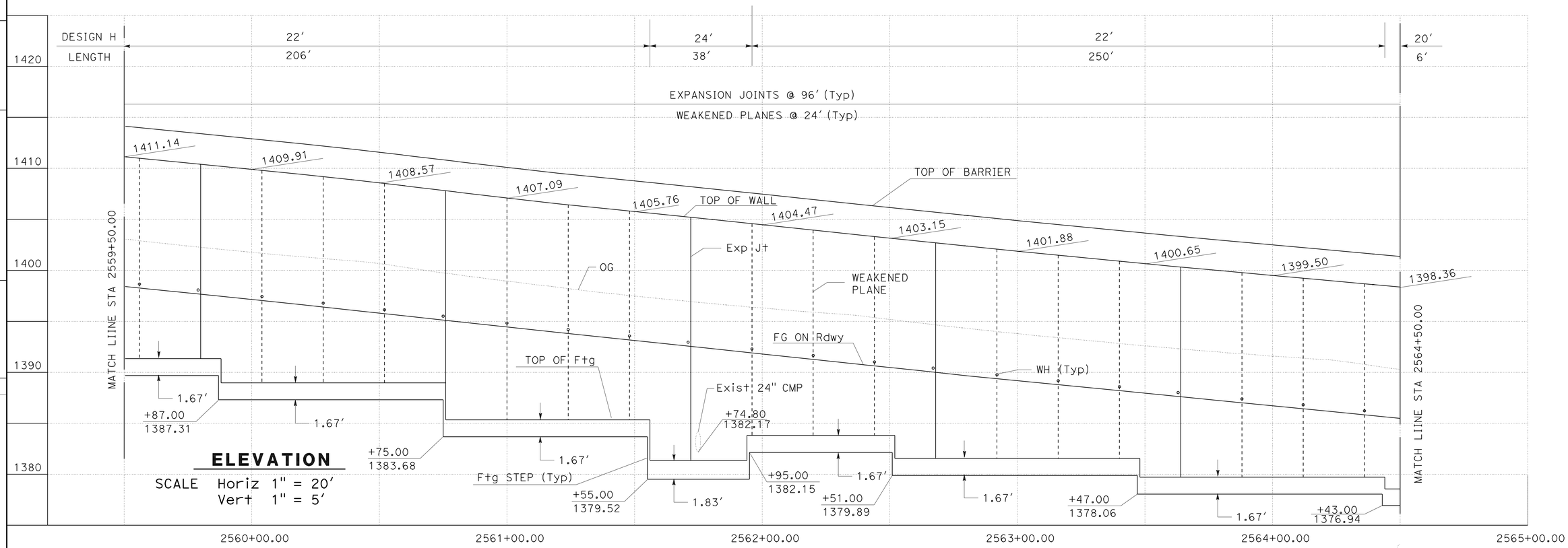
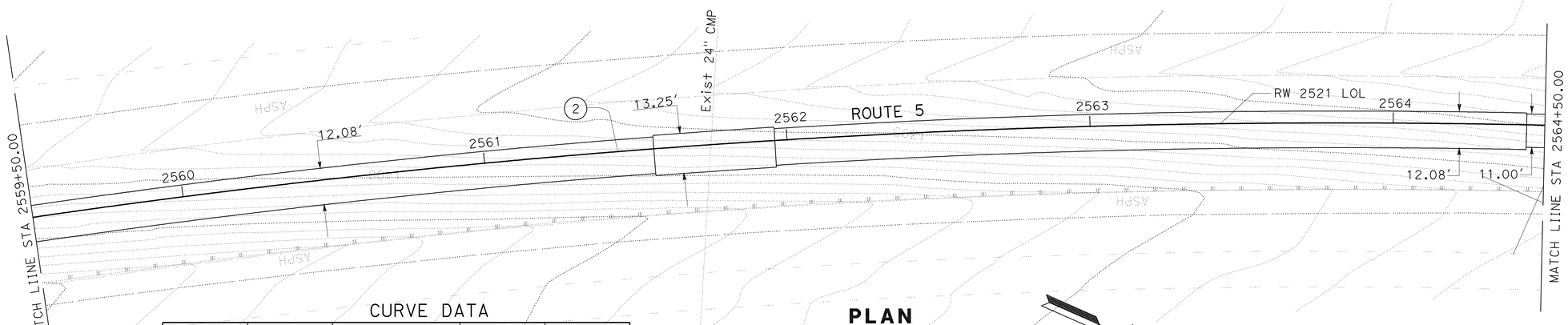


