Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	1	38

INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	TYPICAL CROSS SECTIONS
3	CONSTRUCTION DETAILS
4-5	CONSTRUCTION AREA SIGNS
6-19	TRAFFIC HANDLING PLANS
20-21	PAVEMENT DELINEATION DETAILS AND QUANTITIES
22	SUMMARY OF QUANTITIES
23	ELECTRICAL PLANS
24-38	REVISED STANDARD PLANS

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

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

ACSTPI-008-2(104)E

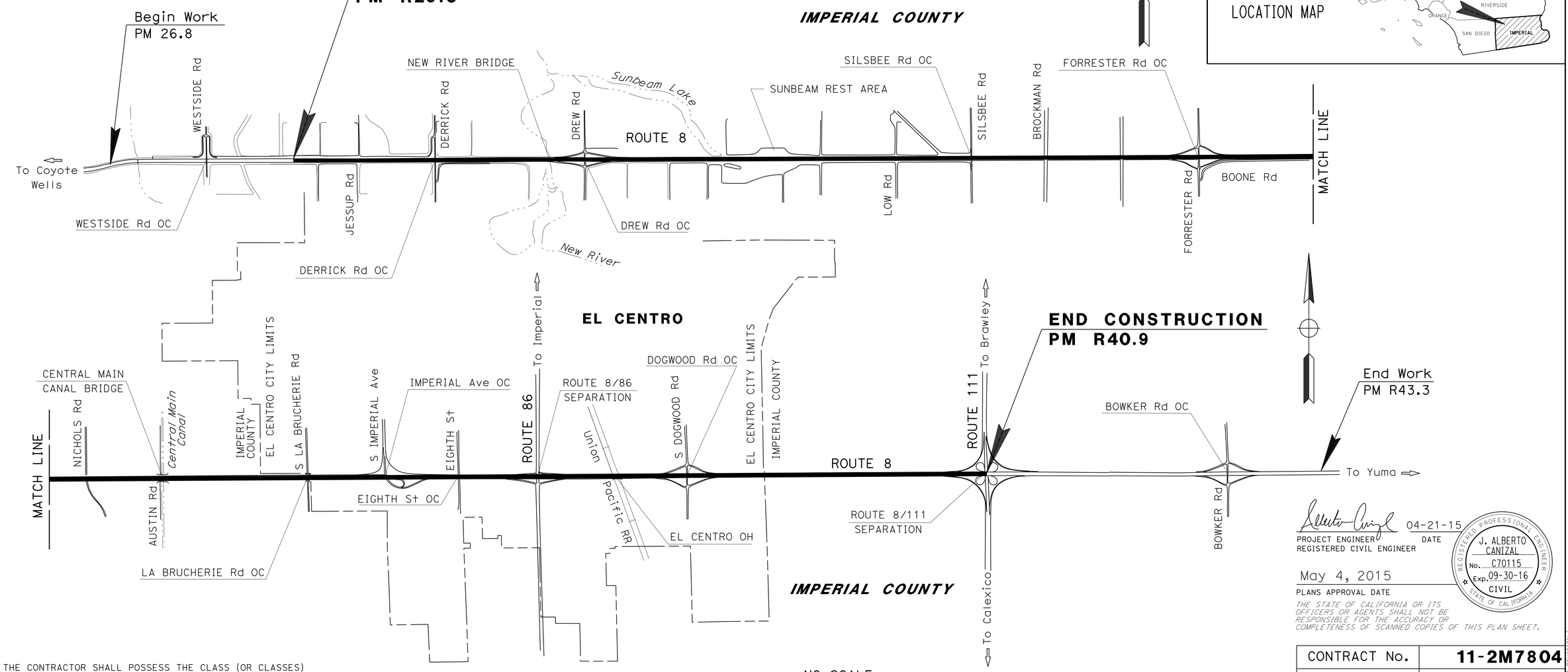
PROJECT PLANS FOR CONSTRUCTION ON

STATE HIGHWAY

IN IMPERIAL COUNTY
IN AND NEAR EL CENTRO
FROM 0.5 MILE EAST OF WESTSIDE ROAD OVERCROSSING TO ROUTE 8/111 SEPARATION

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

LOCATION MAP



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

PROJECT MANAGER: ALBERTO GAYON

DESIGN ENGINEER: JOSE ALBERTO CANIZAL

04-21-15
PROJECT ENGINEER / REGISTERED CIVIL ENGINEER — DATE

J. ALBERTO CANIZAL No. C70115 Exp. 09-30-16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

May 4, 2015
PLANS APPROVAL DATE

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

CONTRACT No.	11-2M7804
PROJECT ID	1114000092

LAST REVISION 04-27-15
DATE PLOTTED => 05-MAY-2015
TIME PLOTTED => 14:22

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	2	38

REGISTERED CIVIL ENGINEER — 04-21-15 DATE

05-04-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — J. ALBERTO CANIZAL — No. C70115 — Exp. 09-30-16 — 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.

ABBREVIATIONS:

ARB = ASPHALT RUBBER BINDER
LL = LANELINE
RAC = RUBBERIZED ASPHALT CONCRETE

PAVEMENT CLIMATE REGION:

DESERT

NOTES:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTION) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

LEGEND:

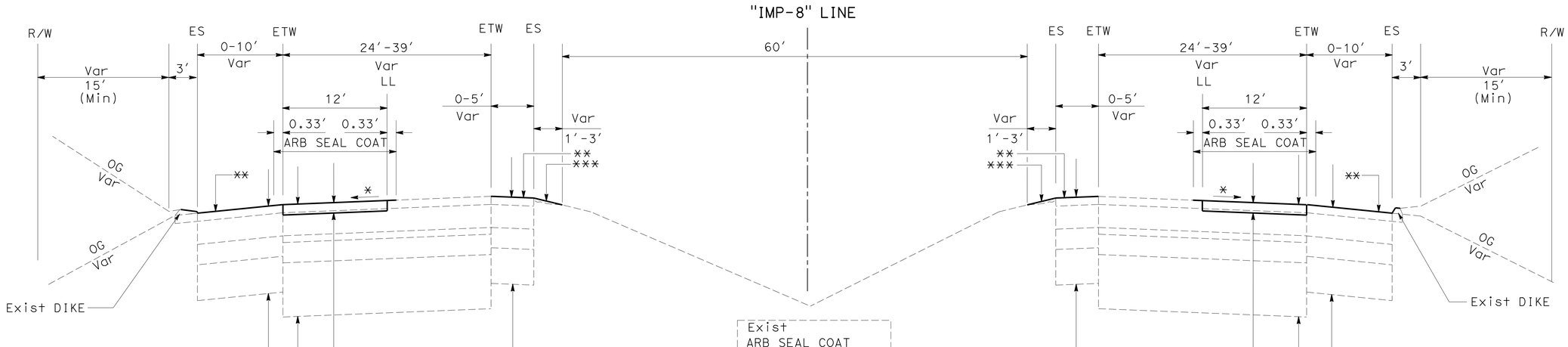
* MATCH Exist

** APPLY ASPHALTIC EMULSION (FOG SEAL COAT) ON SHOULDERS AND DIKES (EB AND WB DIRECTION)

*** CONSTRUCT SHOULDER BACKING AT LOCATIONS WHERE DROP OFF IS GREATER THAN 0.10' (EB AND WB DIRECTION)

DESIGN DESIGNATION

YEAR	DIRECTION	FROM PM	TO PM	ADT	DHV	T%
2014	EB/WB	R28.0	R37.0	17,000	2,240	10.7%
2014	EB/WB	R37.0	R40.9	32,000	4,190	8.4%
2035	EB/WB	R28.0	R37.0	32,000	4,220	
2035	EB/WB	R37.0	R40.9	59,000	7,690	



ROUTE 8

PM R28.0 - R40.9

TYPICAL CROSS SECTIONS

NO SCALE

X-1

REVISED BY | DATE REVISED
JOSE ALBERTO CANIZAL | CHRISTOPHER SEMAAN
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: ALBERTO GAYON
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE

LAST REVISION 04-28-15 | DATE PLOTTED => 05-MAY-2015 | TIME PLOTTED => 14:22

BORDER LAST REVISED 7/2/2010 | USERNAME => s127400 | DGN FILE => 1114000092ca001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2773 | PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	3	38

REGISTERED CIVIL ENGINEER — 04-21-15 DATE

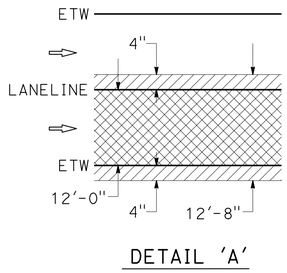
05-04-15
PLANS APPROVAL DATE

J. ALBERTO CANIZAL
No. C70115
Exp. 09-30-16
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

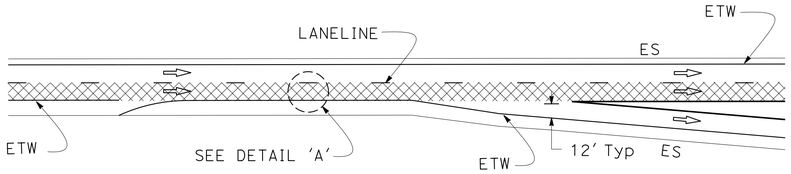
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND:

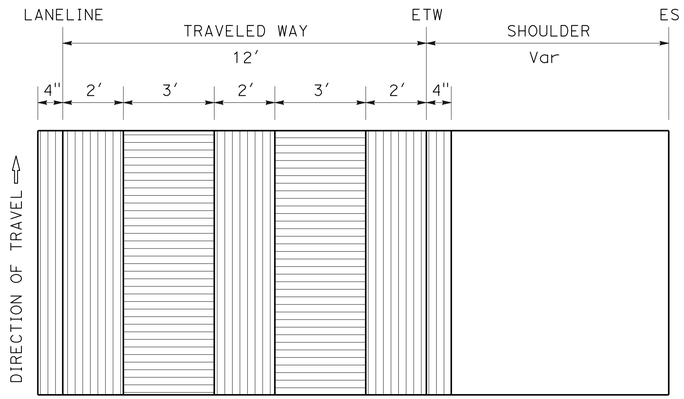
- 0.25′ COLD PLANE AC Pvmt / 0.22′ HMA (TYPE A)
- ARB SEAL COAT
- DIRECTION OF TRAFFIC
- ASPHALT-RUBBER BINDER (WHEEL PATH) 0.55 GALLONS PER SQUARE YARD APPLICATION RATE
- ASPHALT-RUBBER BINDER (NON-WHEEL PATH) 0.60 GALLONS PER SQUARE YARD APPLICATION RATE



DETAIL 'A'

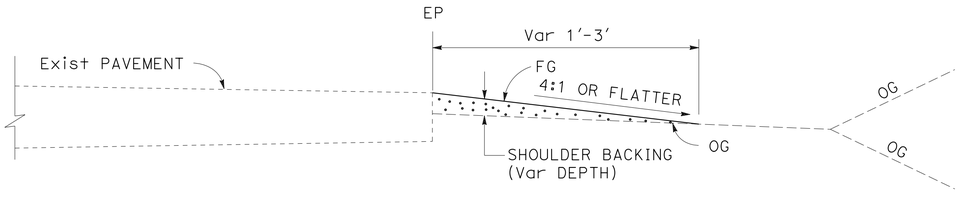


TYPICAL PAVING LIMIT



PLAN VIEW

ASPHALT-RUBBER BINDER VARIABLE APPLICATION RATE



SHOULDER BACKING ROADWAY DETAIL

CONSTRUCTION DETAILS

NO SCALE

C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE
FUNCTIONAL SUPERVISOR: ALBERTO GAYON
CALCULATED-DESIGNED BY: JOSE ALBERTO CANIZAL
CHECKED BY: CHRISTOPHER SEMAAN
REVISED BY / DATE REVISED

LAST REVISION: DATE PLOTTED => 05-MAY-2015 TIME PLOTTED => 14:22
04-28-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	4	38

04-21-15
REGISTERED CIVIL ENGINEER DATE

J. ALBERTO CANIZAL No. C70115 Exp 09-30-16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

05-04-15
PLANS APPROVAL DATE

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

NOTES:

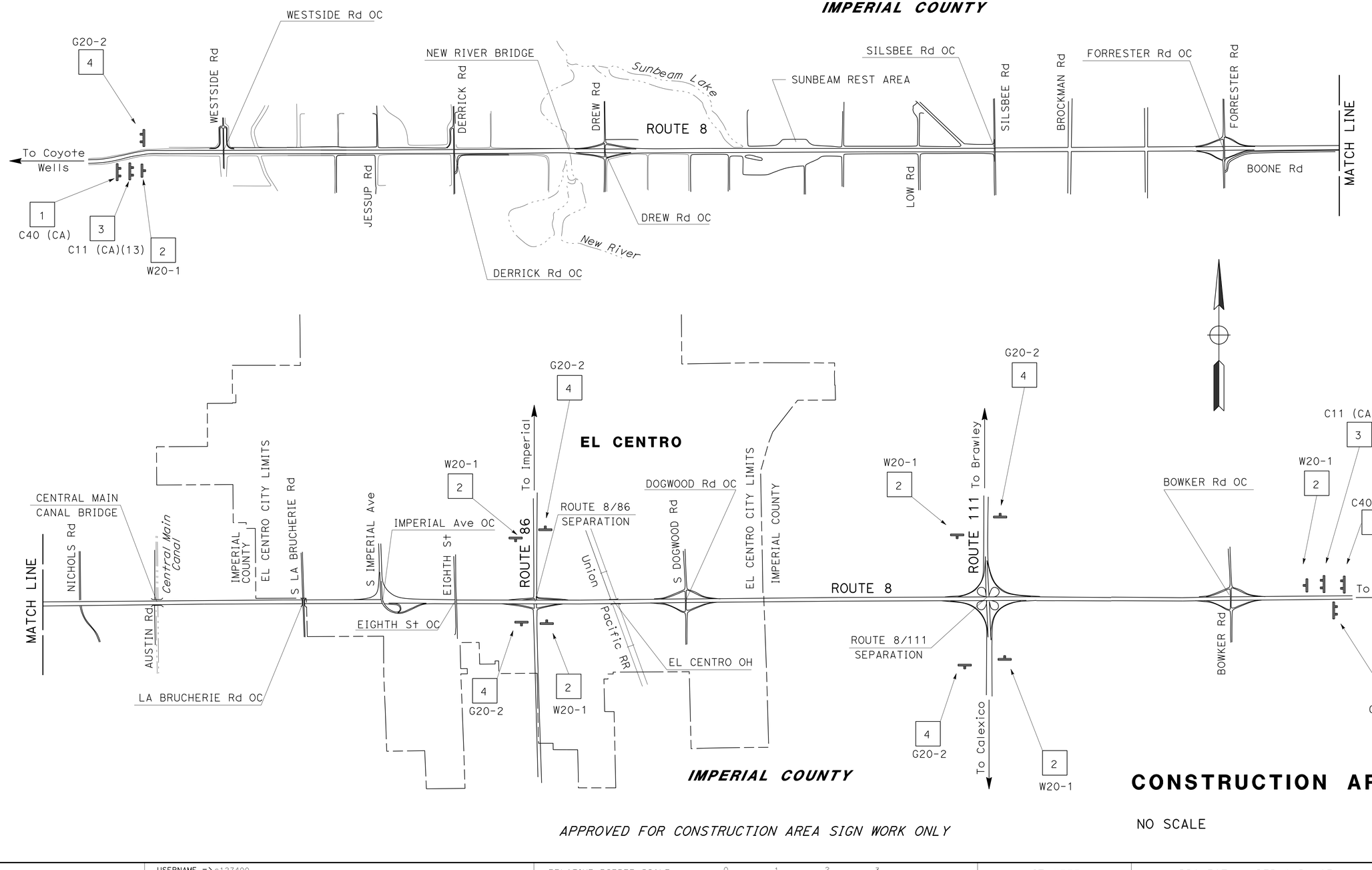
1). EXACT LOCATION OF CONSTRUCTION AREA SIGNS TO BE DETERMINED BY THE ENGINEER.

2). FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SIGN CODES ARE SHOWN UNLESS DESIGNATED BY (CA), INDICATING CALIFORNIA MUTCD.

3). EXISTING UTILITIES ARE NOT SHOWN ON THESE PLAN SHEETS. THE CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES AND AVOID IMPACTING THESE EXISTING UTILITIES BY ADJUSTING THE FIELD LOCATION OF THE SIGN POST IN CONSULTATION WITH THE ENGINEER.

LEGEND:

[X] = CONSTRUCTION AREA SIGN



CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE
Caltrans

FUNCTIONAL SUPERVISOR: ALBERTO GAYON
CALCULATED-DESIGNED BY: CHRISTOPHER SEMAAN
CHECKED BY: JOSE ALBERTO CANIZAL
REVISED BY
DATE REVISED

LAST REVISION | DATE PLOTTED => 05-MAY-2015 | 04-28-15 | TIME PLOTTED => 14:22

BORDER LAST REVISED 7/2/2010 | USERNAME => s127400 | DGN FILE => 11140000921a001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2773 | PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	5	38

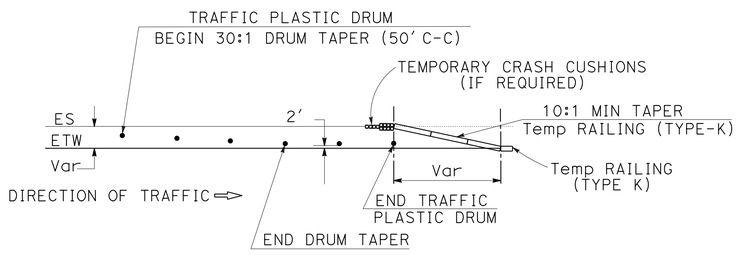
04-21-15
REGISTERED CIVIL ENGINEER DATE

J. ALBERTO CANIZAL
No. C70115
Exp. 09-30-16
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

05-04-15
PLANS APPROVAL DATE

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

TYPICAL- PLACEMENT OF TRAFFIC PLASTIC DRUM

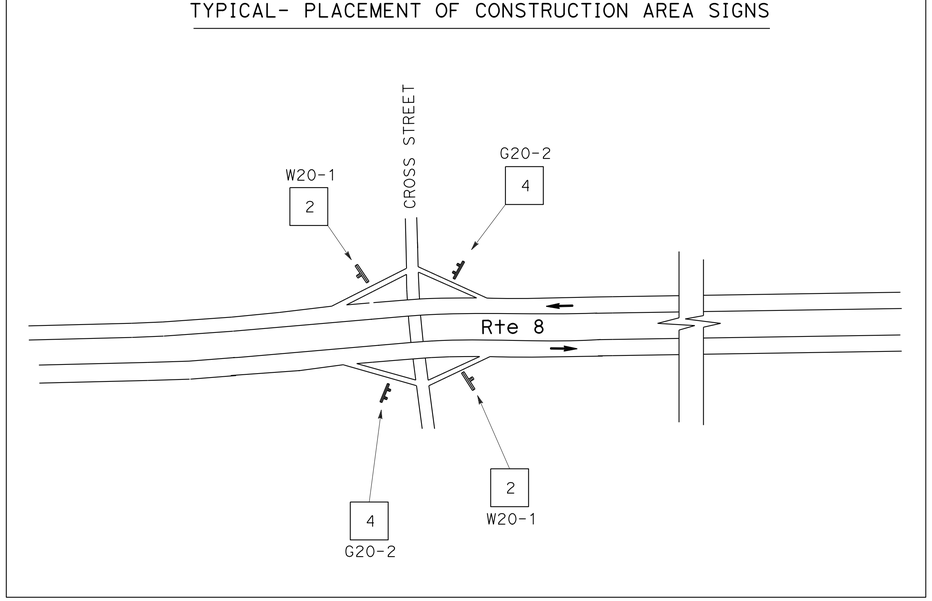


CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE	PANEL SIZE	No. OF POSTS AND SIZE	No. OF SIGNS
1	C40 (CA)	108" x 42"	2 - 4" X 6"	2
2	W20-1	48" x 48"	1 - 4" X 6"	17
3	C11 (CA) (13)	60" x 36"	2 - 4" x 6"	2
4	G20-2	36" x 18"	1 - 4" x 4"	17
5	SPCL-1	72" x 72"	PORTABLE	2
6	SPCL-2	72" x 72"	PORTABLE	4
7	SPCL-3	72" x 72"	PORTABLE	4
8	SPCL-4	72" x 72"	PORTABLE	2
9	SPCL-5	72" x 72"	PORTABLE	2
10	SC9 (CA)	36" x 36"	PORTABLE	62
11	M4-8a	24" x 18"	PORTABLE	14

FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE TRAFFIC HANDLING PLAN SHEETS.

TYPICAL- PLACEMENT OF CONSTRUCTION AREA SIGNS



CONSTRUCTION AREA SIGNS

NO SCALE

CS-2

REVISED BY | DATE REVISED
JOSE ALBERTO CANIZAL | CHRISTOPHER SEMAAN
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: ALBERTO GAYON
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE

LAST REVISION 04-29-15 | DATE PLOTTED => 05-MAY-2015 | TIME PLOTTED => 14:22

BORDER LAST REVISED 7/2/2010 | USERNAME => s127400 | DGN FILE => 11140000921a002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2773 | PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	6	38

REGISTERED CIVIL ENGINEER — DATE: 04-21-15

PLANS APPROVAL DATE: 05-04-15

J. ALBERTO CANIZAL No. C70115 Exp 09-30-16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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NOTES:

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2). FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SIGN CODES ARE SHOWN UNLESS DESIGNATED BY (CA), INDICATING CALIFORNIA MUTCD.

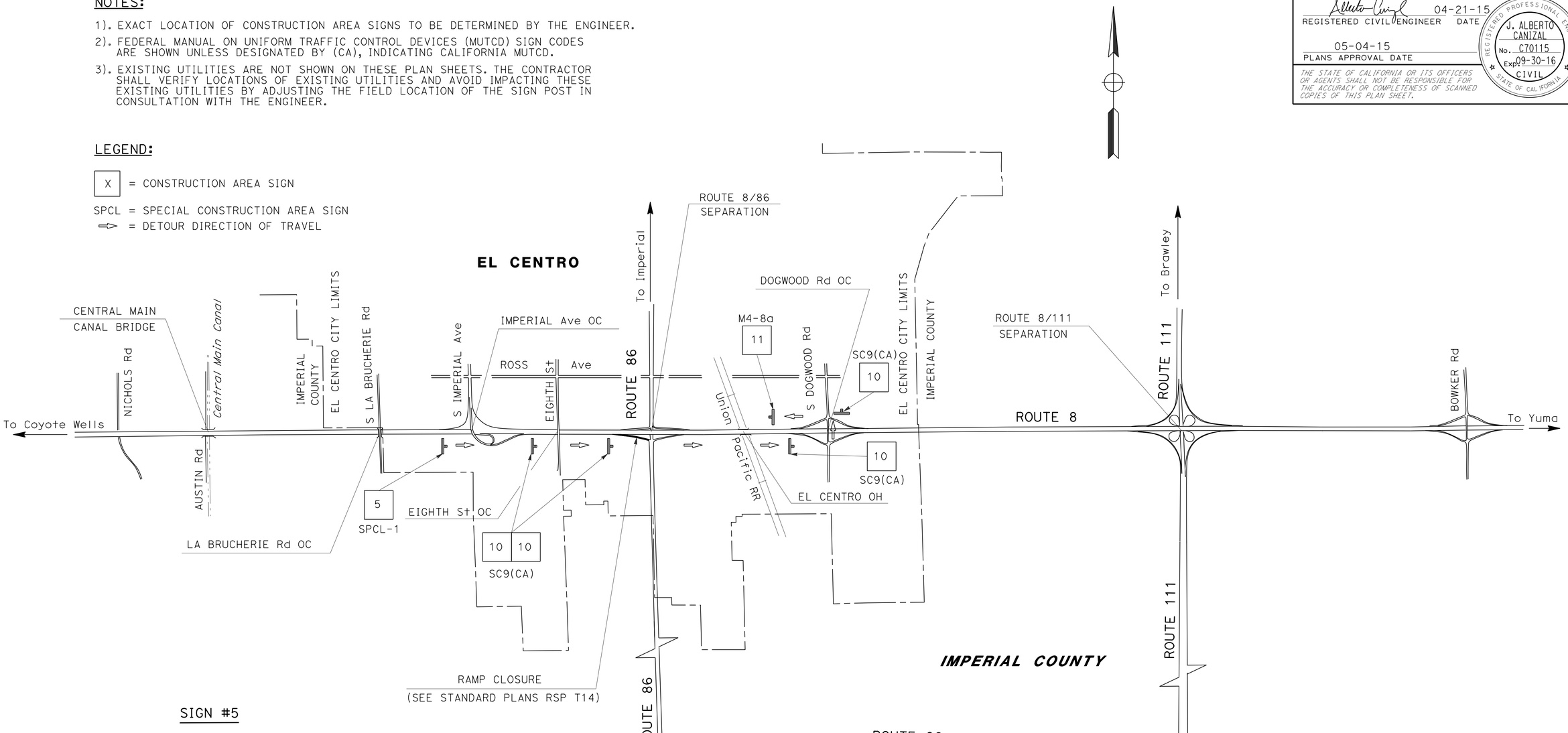
3). EXISTING UTILITIES ARE NOT SHOWN ON THESE PLAN SHEETS. THE CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES AND AVOID IMPACTING THESE EXISTING UTILITIES BY ADJUSTING THE FIELD LOCATION OF THE SIGN POST IN CONSULTATION WITH THE ENGINEER.

LEGEND:

[X] = CONSTRUCTION AREA SIGN

SPCL = SPECIAL CONSTRUCTION AREA SIGN

⇨ = DETOUR DIRECTION OF TRAVEL



SIGN #5

SPCL-1 8" CAPS

86

USE

DETOUR

72" × 72"

APPROVED FOR TRAFFIC HANDLING WORK ONLY

TRAFFIC HANDLING PLAN

NO SCALE

TH-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — MAINTENANCE

FUNCTIONAL SUPERVISOR: ALBERTO GAYON

CALCULATED-DESIGNED BY: JOSE ALBERTO CANIZAL

CHECKED BY: CHRISTOPHER SEMAAN

REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 05-MAY-2015 | 04-29-15 | TIME PLOTTED => 14:22

BORDER LAST REVISED 7/2/2010 | USERNAME => s127400 | DGN FILE => 1114000092md001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2773 | PROJECT NUMBER & PHASE 11140000921

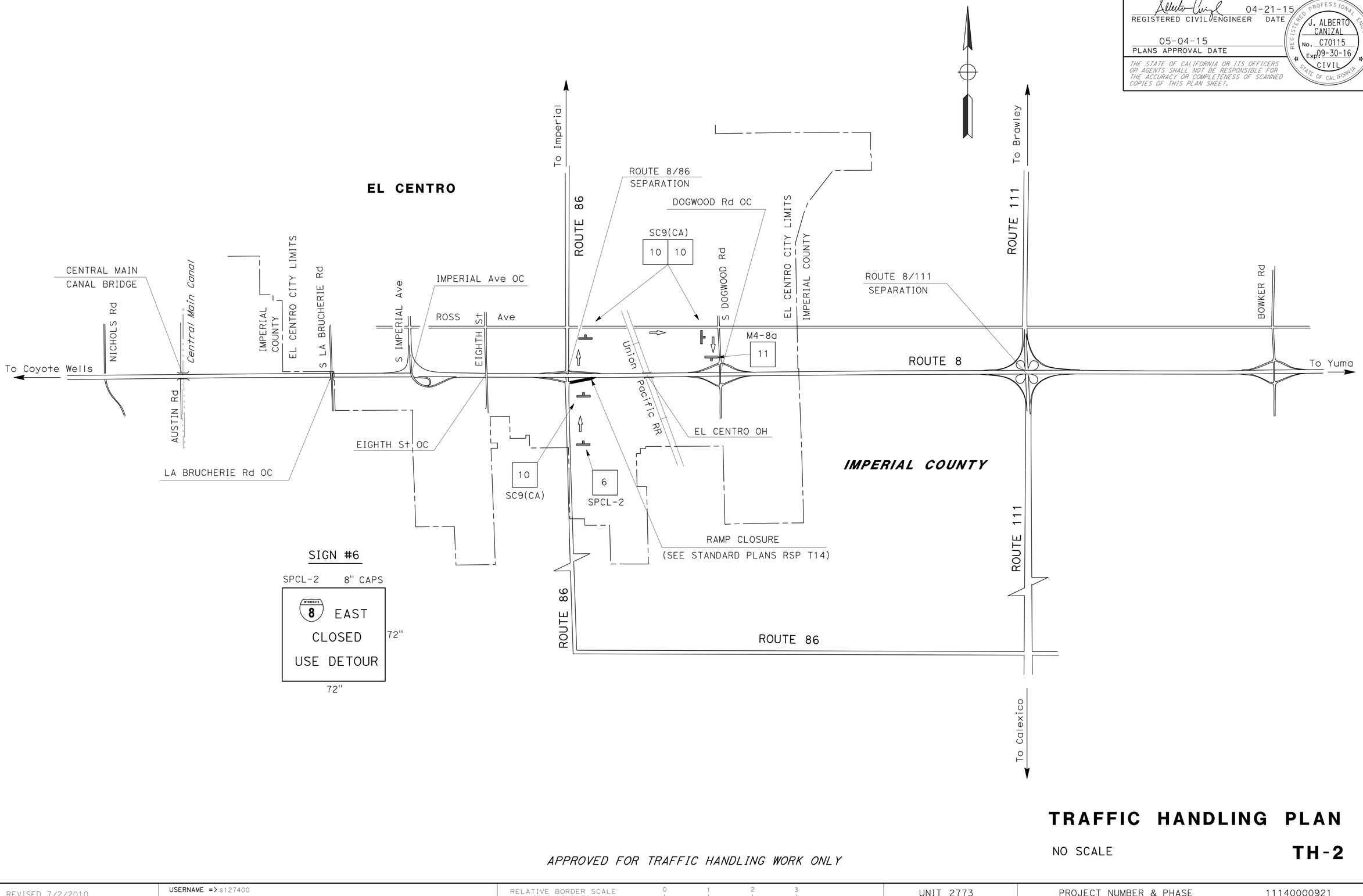
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	7	38

04-21-15
REGISTERED CIVIL ENGINEER DATE

05-04-15
PLANS APPROVAL DATE

J. ALBERTO CANIZAL
No. C70115
Exp 09-30-16
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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



SIGN #6

SPCL-2 8" CAPS

INTERSTATE 8 EAST
CLOSED
USE DETOUR

72" x 72"