ELEVATION

SCALE Horiz 1" = 20′
Vert 1" = 5′



CURVE DATA

No. O	R	Δ	T	L
1	2999.90′	22°46′00"	603.98′	1192.03′
2	2999.90′	26°55′49"	718.28′	1410.02′

PLAN

SCALE 1" = 20′

RETAINING WALL 2521

SCALE AS SHOWN

R-39

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

REVISED BY	DATE REVISED
CUONG T. TRAN	AMIR ELSHARIEF
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

LAST REVISION 04-08-10 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 12:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	295	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp 6/30/12 CIVIL STATE OF CALIFORNIA

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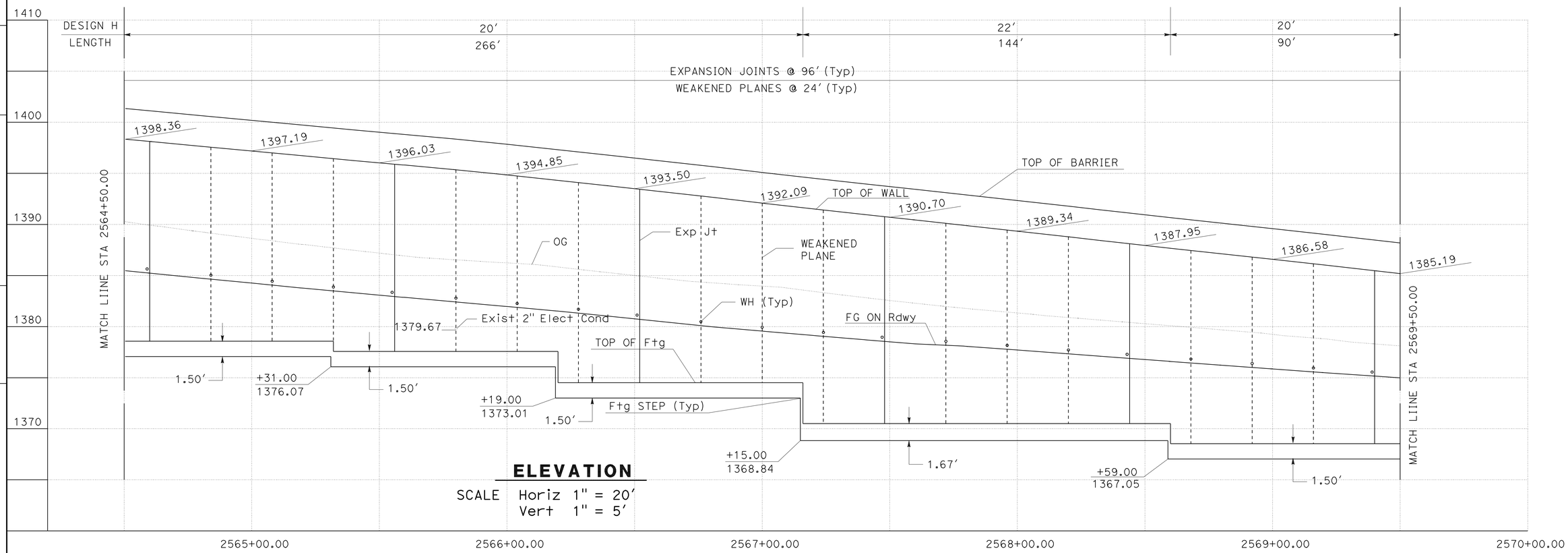
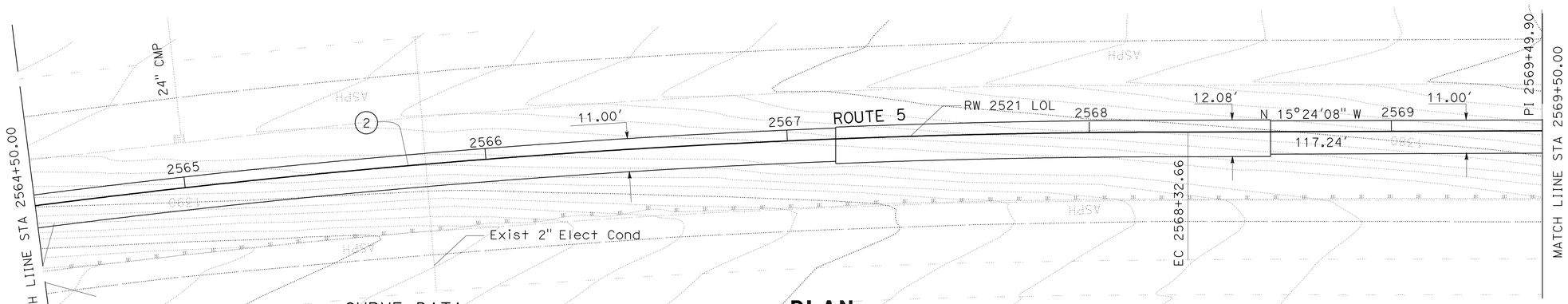