APPROVED FOR TRAFFIC HANDLING WORK ONLY

TRAFFIC HANDLING PLAN

NO SCALE

TH-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE
FUNCTIONAL SUPERVISOR: ALBERTO GAYON
CALCULATED-DESIGNED BY: JOSE ALBERTO CANIZAL
CHECKED BY: CHRISTOPHER SEMAAN
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 05-MAY-2015
04-29-15 TIME PLOTTED => 14:22

BORDER LAST REVISED 7/2/2010
USERNAME => s127400
DGN FILE => 1114000092md002.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2773
PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	8	38

04-21-15
REGISTERED CIVIL ENGINEER DATE

05-04-15
PLANS APPROVAL DATE

J. ALBERTO CANIZAL
No. C70115
Exp 09-30-16
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

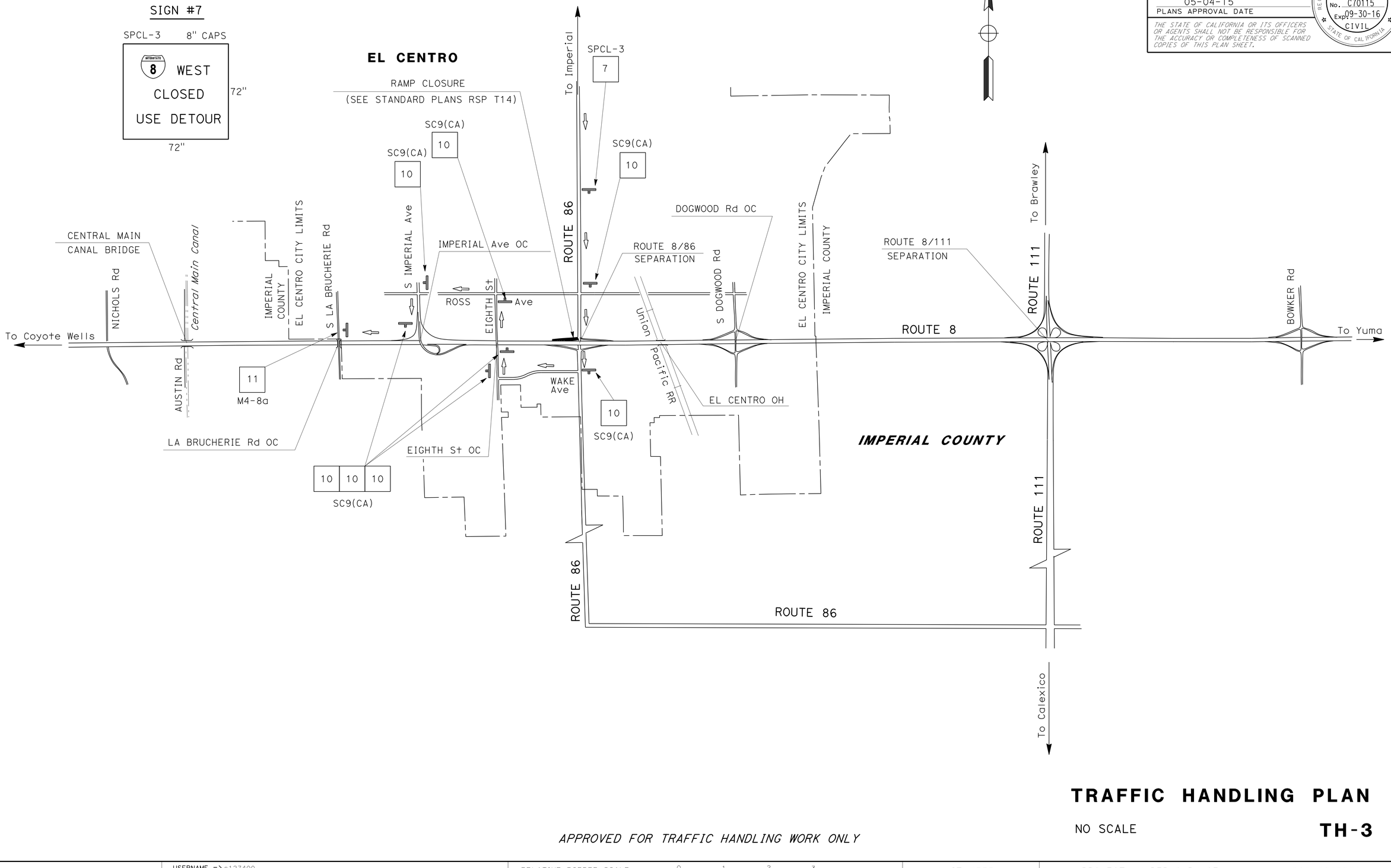
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

SIGN #7

SPCL-3 8" CAPS

INTERSTATE 8 WEST
CLOSED
USE DETOUR

72" x 72"



TRAFFIC HANDLING PLAN

NO SCALE

TH-3

APPROVED FOR TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE

FUNCTIONAL SUPERVISOR: ALBERTO GAYON

CALCULATED-DESIGNED BY: JOSE ALBERTO CANIZAL
CHECKED BY: CHRISTOPHER SEMAAN
REVISED BY
DATE REVISED

LAST REVISION: DATE PLOTTED => 05-MAY-2015 TIME PLOTTED => 14:22
04-29-15

BORDER LAST REVISED 7/2/2010
USERNAME => s127400
DGN FILE => 1114000092md003.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2773
PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	9	38

04-21-15
REGISTERED CIVIL ENGINEER DATE

J. ALBERTO CANIZAL No. C70115 Exp 09-30-16 CIVIL
REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

05-04-15
PLANS APPROVAL DATE

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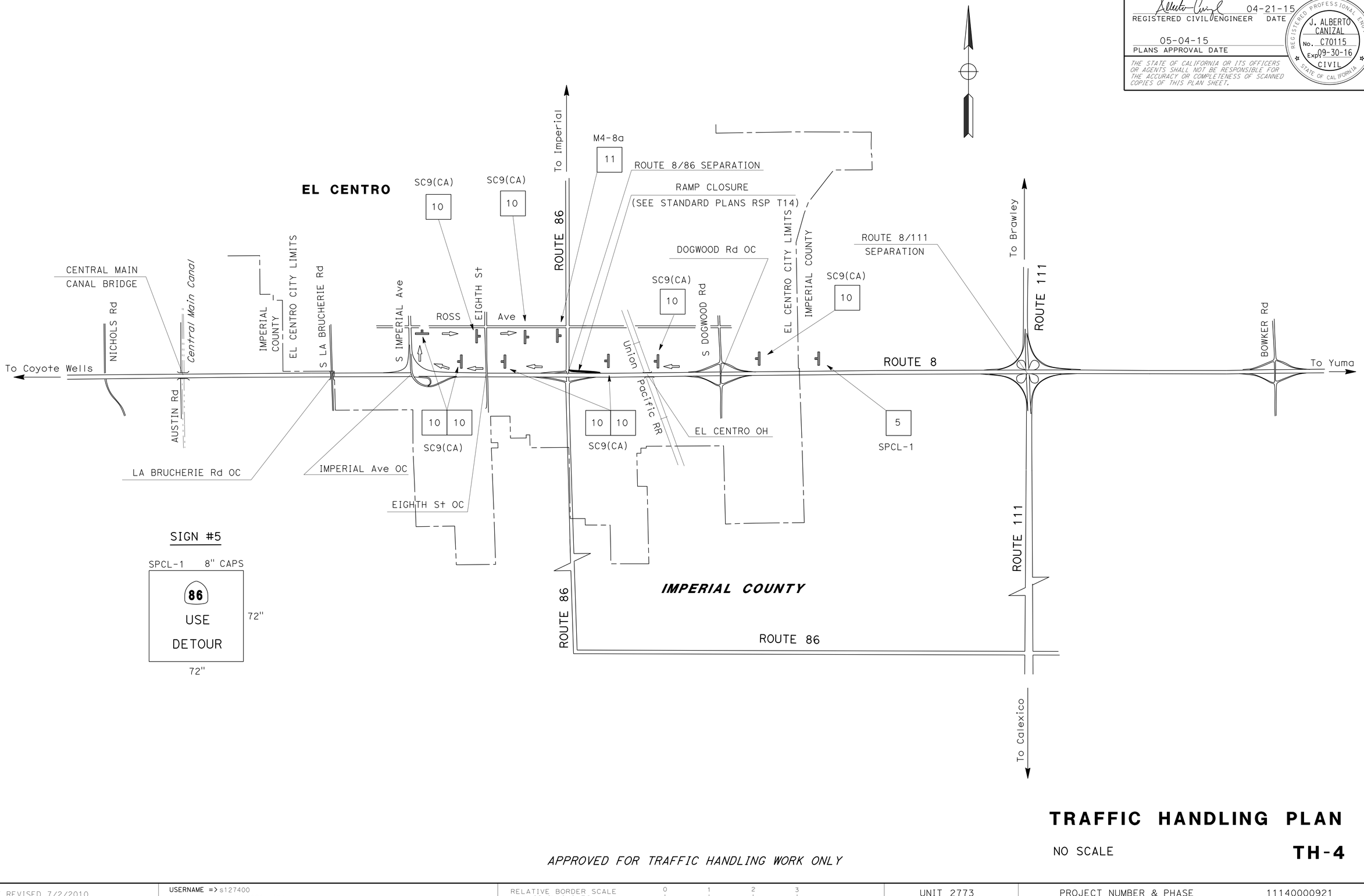


SIGN #5

TRAFFIC HANDLING PLAN

NO SCALE

TH-4

APPROVED FOR TRAFFIC HANDLING WORK ONLY

CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED
JOSE ALBERTO CANIZAL
CHRISTOPHER SEMAAN
FUNCTIONAL SUPERVISOR
ALBERTO GAYON
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE
Caltrans

LAST REVISION | DATE PLOTTED => 05-MAY-2015
04-29-15 | TIME PLOTTED => 14:22

BORDER LAST REVISED 7/2/2010
USERNAME => s127400
DGN FILE => 1114000092md004.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2773
PROJECT NUMBER & PHASE 11140000921

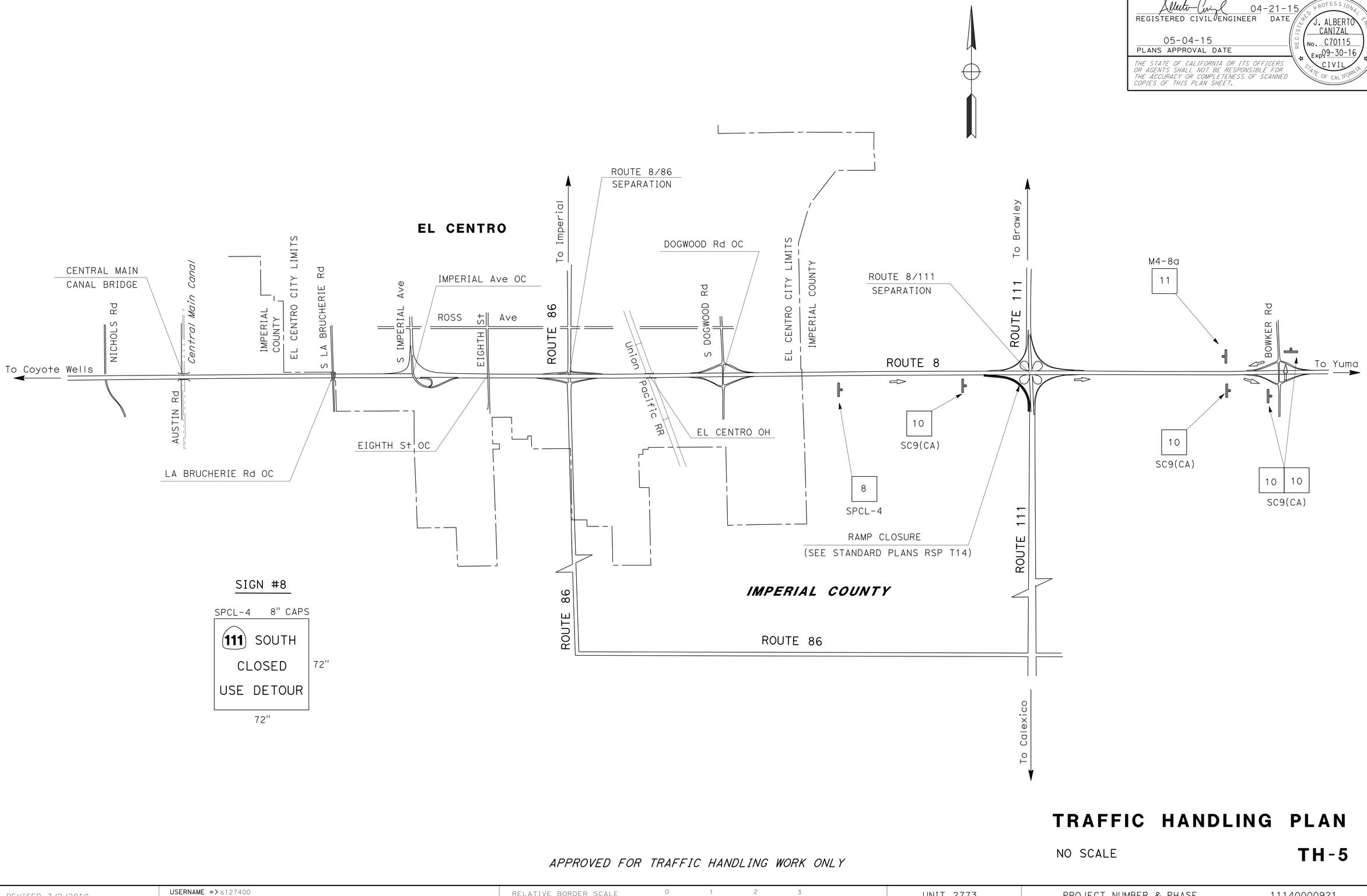
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	10	38

REGISTERED CIVIL ENGINEER — 04-21-15 DATE

J. ALBERTO CANIZAL No. C70115 Exp 09-30-16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

05-04-15
PLANS APPROVAL DATE

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



SIGN #8

SPCL-4 8" CAPS

111 SOUTH
CLOSED
USE DETOUR

72" × 72"

IMPERIAL COUNTY

APPROVED FOR TRAFFIC HANDLING WORK ONLY

TRAFFIC HANDLING PLAN

NO SCALE

TH-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE

FUNCTIONAL SUPERVISOR: ALBERTO GAYON

CALCULATED-DESIGNED BY: JOSE ALBERTO CANIZAL
CHECKED BY: CHRISTOPHER SEMAAN
REVISED BY
DATE REVISED

LAST REVISION 04-29-15
DATE PLOTTED => 05-MAY-2015
TIME PLOTTED => 14:22

BORDER LAST REVISED 7/2/2010

USERNAME => s127400
DGN FILE => 1114000092md005.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 2773