ELEVATION

SCALE Horiz 1" = 20′
Vert 1" = 5′



CURVE DATA

No. O	R	Δ	T	L
①	2999.90′	22°46′00"	603.98′	1192.03′
②	2999.90′	26°55′49"	718.28′	1410.02′

PLAN

SCALE 1" = 20′

RETAINING WALL 2521

SCALE AS SHOWN

R-40

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: CELINA AVILES
CALCULATED-DESIGNED BY: AMIR ELSHARIEF
CHECKED BY: CUONG T. TRAN
REVISED BY / DATE REVISED

LAST REVISION 04-08-10 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 12:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	296	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL STATE OF CALIFORNIA

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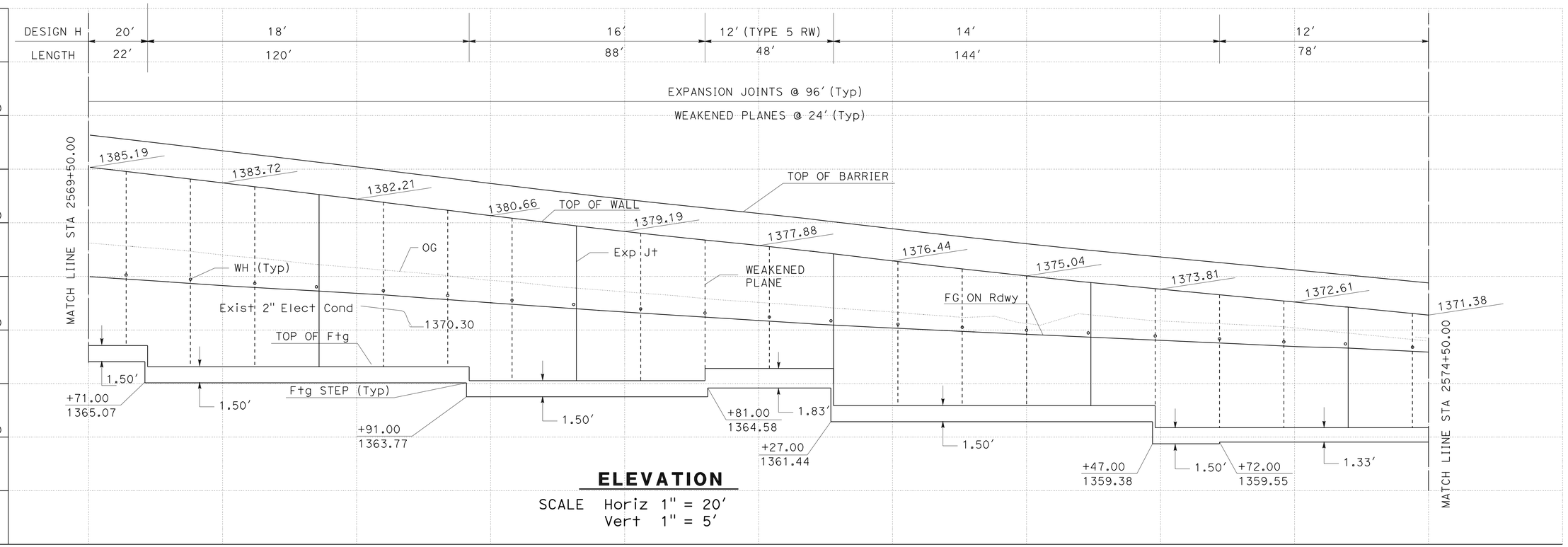
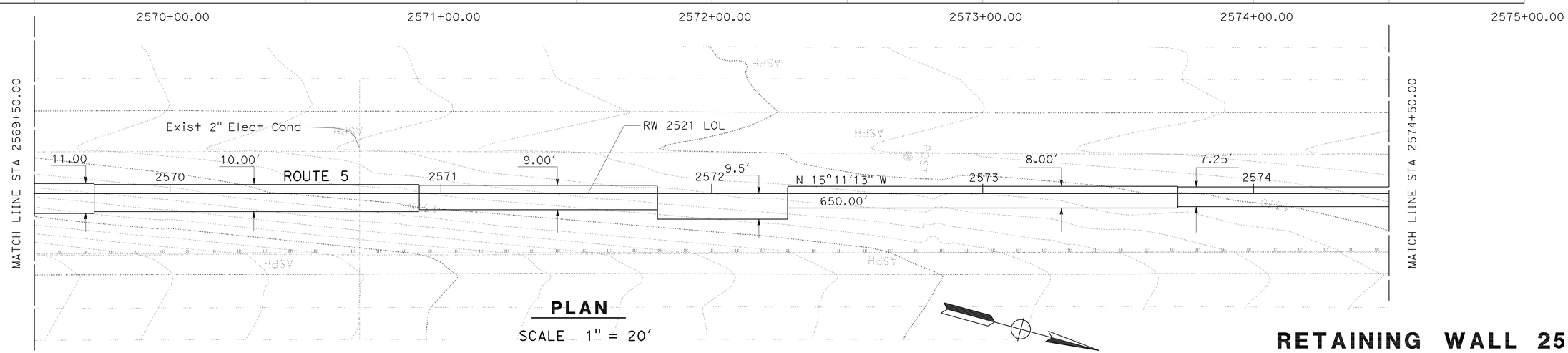