PROJECT NUMBER & PHASE 11140000921

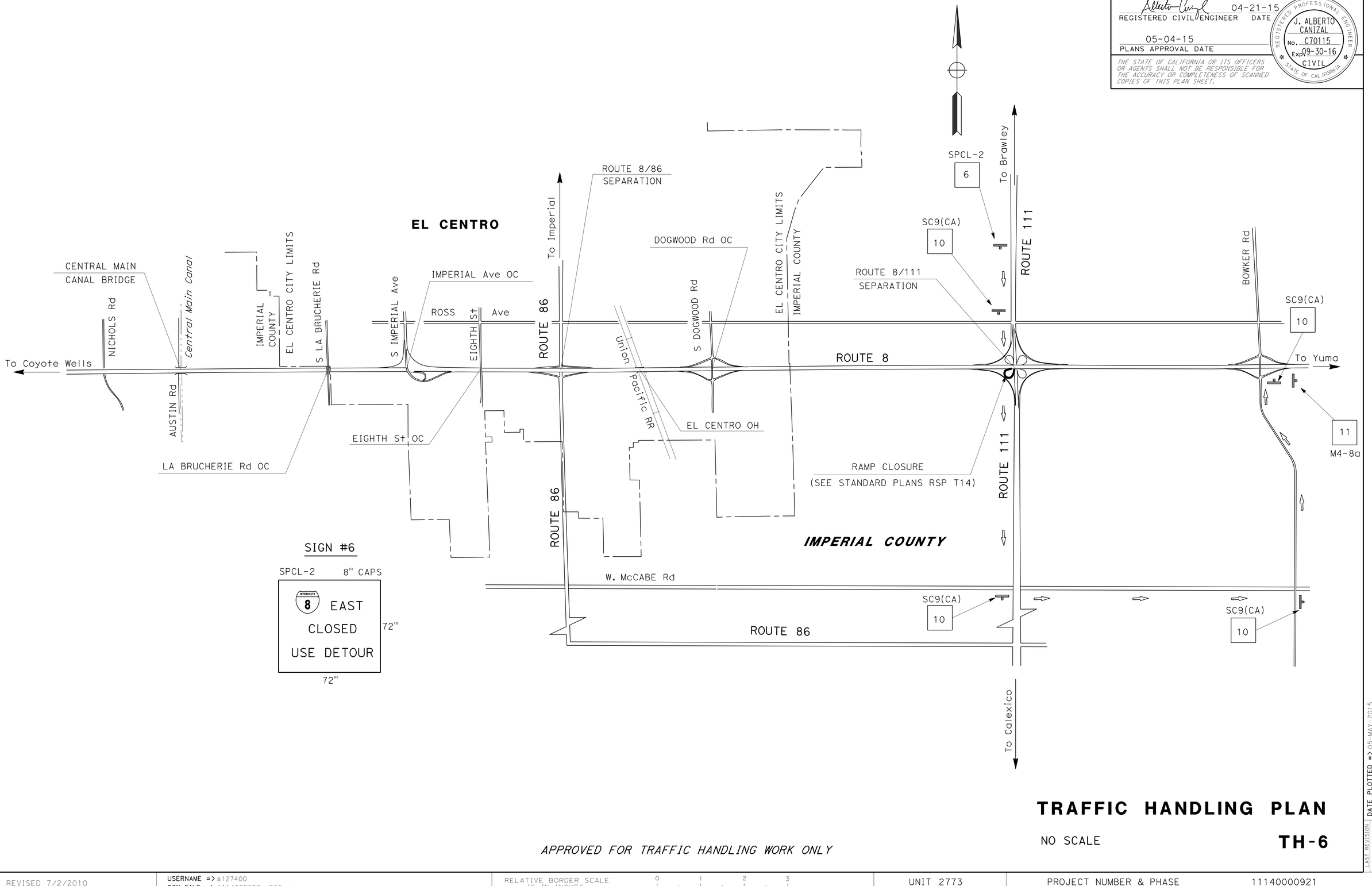
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	11	38

Alberto Canizal 04-21-15
REGISTERED CIVIL ENGINEER DATE

05-04-15
PLANS APPROVAL DATE

J. ALBERTO CANIZAL No. C70115 Exp 09-30-16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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



SIGN #6

SPCL-2 8" CAPS

TRAFFIC HANDLING PLAN

NO SCALE

TH-6

APPROVED FOR TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE
Caltrans

FUNCTIONAL SUPERVISOR: ALBERTO GAYON

CALCULATED-DESIGNED BY: JOSE ALBERTO CANIZAL
CHECKED BY: CHRISTOPHER SEMAAN

REVISED BY	DATE REVISED

LAST REVISION | DATE PLOTTED => 05-MAY-2015 | 04-29-15 | TIME PLOTTED => 14:22

BORDER LAST REVISED 7/2/2010 | USERNAME => s127400 | DGN FILE => 1114000092md006.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2773 | PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	12	38

REGISTERED CIVIL ENGINEER — 04-21-15 DATE

05-04-15
PLANS APPROVAL DATE

J. ALBERTO CANIZAL
No. C70115
Exp 09-30-16
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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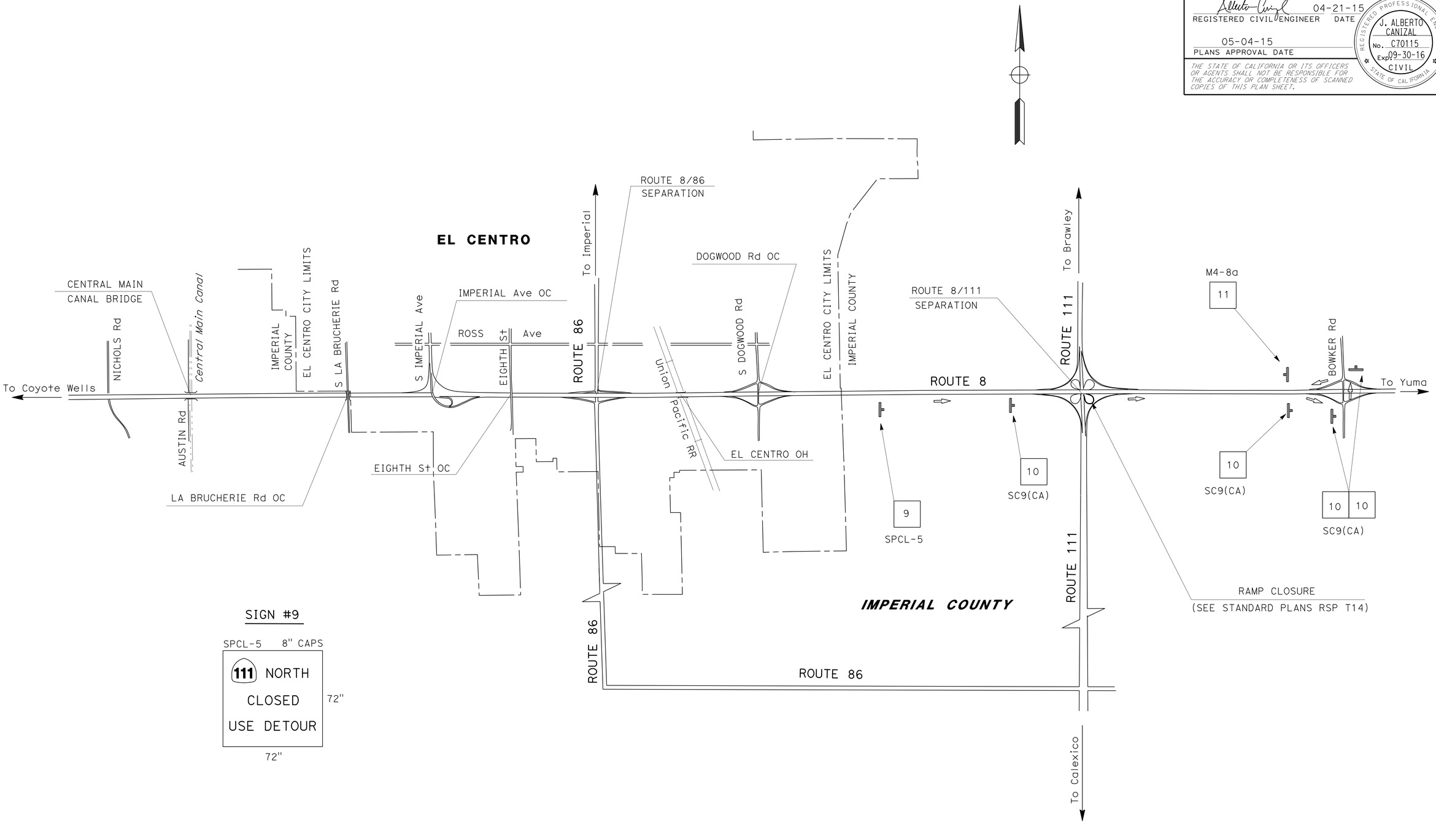

SIGN #9

SPCL-5 8" CAPS

111 NORTH
CLOSED
USE DETOUR

72" × 72"

APPROVED FOR TRAFFIC HANDLING WORK ONLY

TRAFFIC HANDLING PLAN

NO SCALE

TH-7

CALCULATED-DESIGNED BY: JOSE ALBERTO CANIZAL
CHECKED BY: CHRISTOPHER SEMAAN
REVISED BY
DATE REVISED
FUNCTIONAL SUPERVISOR: ALBERTO GAYON
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE

LAST REVISION | DATE PLOTTED => 05-MAY-2015
04-29-15 | TIME PLOTTED => 14:22

BORDER LAST REVISED 7/2/2010 | USERNAME => s127400 | DGN FILE => 1114000092md007.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2773 | PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	13	38

04-21-15
REGISTERED CIVIL ENGINEER DATE

05-04-15
PLANS APPROVAL DATE

J. ALBERTO CANIZAL
No. C70115
Exp 09-30-16
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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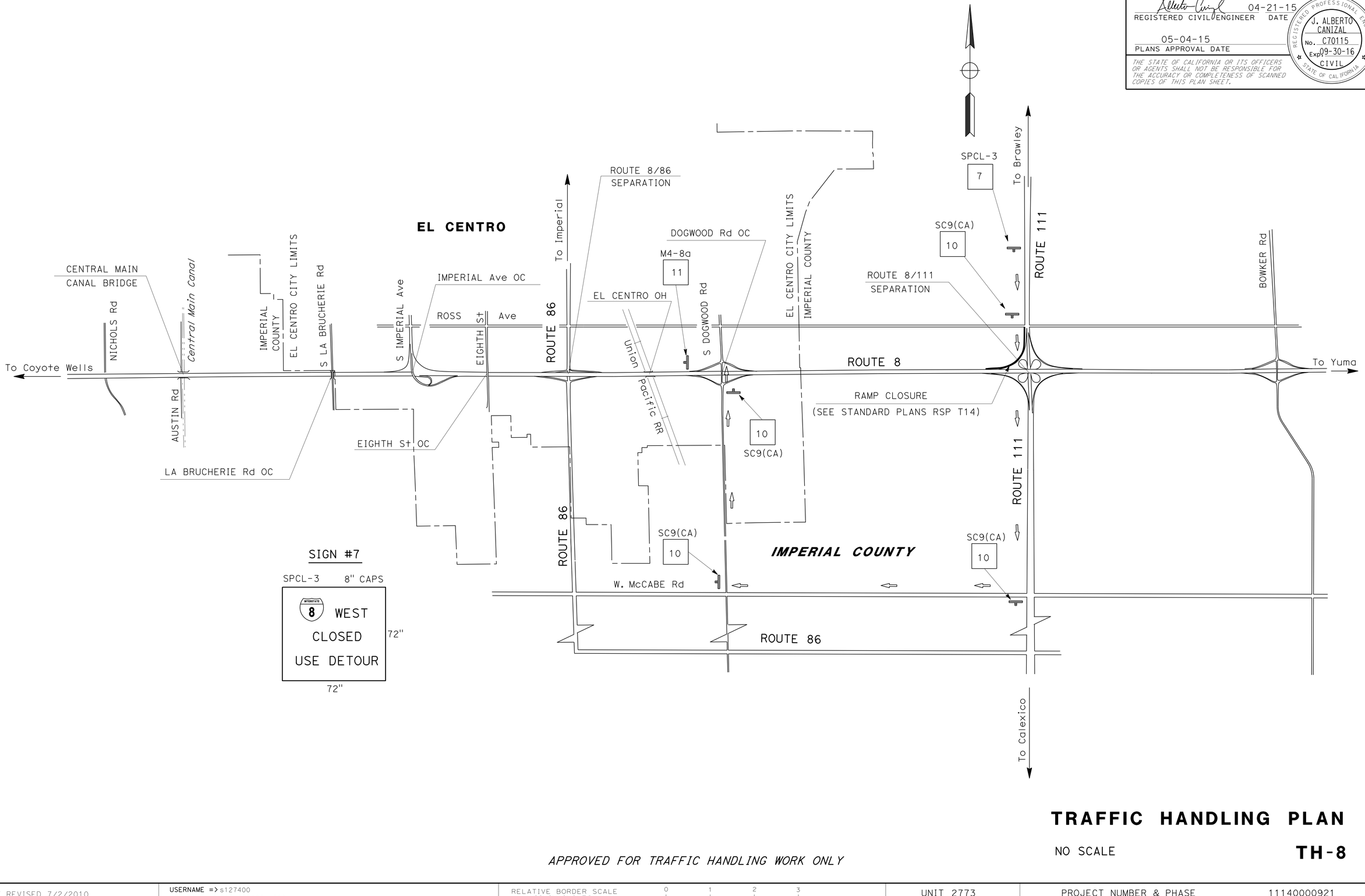

SIGN #7

SPCL-3 8" CAPS

INTERSTATE 8 WEST
CLOSED
USE DETOUR

72" x 72"

TRAFFIC HANDLING PLAN

NO SCALE

TH-8

APPROVED FOR TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE

FUNCTIONAL SUPERVISOR: ALBERTO GAYON
CALCULATED-DESIGNED BY: JOSE ALBERTO CANIZAL
CHECKED BY: CHRISTOPHER SEMAAN
REVISED BY
DATE REVISED

LAST REVISION: DATE PLOTTED => 05-MAY-2015 TIME PLOTTED => 14:22
04-29-15

BORDER LAST REVISED 7/2/2010
USERNAME => s127400
DGN FILE => 1114000092md008.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2773
PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	14	38