ELEVATION

SCALE Horiz 1" = 20′
Vert 1" = 5′



PLAN

SCALE 1" = 20′

RETAINING WALL 2521

SCALE AS SHOWN

R-41

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

REVISED BY | DATE REVISED
CUONG T. TRAN | AMIR ELSHARIEF
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR | CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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LAST REVISION 04-15-10 | DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 12:19

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	297	456

REGISTERED CIVIL ENGINEER 01-11-11 DATE

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER AMIR AWN ELSHARIEF No. 72560 Exp. 6/30/12 CIVIL STATE OF CALIFORNIA

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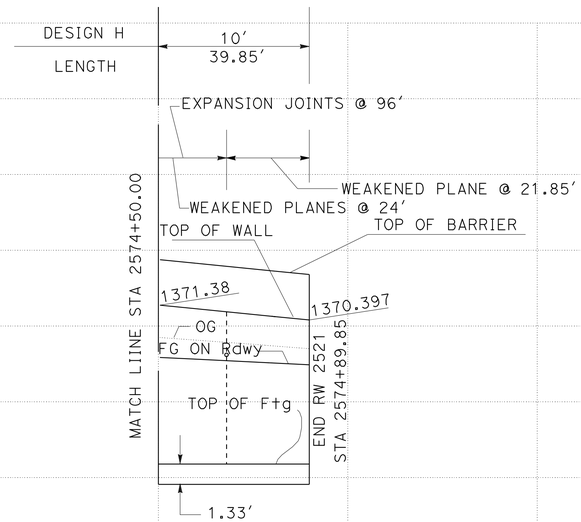
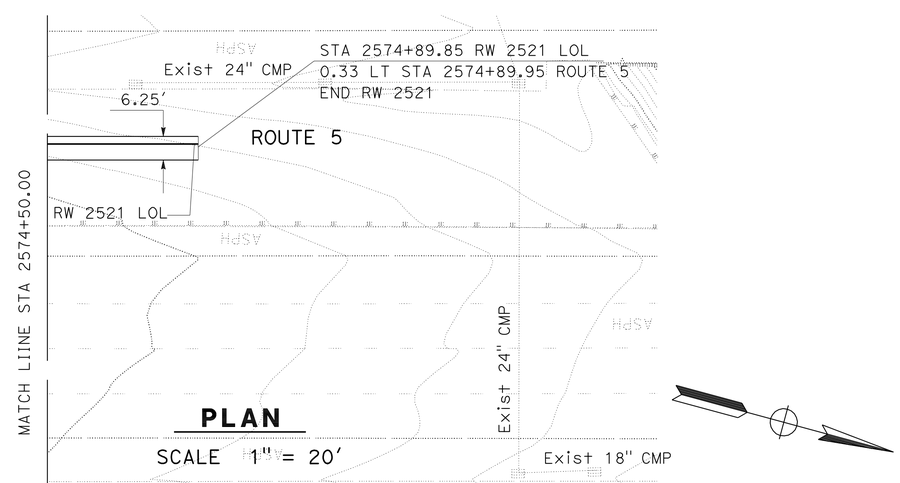


ELEVATION

SCALE Horiz 1" = 20'
Vert 1" = 5'

1380
1370
1360

2574+00.00 2575+00.00 2576+00.00



PLAN

SCALE 1" = 20'

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

RETAINING WALL 2521

SCALE AS SHOWN

R-42

REVISED BY	DATE REVISED

CUONG T. TRAN — AMIR ELSHARIEF

CALCULATED-DESIGNED BY — CHECKED BY

FUNCTIONAL SUPERVISOR: CELINA AVILES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans® DESIGN

LAST REVISION 04-15-10 | DATE PLOTTED => 26-APR-2011 | TIME PLOTTED => 12:19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	298	456

REGISTERED CIVIL ENGINEER 10-14-10

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Hung Po Yang
No. C66376
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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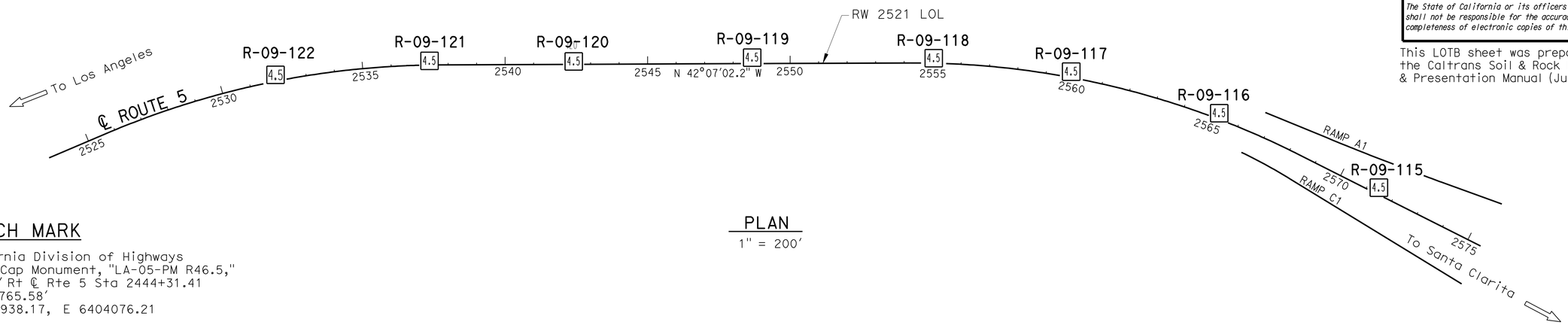