REGISTERED CIVIL ENGINEER — 04-21-15 DATE

05-04-15
PLANS APPROVAL DATE

J. ALBERTO CANIZAL
No. C70115
Exp 09-30-16
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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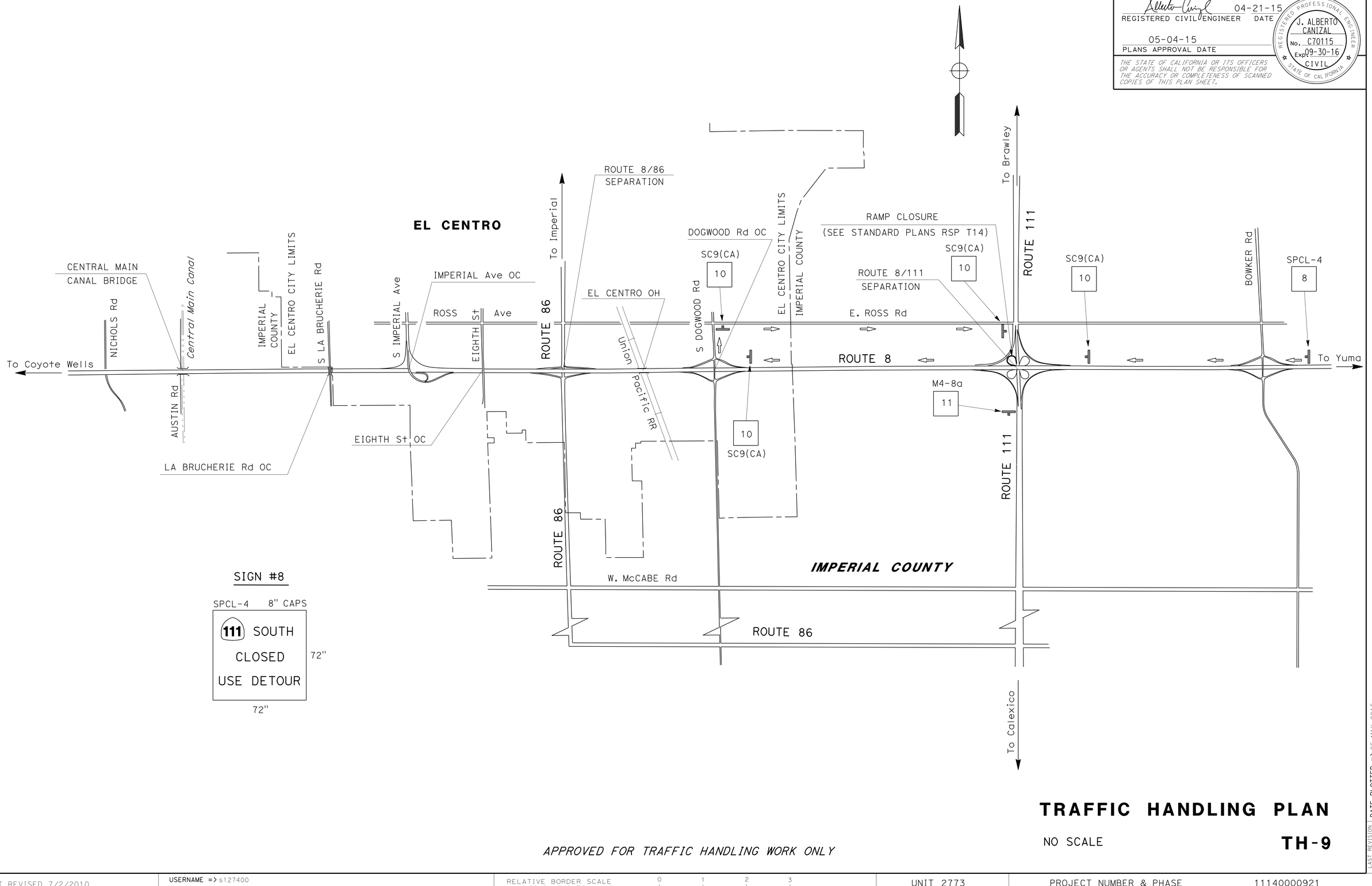

SIGN #8

SPCL-4 8" CAPS

111 SOUTH
CLOSED
USE DETOUR

72" × 72"

APPROVED FOR TRAFFIC HANDLING WORK ONLY

TRAFFIC HANDLING PLAN

NO SCALE

TH-9

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE
Caltrans

FUNCTIONAL SUPERVISOR: ALBERTO GAYON
CALCULATED-DESIGNED BY: JOSE ALBERTO CANIZAL
CHECKED BY: CHRISTOPHER SEMAAN
REVISED BY
DATE REVISED

LAST REVISION | DATE PLOTTED => 05-MAY-2015
04-29-15 | TIME PLOTTED => 14:22

BORDER LAST REVISED 7/2/2010 | USERNAME => s127400 | DGN FILE => 1114000092md009.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2773 | PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	15	38

REGISTERED CIVIL ENGINEER — 04-21-15 DATE

J. ALBERTO CANIZAL No. C70115 Exp 09-30-16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

05-04-15
PLANS APPROVAL DATE

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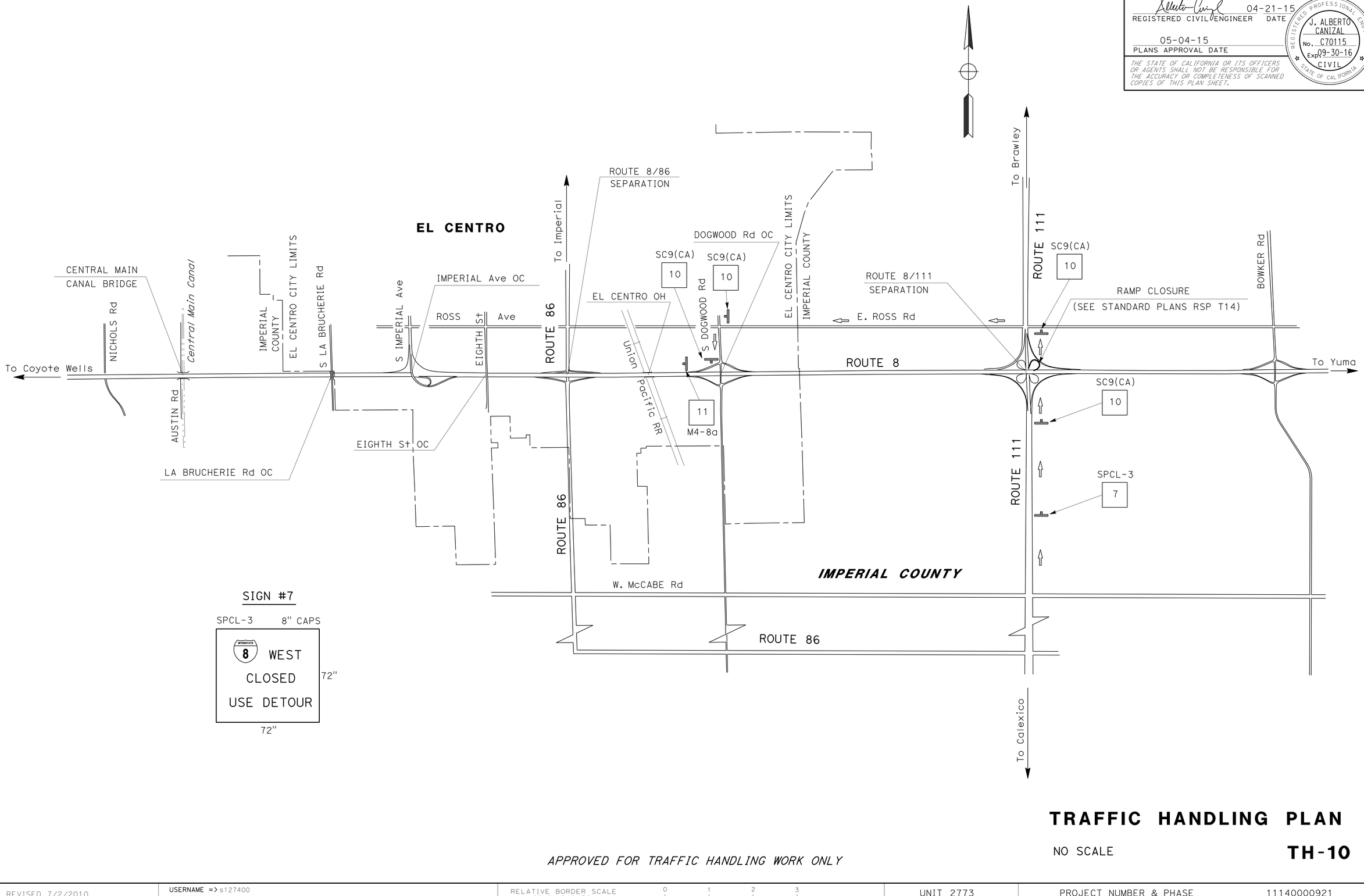

SIGN #7

SPCL-3 8" CAPS

8 WEST
CLOSED
USE DETOUR

72" × 72"

APPROVED FOR TRAFFIC HANDLING WORK ONLY

TRAFFIC HANDLING PLAN

NO SCALE

TH-10

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE
Caltrans
FUNCTIONAL SUPERVISOR: ALBERTO GAYON
CALCULATED-DESIGNED BY: JOSE ALBERTO CANIZAL
CHECKED BY: CHRISTOPHER SEMAAN
REVISED BY
DATE REVISED

LAST REVISION | DATE PLOTTED => 05-MAY-2015
04-30-15 | TIME PLOTTED => 14:23

BORDER LAST REVISED 7/2/2010 | USERNAME => s127400 | DGN FILE => 1114000092md010.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2773 | PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	16	38

REGISTERED CIVIL ENGINEER — 04-21-15 DATE

J. ALBERTO CANIZAL No. C70115 Exp 09-30-16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

05-04-15
PLANS APPROVAL DATE

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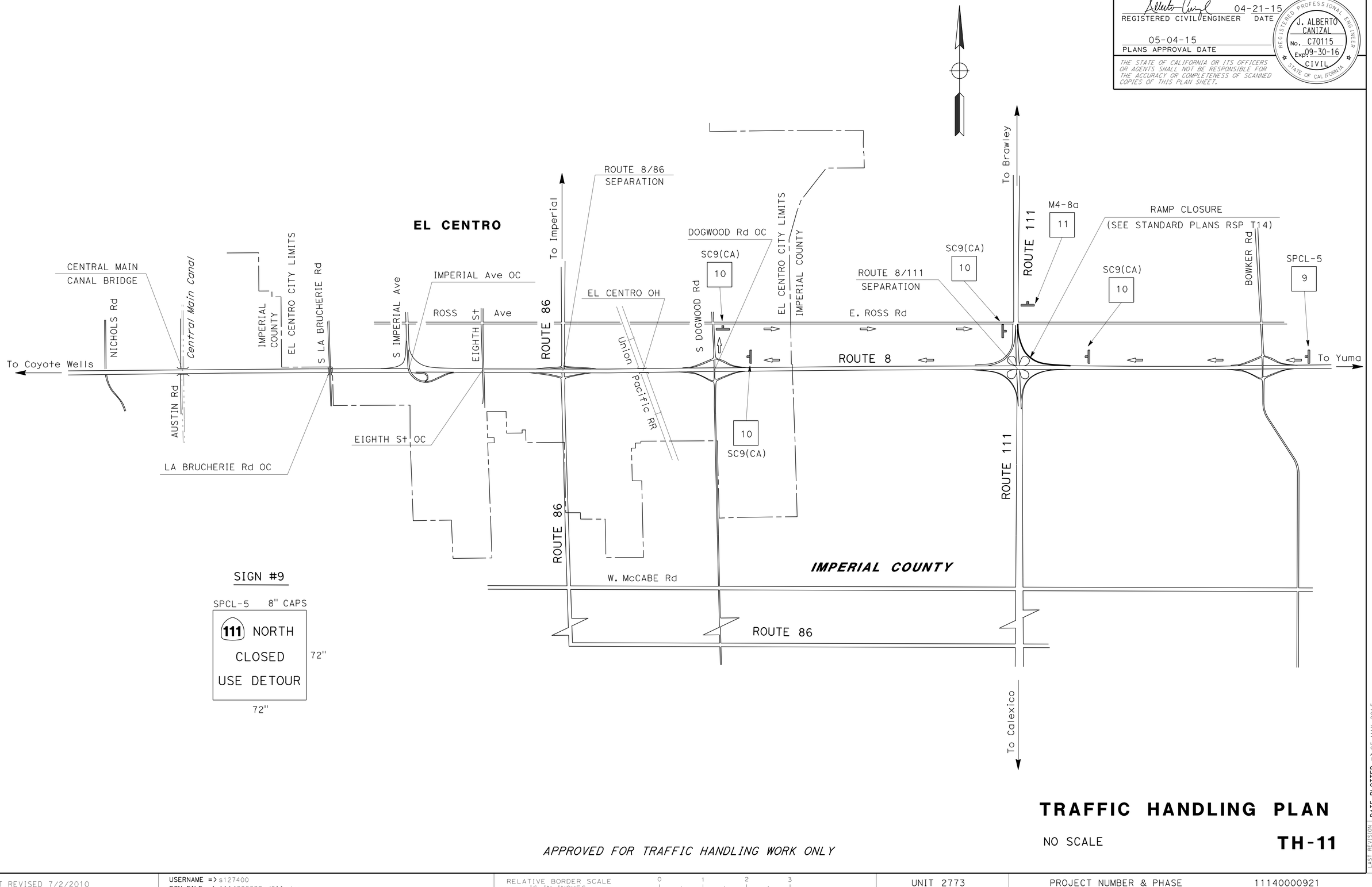

SIGN #9

SPCL-5 8" CAPS

111 NORTH
CLOSED
USE DETOUR

72" × 72"

TRAFFIC HANDLING PLAN

NO SCALE

TH-11

APPROVED FOR TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE
Caltrans

FUNCTIONAL SUPERVISOR: ALBERTO GAYON
CALCULATED-DESIGNED BY: JOSE ALBERTO CANIZAL
CHECKED BY: CHRISTOPHER SEMAAN
REVISED BY
DATE REVISED

LAST REVISION — DATE PLOTTED => 05-MAY-2015 — TIME PLOTTED => 14:23
04-30-15

BORDER LAST REVISED 7/2/2010 | USERNAME => s127400 | DGN FILE => 1114000092md011.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2773 | PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	17	38

04-21-15
REGISTERED CIVIL ENGINEER DATE

J. ALBERTO CANIZAL
No. C70115
Exp 09-30-16
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

05-04-15
PLANS APPROVAL DATE

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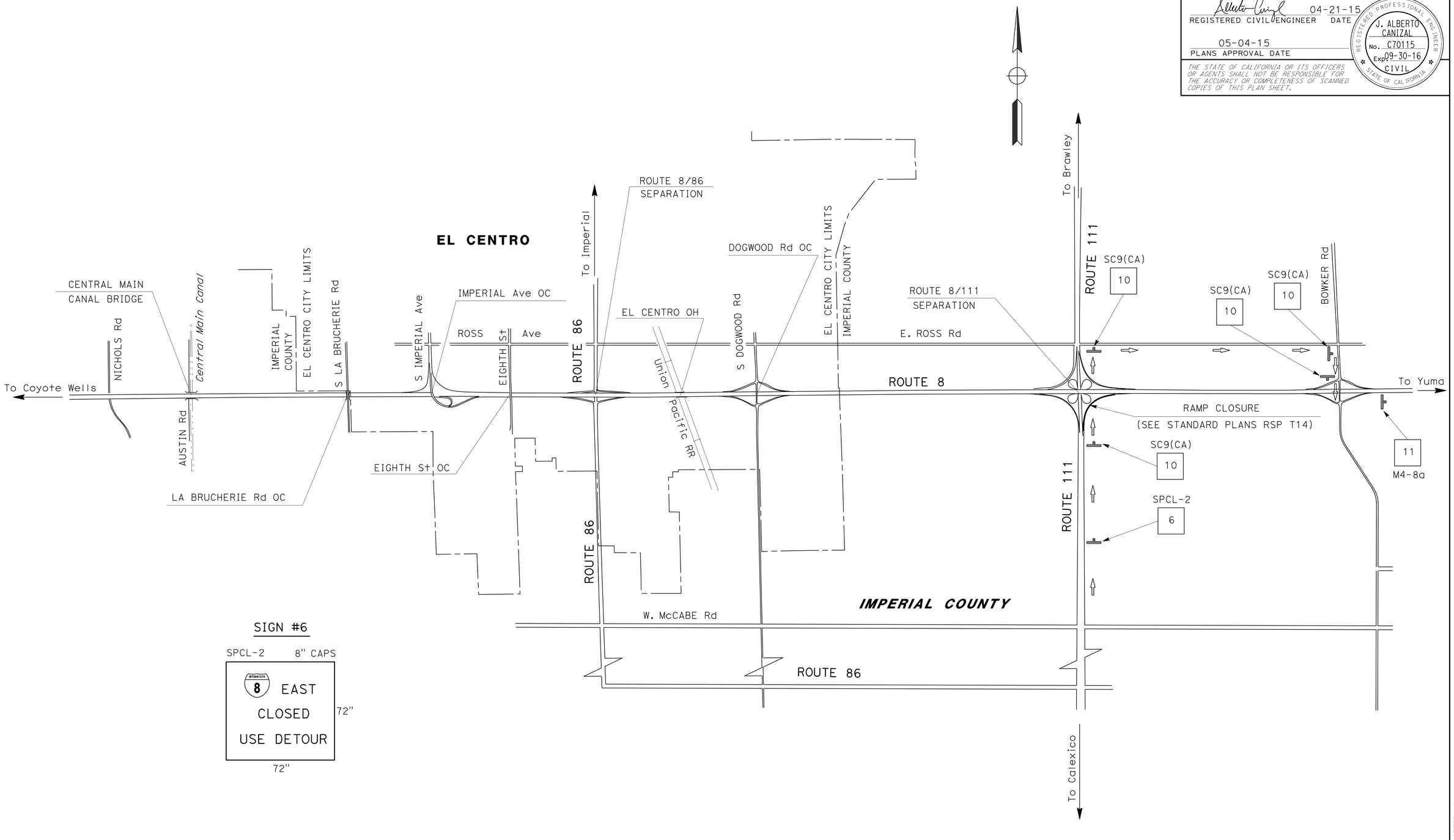

SIGN #6

SPCL-2 8" CAPS

APPROVED FOR TRAFFIC HANDLING WORK ONLY

TRAFFIC HANDLING PLAN

NO SCALE

TH-12

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: JOSE ALBERTO CANIZAL
CHECKED BY: CHRISTOPHER SEMAAN
FUNCTIONAL SUPERVISOR: ALBERTO GAYON

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE

Caltrans

LAST REVISION: DATE PLOTTED => 05-MAY-2015 TIME PLOTTED => 14:23

BORDER LAST REVISED 7/2/2010 | USERNAME => s127400 | DGN FILE => 1114000092md012.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2773 | PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	18	38

Alberto Canizal 04-21-15
REGISTERED CIVIL ENGINEER DATE

05-04-15
PLANS APPROVAL DATE

J. ALBERTO CANIZAL No. C70115 Exp 09-30-16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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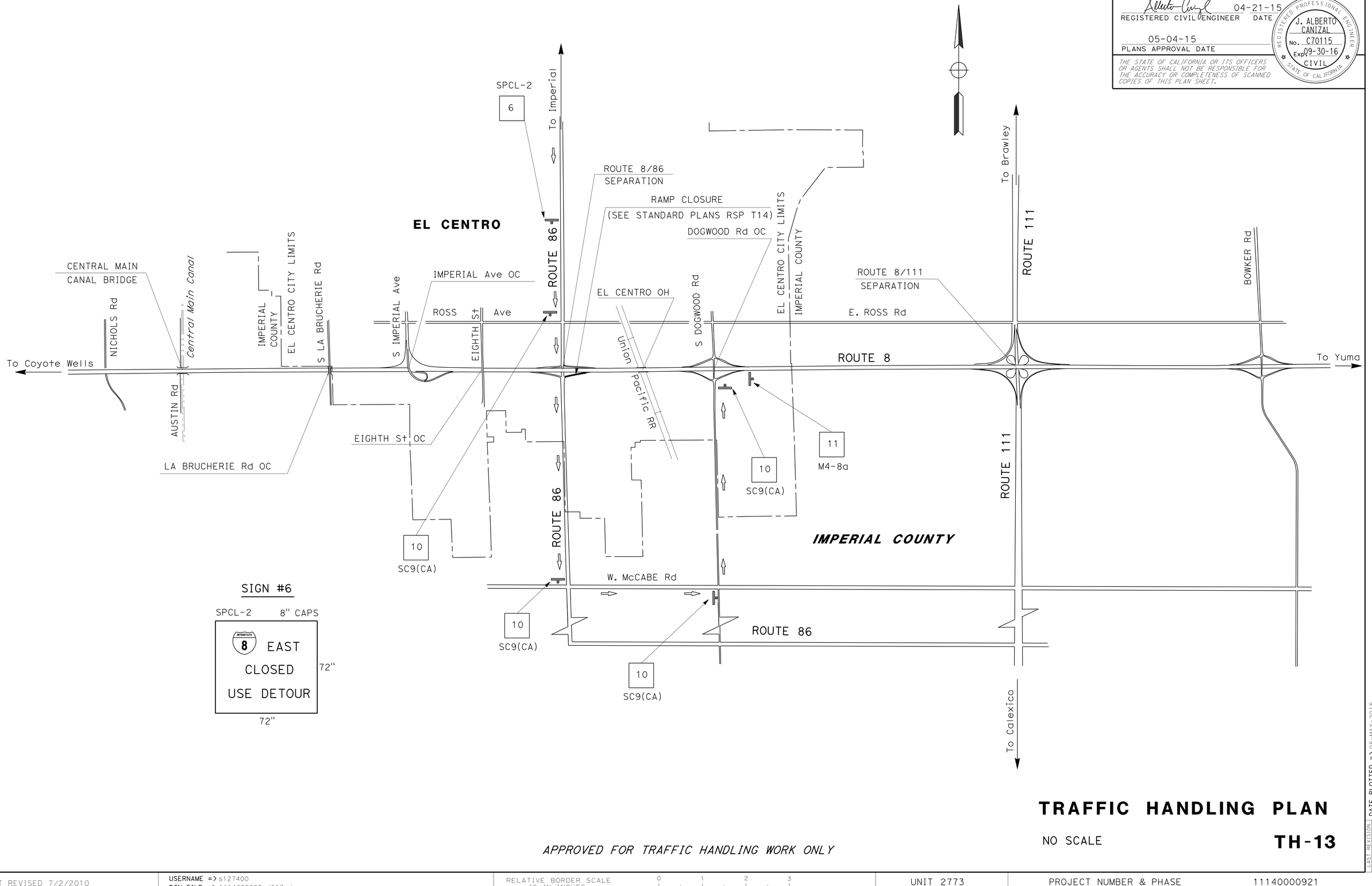

SIGN #6

SPCL-2 8" CAPS

INTERSTATE 8 EAST
CLOSED
USE DETOUR

72" × 72"

TRAFFIC HANDLING PLAN

NO SCALE

TH-13

APPROVED FOR TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE
Caltrans

FUNCTIONAL SUPERVISOR: ALBERTO GAYON
CALCULATED-DESIGNED BY: JOSE ALBERTO CANIZAL
CHECKED BY: CHRISTOPHER SEMAAN
REVISED BY
DATE REVISED

LAST REVISION | DATE PLOTTED => 05-MAY-2015
05-01-15 | TIME PLOTTED => 14:23

BORDER LAST REVISED 7/2/2010
USERNAME => s127400
DGN FILE => 1114000092md013.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2773
PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	19	38

04-21-15
REGISTERED CIVIL ENGINEER DATE

05-04-15
PLANS APPROVAL DATE

J. ALBERTO CANIZAL
No. C70115
Exp 09-30-16
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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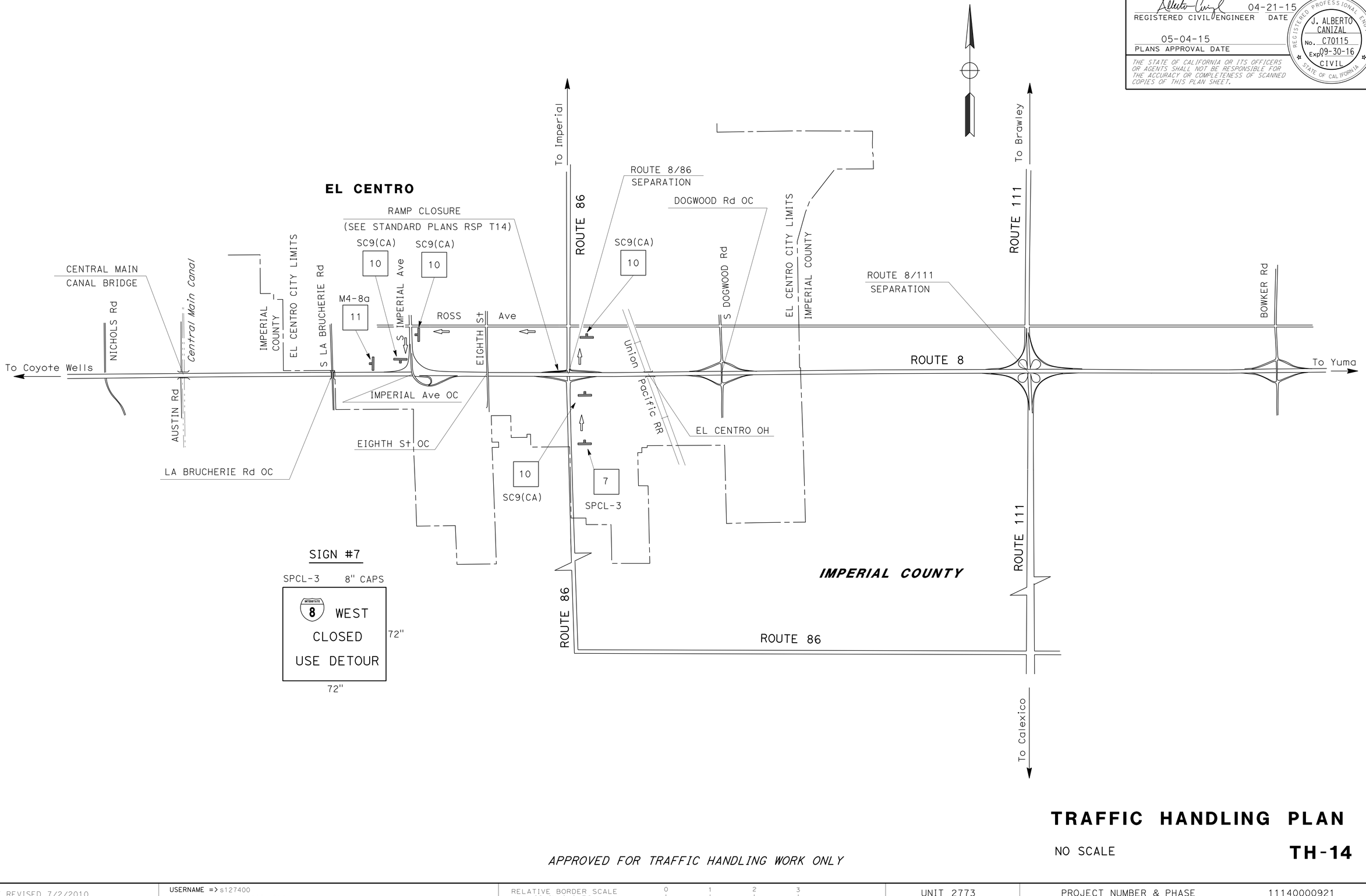

SIGN #7

SPCL-3 8" CAPS

INTERSTATE 8 WEST
CLOSED
USE DETOUR

72" x 72"

IMPERIAL COUNTY

APPROVED FOR TRAFFIC HANDLING WORK ONLY

TRAFFIC HANDLING PLAN

NO SCALE

TH-14

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE
Caltrans®

FUNCTIONAL SUPERVISOR: ALBERTO GAYON

CALCULATED-DESIGNED BY: JOSE ALBERTO CANIZAL
CHECKED BY: CHRISTOPHER SEMAAN

REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 05-MAY-2015
05-01-15 | TIME PLOTTED => 14:23

BORDER LAST REVISED 7/2/2010

USERNAME => s127400
DGN FILE => 1114000092md014.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 2773

PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	20	38

04-21-15
REGISTERED CIVIL ENGINEER DATE

J. ALBERTO CANIZAL
No. C70115
Exp. 09-30-16
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

05-04-15
PLANS APPROVAL DATE

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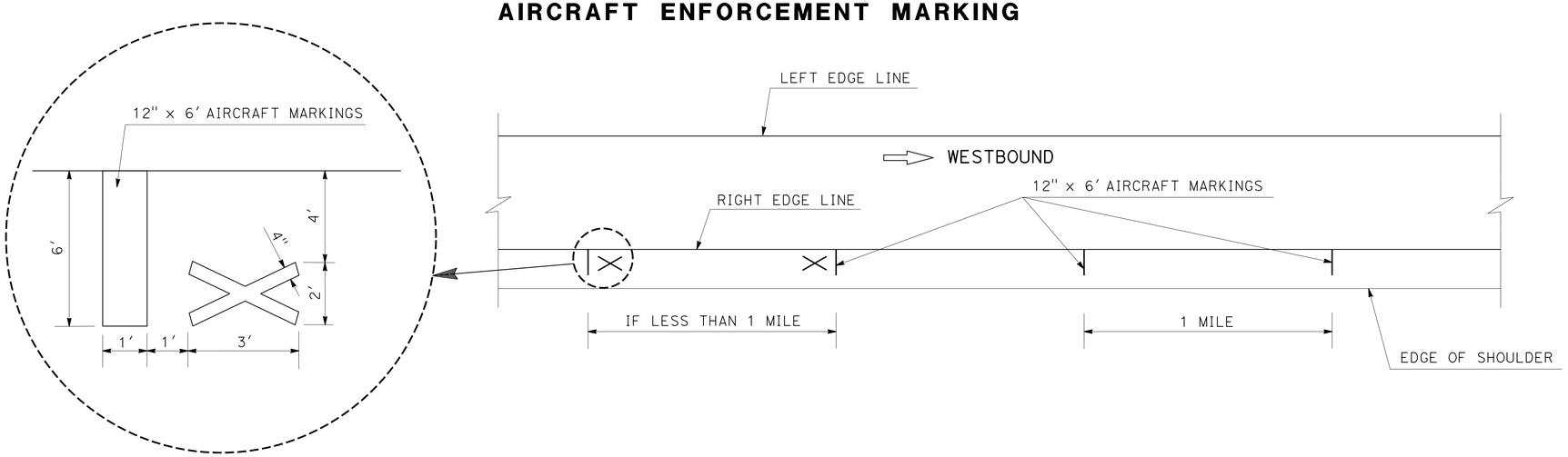
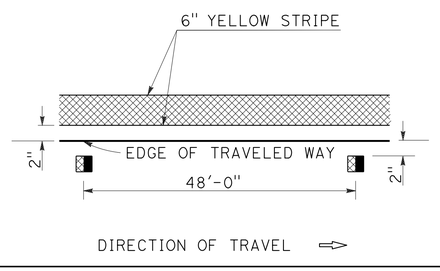
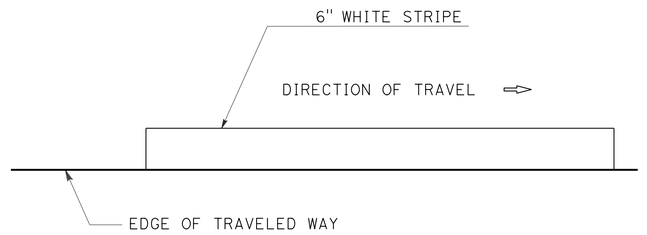
AIRCRAFT ENFORCEMENT MARKING



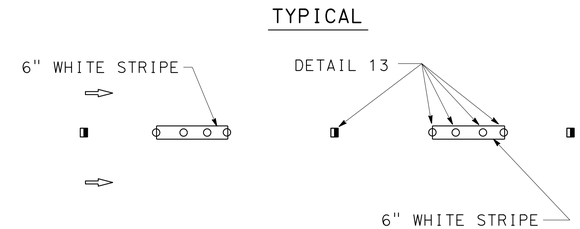
DETAIL 25 (6Mod)