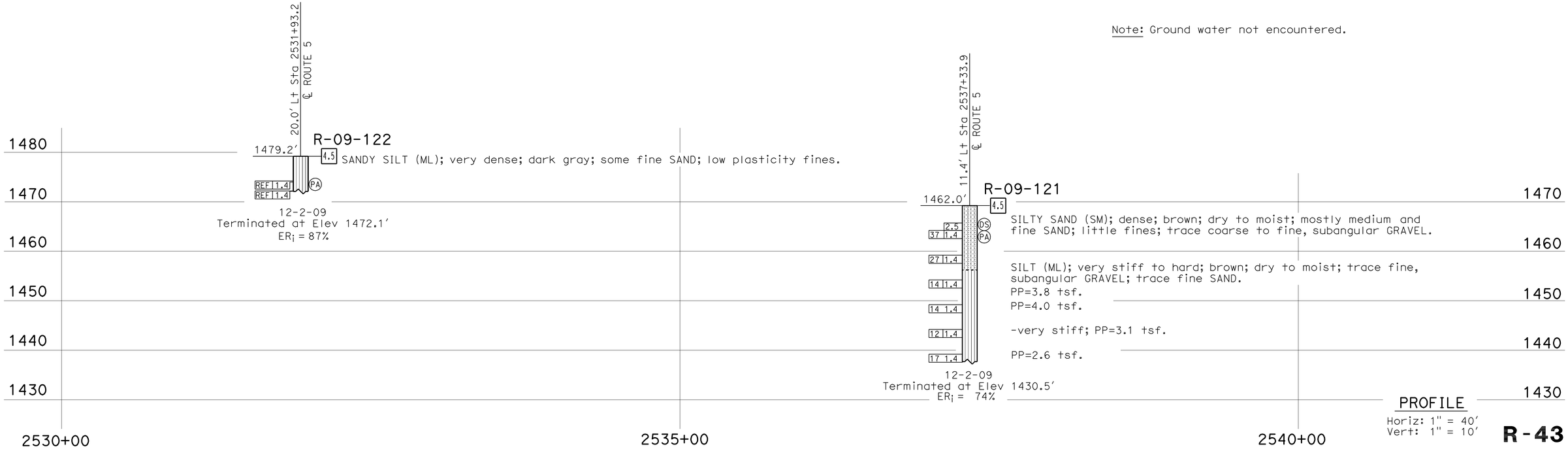
PLAN

1" = 200'

BENCH MARK

California Division of Highways
Brass Cap Monument, "LA-05-PM R46.5,"
85.299' Rt ℄ Rte 5 Sta 2444+31.41
Elev 1765.58'
N 1946938.17, E 6404076.21

Note: Ground water not encountered.



PROFILE

Horiz: 1" = 40'
Vert: 1" = 10'

R-43

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. RW2521 / POST MILES R48.3/R49.2	RETAINING WALL NO 2521 LOG OF TEST BORINGS 1 OF 7
FUNCTIONAL SUPERVISOR NAME: T. Le	DRAWN BY: I.G-Remmen / CHECKED BY: B. Levine	FIELD INVESTIGATION BY: Hung Po Yang			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES 10-06-10 10-14-10

REVISION DATES | SHEET | OF

FILE => 72332Aqc013.dgn

USERNAME => trrichf DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 13:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	299	456

REGISTERED CIVIL ENGINEER 10-14-10

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Hung Po Yang
No. C66376
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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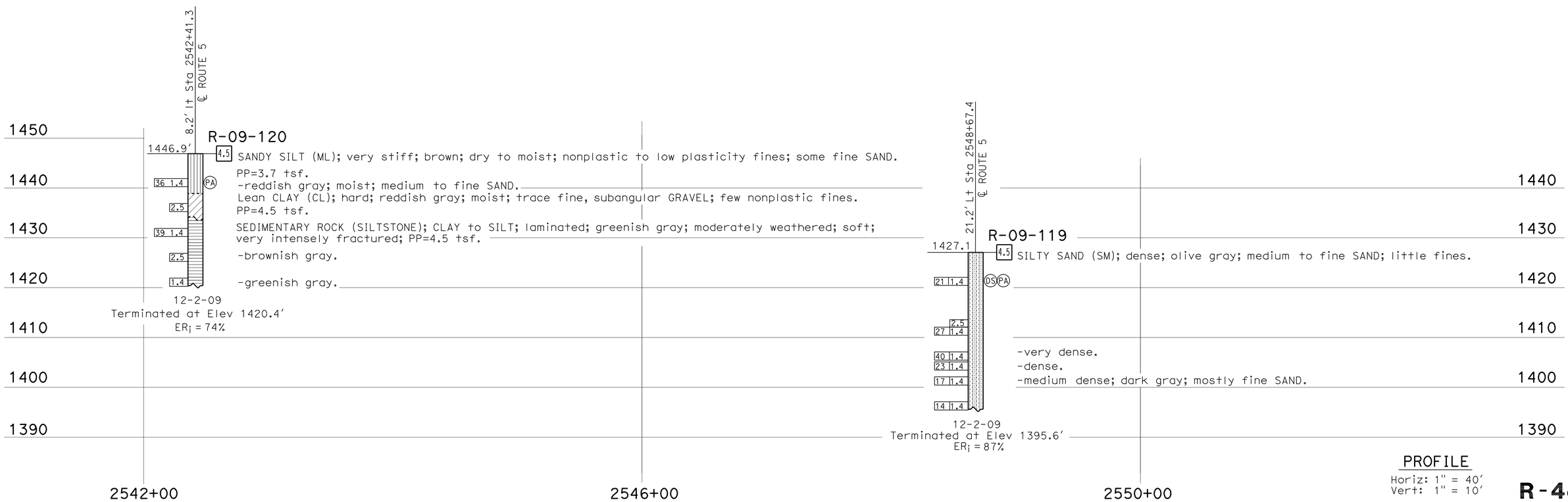
FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 7"