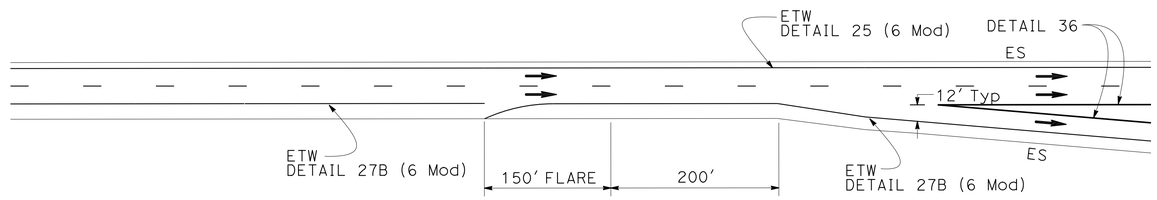


DETAIL 27B (6Mod)



DETAIL 11/13 (6Mod)





RIGHT EDGELINE FLARE DETAIL

[FOR USE ON ALL EXIT RAMPS EXCEPT WHERE LANE(S) TRAP OFF]

PAVEMENT DELINEATION DETAILS

NO SCALE

PDD-1

CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED
JOSE ALBERTO CANIZAL
CHRISTOPHER SEMAAN
FUNCTIONAL SUPERVISOR
ALBERTO GAYON
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE
Caltrans

LAST REVISION DATE PLOTTED => 05-MAY-2015
05-01-15 TIME PLOTTED => 14:23

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	21	38

04-21-15
REGISTERED CIVIL ENGINEER DATE

J. ALBERTO CANIZAL
No. C70115
Exp. 09-30-16
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

05-04-15
PLANS APPROVAL DATE

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

REMOVE THERMOPLASTIC TRAFFIC STRIPE AND PAVEMENT MARKING

ROUTE	LOCATION	DETAIL/TYPE	REMOVE THERMOPLASTIC PAVEMENT MARKING	REMOVE THERMOPLASTIC TRAFFIC STRIPE
			SQFT	LF
Imp 8	PM R28.0 - R40.9	AIRCRAFT MARKING (28 EA)	168	
Imp 8	PM R28.0 - R40.9	36		4,060
		TOTAL	168	4,060*

* REMOVAL ONLY ALONG EDGE OF TRAVELED WAY (MAINLINE)

REMOVE PAVEMENT MARKER (N)

ROUTE	LOCATION	TYPE (EA)		
		A	G	H
Imp 8	PM R28.0 - R40.9	11,352	3,008	2,838

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

PAVEMENT DELINEATION QUANTITIES

LOCATION			DETAIL No.	PAINT TRAFFIC STRIPE (1-COAT)	PAINT TRAFFIC STRIPE (2-COAT)			8" THERMOPLASTIC TRAFFIC STRIPE (ENHANCED WET NIGHT VISIBILITY)	THERMOPLASTIC PAVEMENT MARKING (ENHANCED WET NIGHT VISIBILITY)	PAVEMENT MARKER			DESCRIPTION/COMMENTS
				3"	6"					(NON-REFLECTIVE)	(RETROREFLECTIVE)		
POSTMILE	ROUTE	DIRECTION		BLACK SOLID	SOLID	BROKEN 17-7	BROKEN 36-12			TYPE A	TYPE G	TYPE H	
				LF	LF	LF	LF	LF	SQFT	EA	EA	EA	
PM R28.0 - R40.9	Imp 8	EB/WB	8			3,028							
			11/13 (6 Mod)				136,224			11,352	2,838		
			25 (6 Mod)	1,446	136,224							2,838	3" BLACK SOLID STRIPE WITH DETAIL 25 (6 Mod) AT STRUCTURES
			27B (6 Mod)	1,446	136,224								3" BLACK SOLID STRIPE WITH DETAIL 27B (6 Mod) AT STRUCTURES
			36					4,060			170		
									168				AIRCRAFT MARKING (28 EA)
SUBTOTAL				2,892	272,448	3,028	136,224	4,060	168	11,352	3,008	2,838	
TOTAL				2,892	411,700			4,060	168	11,352	5,846		

NOTE: ALL PAVEMENT DELINEATION TO MATCH EXISTING, UNLESS OTHERWISE NOTED

PAVEMENT DELINEATION QUANTITIES

PDQ-1

REVISED BY | DATE REVISED
JOSE ALBERTO CANIZAL | CHRISTOPHER SEMAAN
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: ALBERTO GAYON
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE
Caltrans

LAST REVISION | DATE PLOTTED => 05-MAY-2015
05-01-15 | TIME PLOTTED => 14:23

BORDER LAST REVISED 7/2/2010
USERNAME => s127400
DGN FILE => 1114000092nc001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2773
PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	22	38

04-21-15
REGISTERED CIVIL ENGINEER DATE

J. ALBERTO CANIZAL
No. C70115
Exp. 09-30-16
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

05-04-15
PLANS APPROVAL DATE

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ROADWAY QUANTITIES

LOCATION				LENGTH	WIDTH	AREA	COLD PLANE AC Pvmt	TACK COAT	HMA (TYPE A)	ASPHALT-RUBBER BINDER	PRECOATED SCREENINGS	ASPHALTIC EMULSION (FOG SEAL COAT)	SAND COVER (SEAL)	COMMENTS
ROUTE	DIRECTION	FROM PM	TO PM											
				LF [N]	LF [N]	SQFT [N]	SQYD	TON	TON	TON	TON	TON	TON	
8	EB	R28.0	R40.9	68,112	12	817,344	90,816.0	22.7	13,036.6					COLD PLANE AC Pvmt AND PAVE WITH HMA
8	EB	R28.0	R40.9	68,112	12.67	862,979				217.8	1,821.9	20.0	191.8	ARB SEAL COAT
8	WB	R28.0	R40.9	68,112	12	817,344	90,816.0	22.7	13,036.6					COLD PLANE AC Pvmt AND PAVE WITH HMA
8	WB	R28.0	R40.9	68,112	12.67	862,979				217.8	1,821.9	20.0	191.8	ARB SEAL COAT
8	EB/WB	R28.0	R40.9									1.3		Exist AC DIKES
8	EB/WB	R28.0	R40.9									103.4		Exist AC SHOULDERS
						TOTAL	181,632.0	45.4	26,073.2	435.6	3,643.8	144.7	383.6	

[N] - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

SHOULDER BACKING

LOCATION				SHOULDER BACKING
ROUTE	DIRECTION	FROM PM	TO PM	TON
8	EB	R28.0	R40.9	500
↓	WB	R28.0	R40.9	500
			TOTAL	1,000

SUMMARY OF QUANTITIES
Q-1

REVISED BY | DATE REVISED
JOSE ALBERTO CANIZAL | CHRISTOPHER SEMAAN
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: ALBERTO GAYON
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE

LAST REVISION 05-01-15 | DATE PLOTTED => 05-MAY-2015 | TIME PLOTTED => 14:23

BORDER LAST REVISED 7/2/2010 | USERNAME => s127400 | DGN FILE => 1114000092pa001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2773 | PROJECT NUMBER & PHASE 11140000921

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	23	38

Fariba Ramos 04-21-15
REGISTERED ELECTRICAL ENGINEER DATE

05-04-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
FARIBA RAMOS
No. E125619
Exp 12/31/15
ELECTRICAL
STATE OF CALIFORNIA

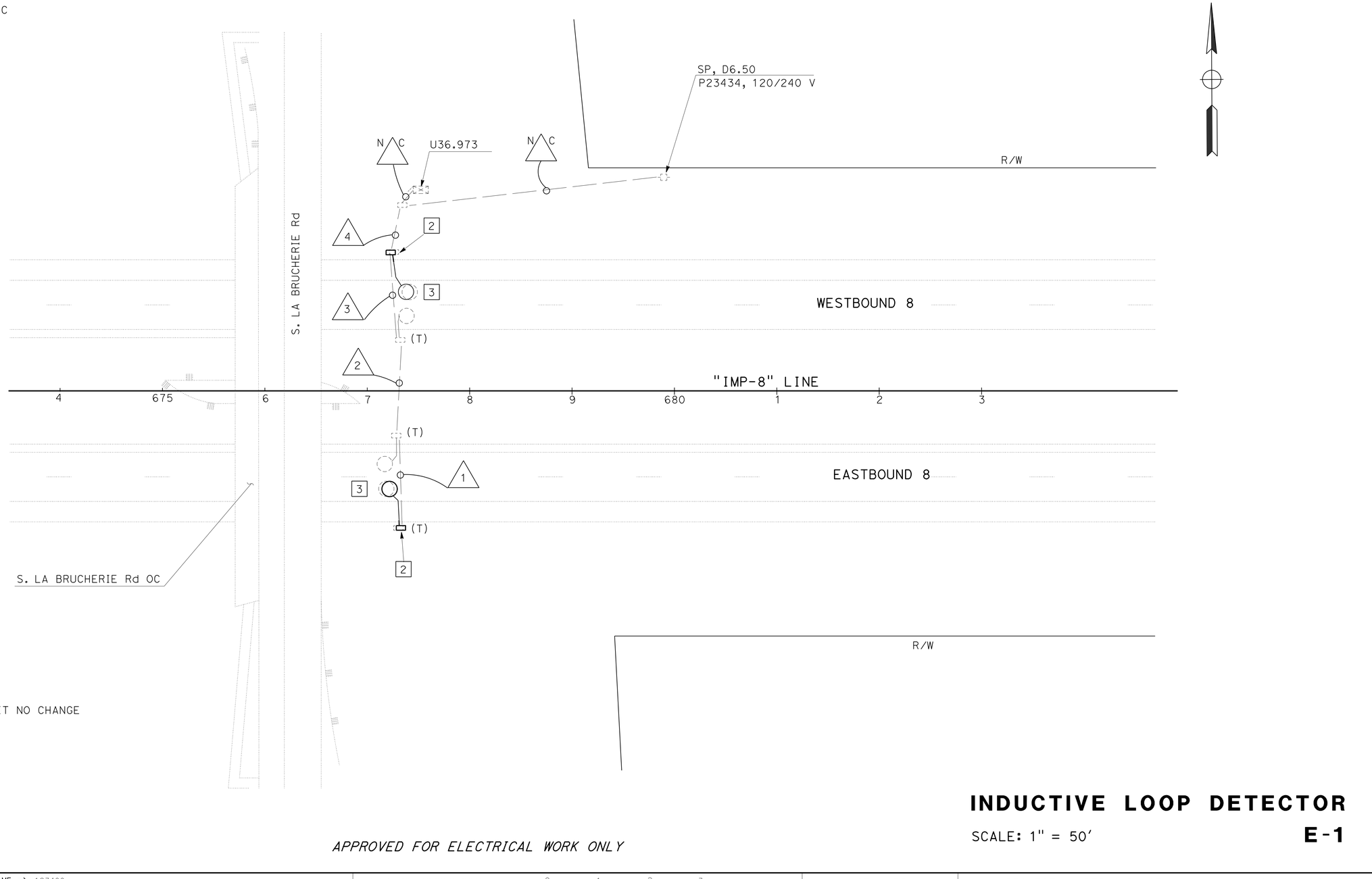
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CONDUIT NOTES:

1. Exist 2"C, 1 DLC
2. Exist 2"C, 2 DLC
3. Exist 2"C, 3 DLC
4. Exist 2"C, 4 DLC

LEGEND AND NOTES:

1. EXISTING COUNT STATION SYSTEM PARTIALLY SHOWN.
2. [RC] EXISTING PULL BOX. INSTALL PB No. 5(T). [SC]
3. [AB] EXISTING LOOP. INSTALL NEW TYPE E LOOP. CENTER IN LANE.
4. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



LEGEND

N C EXISTING CONDUIT NO CHANGE

APPROVED FOR ELECTRICAL WORK ONLY

INDUCTIVE LOOP DETECTOR

SCALE: 1" = 50'

E-1

LAST REVISION DATE PLOTTED => 05-MAY-2015
TIME PLOTTED => 14:23

REVISED BY | DATE REVISED
CALCULATED-DESIGNED BY: FARIBA RAMOS
CHECKED BY: ENRIQUE BERNAL
FUNCTIONAL SUPERVISOR: RAJPREET SINGH
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

BORDER LAST REVISED 7/2/2010 | USERNAME => s127400 | DGN FILE => 1114000092ua001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2833 | PROJECT NUMBER & PHASE 11140000921

M

Maint	MAINTENANCE
Max	MAXIMUM
MB	METAL BEAM
MBB	METAL BEAM BARRIER
MBGR	METAL BEAM GUARD RAILING
Med	MEDIAN
MGS	MIDWEST GUARDRAIL SYSTEM
MH	MANHOLE
Min	MINIMUM
Misc	MISCELLANEOUS
Misc I & S	MISCELLANEOUS IRON AND STEEL
Mkr	MARKER
Mod	MODIFIED, MODIFY
Mon	MONUMENT
MP	METAL PLATE
MPGR	METAL PLATE GUARD RAILING
MR	MOVEMENT RATING
MSE	MECHANICALLY STABILIZED EMBANKMENT
Mt	MOUNTAIN, MOUNT
Mtl	MATERIAL
MVP	MAINTENANCE VEHICLE PULLOUT

N

N	NORTH
NB	NORTHBOUND
No.	NUMBER (MUST HAVE PERIOD)
Nos.	NUMBERS (MUST HAVE PERIOD)
NPS	NOMINAL PIPE SIZE
NS	NEAR SIDE
NSP	NEW STANDARD PLAN
NTS	NOT TO SCALE

O

Oblr	OBLITERATE
OC	OVERCROSSING
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OG	ORIGINAL GROUND
OGAC	OPEN GRADED ASPHALT CONCRETE
OGFC	OPEN GRADED FRICTION COURSE
OH	OVERHEAD
OHWM	ORDINARY HIGH WATER MARK
O-O	OUT TO OUT
Opp	OPPOSITE
OSD	OVERSIDE DRAIN

P

P	PAGE
PAP	PERFORATED ALUMINUM PIPE
PB	PULL BOX
PC	POINT OF CURVATURE, PRECAST
PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN
PCP	PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE
PCVC	POINT OF COMPOUND VERTICAL CURVE
PEC	PERMIT TO ENTER AND CONSTRUCT
Ped	PEDESTRIAN
Ped OC	PEDESTRIAN OVERCROSSING
Ped UC	PEDESTRIAN UNDERCROSSING
Perm Mtl	PERMEABLE MATERIAL

P continued

PG	PROFILE GRADE
PI	POINT OF INTERSECTION
PJP	PARTIAL JOINT PENETRATION
Pkwy	PARKWAY
℄,PL	PLATE
P/L	PROPERTY LINE
PM	POST MILE, TIME FROM NOON TO MIDNIGHT
PN	PAVING NOTCH
POC	POINT OF HORIZONTAL CURVE
POT	POINT OF TANGENT
POVC	POINT OF VERTICAL CURVE
PP	PIPE PILE, PLASTIC PIPE, POWER POLE
PPL	PREFORMED PERMEABLE LINER
PPP	PERFORATED PLASTIC PIPE
PRC	POINT OF REVERSE CURVE
PRF	PAVEMENT REINFORCING FABRIC
PRVC	POINT OF REVERSE VERTICAL CURVE
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES
PS, P/S	PRESTRESSED
PSP	PERFORATED STEEL PIPE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
Pvmt	PAVEMENT