PROFILE
Horiz: 1" = 40'
Vert: 1" = 10'

R-44

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. RW2521	RETAINING WALL NO 2521
FUNCTIONAL SUPERVISOR	DRAWN BY: I.G-Remmen, 9/10	FIELD INVESTIGATION BY:		POST MILES R48.3/R49.2	LOG OF TEST BORINGS 2 OF 7
NAME: T. Le	CHECKED BY: B. Levine	Hung Po Yang			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 10-07-10 10-14-10

SHEET OF

FILE => 72332Aqc014.dgn

USERNAME => trrright DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 13:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	300	456

REGISTERED CIVIL ENGINEER 10-14-10

4-25-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Hung Po Yang
No. C66376
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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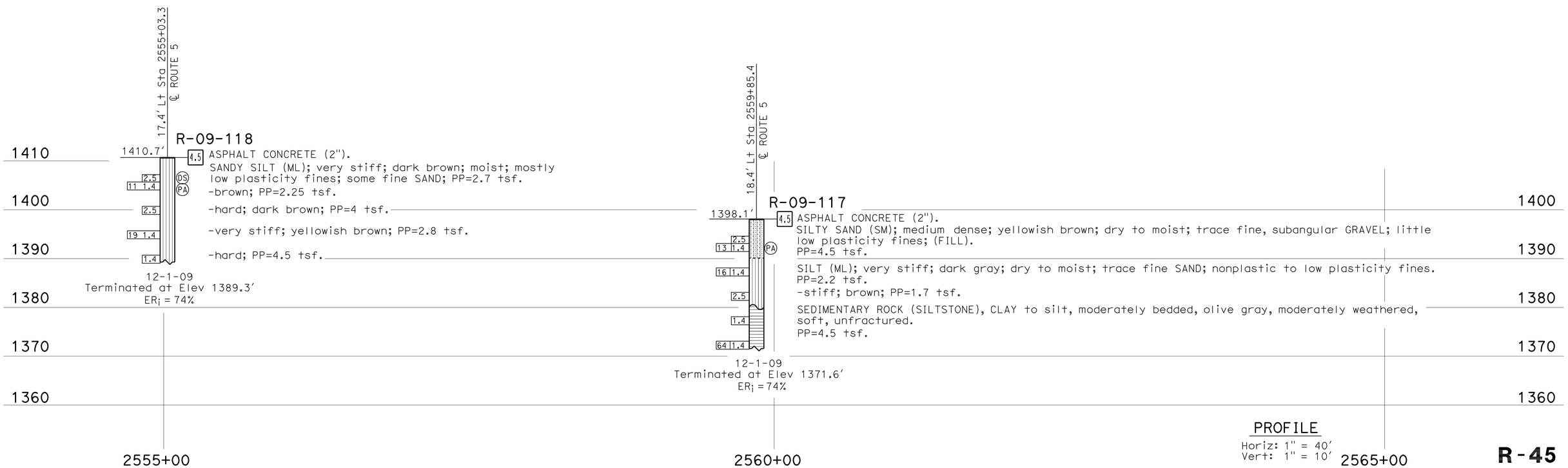
FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 7"



PROFILE
Horiz: 1" = 40'
Vert: 1" = 10'

R-45

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. RW2521 / POST MILES R48.3/R49.2	RETAINING WALL NO 2521 LOG OF TEST BORINGS 3 OF 7
FUNCTIONAL SUPERVISOR	DRAWN BY: I.G-Remmen, 9/10	FIELD INVESTIGATION BY:			
NAME: T. Le	CHECKED BY: B. Levine	Hung Po Yang			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 2332A1

DISREGARD PRINTS BEARING EARLIER REVISION DATES 10-07-10 10-14-10

REVISION DATES | SHEET | OF

FILE => 72332Aqc015.dgn

USERNAME => trright DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 13:01