Q

Qty	QUANTITY

R

R	RADIUS
R & D	REMOVE AND DISPOSE
R & S	REMOVE AND SALVAGE
R/C	RATE OF CHANGE
RCA	REINFORCED CONCRETE ARCH
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RCPA	REINFORCED CONCRETE PIPE ARCH
Rd	ROAD
Reinf	REINFORCED, REINFORCEMENT, REINFORCING
Rel	RELOCATE
Repl	REPLACEMENT
Ret	RETAINING
Rev	REVISED, REVISION
Rdwy	ROADWAY
RHMA	RUBBERIZED HOT MIX ASPHALT
Riv	RIVER
RM	ROAD-MIXED
RP	RADIUS POINT, REFERENCE POINT
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION, REVISED STANDARD PLAN
Rt	RIGHT
Rte	ROUTE
RW	REDWOOD, RETAINING WALL
R/W	RIGHT OF WAY
Rwy	RAILWAY

S

S	SOUTH, SUPPLEMENT
SAE	STRUCTURE APPROACH EMBANKMENT
Salv	SALVAGE
SAPP	STRUCTURAL ALUMINUM PLATE PIPE
SB	SOUTHBOUND
SC	SAND CUSHION
SCSP	SLOTTED CORRUGATED STEEL PIPE
SD	STORM DRAIN
Sec	SECOND, SECTION
Sep	SEPARATION
SG	SUBGRADE
Shld	SHOULDER
Sht	SHEET
Sim	SIMILAR
℄	STATION LINE
SM	SELECTED MATERIAL
Spec	SPECIAL, SPECIFICATIONS
SPP	SLOTTED PLASTIC PIPE
SS	SLOPE STAKE
SSBM	STRAP AND SADDLE BRACKET METHOD
SSD	STRUCTURAL SECTION DRAIN
SSPA	STRUCTURAL STEEL PLATE ARCH
SSPP	STRUCTURAL STEEL PLATE PIPE
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH
SSRP	STEEL SPIRAL RIB PIPE
St	STREET
Sta	STATION
STBB	SINGLE THRIE BEAM BARRIER
Std	STANDARD
Str	STRUCTURE
Surf	SURFACING
SW	SIDEWALK, SOUND WALL
Swr	SEWER
Sym	SYMMETRICAL
S4S	SURFACE 4 SIDES

T

T	SEMI-TANGENT
Tan	TANGENT
TBB	THRIE BEAM BARRIER
Tbr	TIMBER
TC	TOP OF CURB
TCB	TRAFFIC CONTROL BOX
TCE	TEMPORARY CONSTRUCTION EASEMENT
Tel	TELEPHONE
Temp	TEMPORARY
TG	TOP OF GRADE
Tot	TOTAL
TP	TELEPHONE POLE
TPB	TREATED PERMEABLE BASE
TPM	TREATED PERMEABLE MATERIAL
Trans	TRANSITION

T continued

TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL
Typ	TYPICAL

U

UC	UNDERCROSSING
UD	UNDERDRAIN
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UP	UNDERPASS

V

V	VALVE, DESIGN SPEED
Var	VARIABLE, VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
Vert	VERTICAL
Via	VIADUCT
Vol	VOLUME

W

W	WEST, WIDTH
WB	WESTBOUND
WH	WEEP HOLE
WM	WIRE MESH
WS	WATER SURFACE
WSP	WELDED STEEL PIPE
Wt	WEIGHT
WV	WATER VALVE
WW	WINGWALL
WWLOL	WINGWALL LAYOUT LINE

X

X Sec	CROSS SECTION
Xing	CROSSING

Y

Yr	YEAR
Yrs	YEARS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	24	38

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Grace M. Tsushima — No. C49814 — Exp. 9-30-14 — 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.

TO ACCOMPANY PLANS DATED 05-04-15

UNIT OF MEASUREMENT SYMBOLS:

Some of the symbols used in the project plan quantity tables and in the Bid Item List are:

TABLE A

SYMBOL USED	DEFINITIONS
ACRE	ACRE
CF	CUBIC FOOT
CY	CUBIC YARD
EA	EACH
GAL	GALLON
LB	POUND
LF	LINEAR FOOT
SQFT	SQUARE FOOT
SQYD	SQUARE YARD
STA	100 FEET
TAB	TABLET
TON	2,000 POUNDS

Some of the symbols used in the plans other than in the project plan quantity tables are:

TABLE B

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft^3, pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
ø	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kip	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

* For use on a sign panel only

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ABBREVIATIONS (SHEET 2 OF 2)

NO SCALE

RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A10B

2010 REVISED STANDARD PLAN RSP A10B

6-7-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	25	38

Roberta L. McLaughlin
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Roberta L. McLaughlin
No. C40375
Exp. 3-31-15
CIVIL
STATE OF CALIFORNIA

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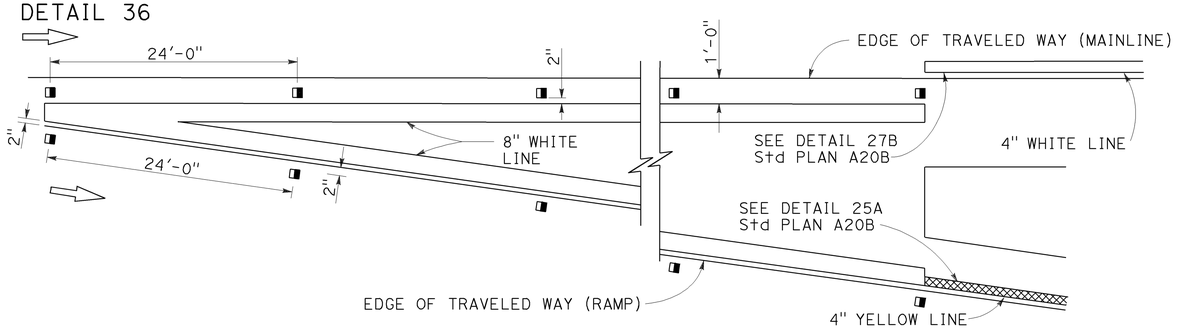
TO ACCOMPANY PLANS DATED 05-04-15

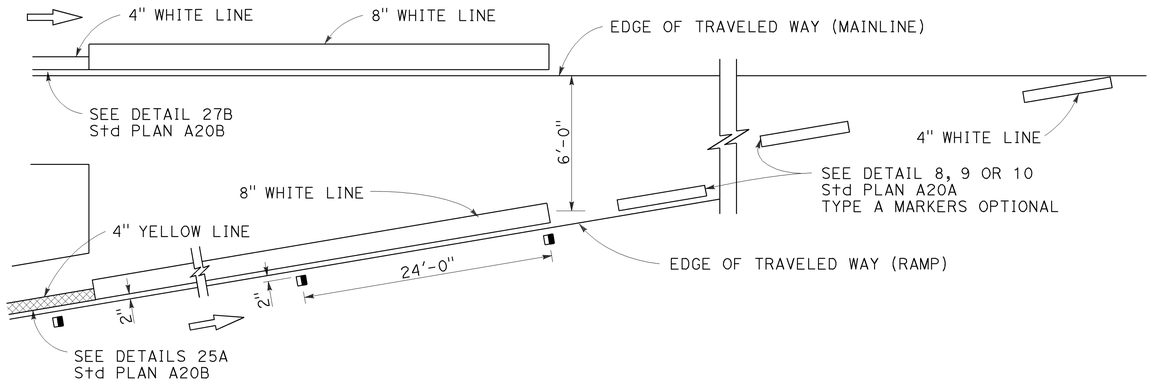
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT

DETAIL 36



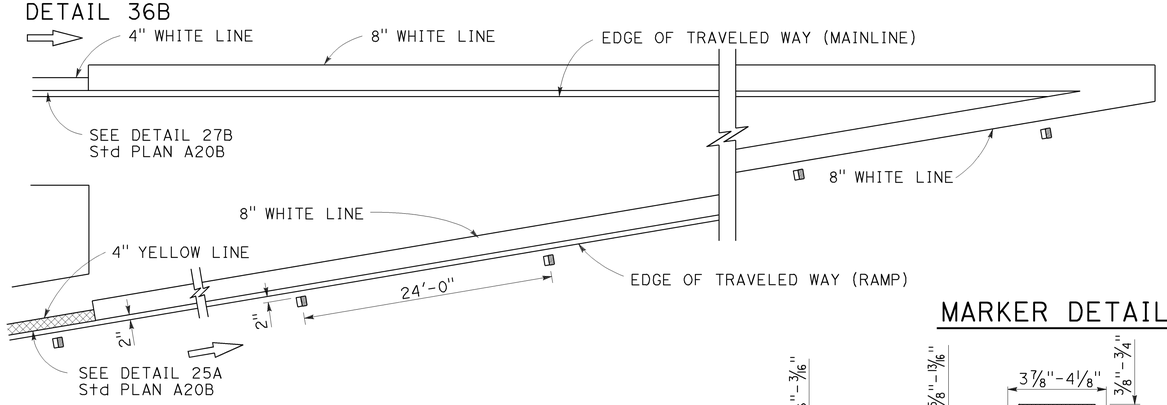
ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT

DETAIL 36A



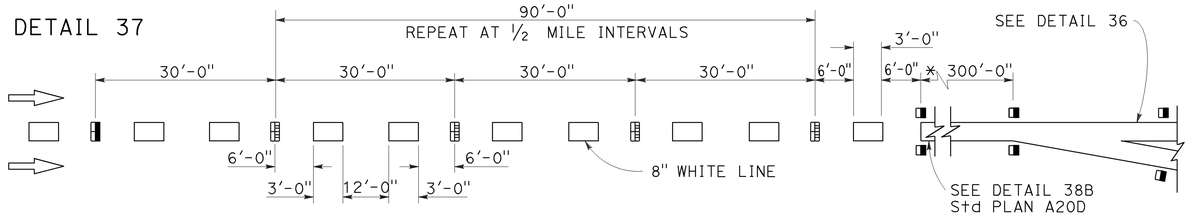
ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

DETAIL 36B

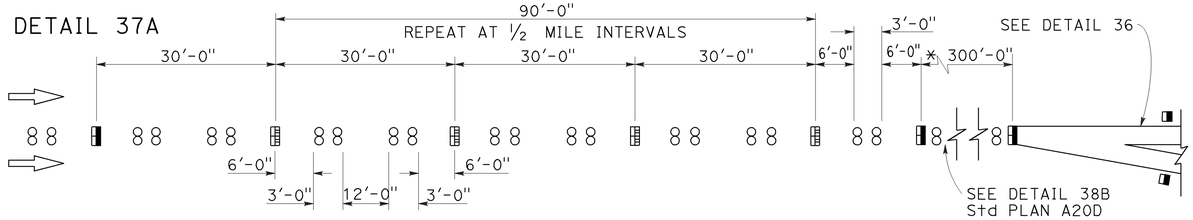


LANE DROP AT EXIT RAMPS

DETAIL 37



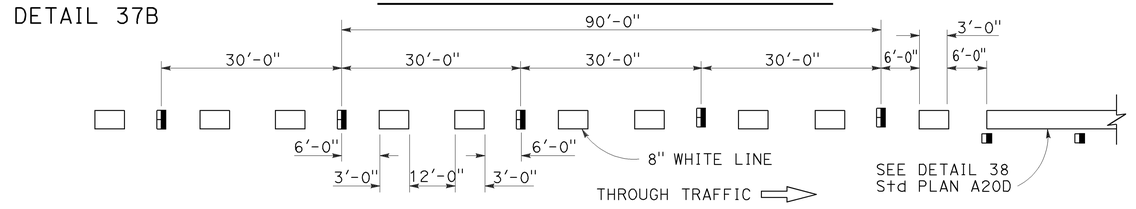
DETAIL 37A



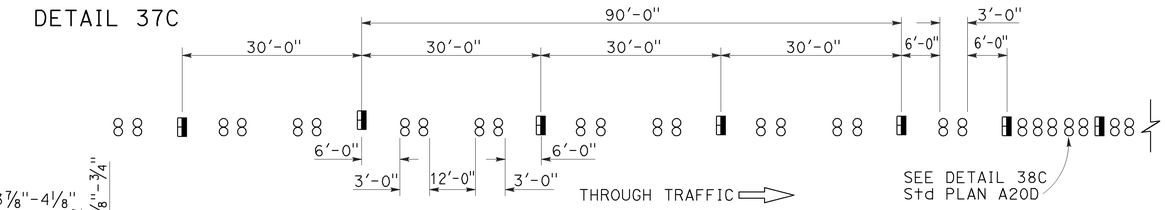
* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

LANE DROP AT INTERSECTIONS

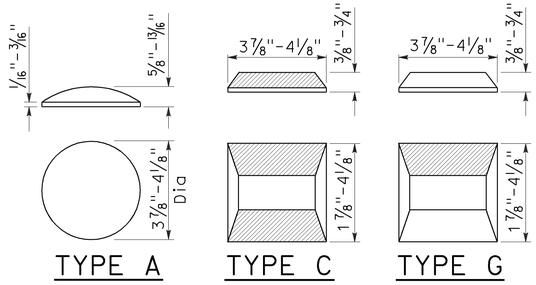
DETAIL 37B



DETAIL 37C



MARKER DETAILS



LEGEND:

MARKERS

- ○ TYPE A WHITE NON-REFLECTIVE
- ▣ TYPE C RED-CLEAR RETROREFLECTIVE
- ◨ TYPE G ONE-WAY CLEAR RETROREFLECTIVE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINE TYPICAL DETAILS

NO SCALE

RSP A20C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A20C
DATED MAY 20, 2011 - PAGE 11 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A20C

2010 REVISED STANDARD PLAN RSP A20C

4-29-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	26	38

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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

TO ACCOMPANY PLANS DATED 05-04-15

TABLE 1

TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING

SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
					X	Y	Z **
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	TAPER	TANGENT	CONFLICT
mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
25	250	125	63	42	25	50	12
30	360	180	90	60	30	60	15
35	490	245	123	82	35	70	17
40	640	320	160	107	40	80	20
45	1080	540	270	180	45	90	22
50	1200	600	300	200	50	100	25
55	1320	660	330	220	55	110	27
60	1440	720	360	240	60	120	30
65	1560	780	390	260	65	130	32
70	1680	840	420	280	70	140	35

* - For other offsets, use the following merging taper length formula for L:
For speed of 40 mph or less, $L = WS^2/60$
For speed of 45 mph or more, $L = WS$

Where: L = Taper length in feet
W = Width of offset in feet
S = Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Use for taper and tangent sections where there are no pavement markings or where there is a conflict between existing pavement markings and channelizers (CA).

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING

SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
mph	ft	ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Longitudinal buffer space or flagger station spacing

*** - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

ADVANCE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS *		
	A	B	C
	ft	ft	ft
URBAN - 25 mph OR LESS	100	100	100
URBAN - MORE THAN 25 mph TO 40 mph	250	250	250
URBAN - MORE THAN 40 mph	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

* - The distances are approximate, are intended for guidance purposes only, and should be applied with engineering judgment. These distances should be adjusted by the Engineer for field conditions, if necessary, by increasing or decreasing the recommmended distances.

2010 REVISED STANDARD PLAN RSP T9

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM TABLES FOR LANE AND RAMP CLOSURES

NO SCALE

RSP T9 DATED JULY 19, 2013 SUPERSEDES RSP T9 DATED APRIL 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T9

4-30-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	27	38

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
CIVIL
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 05-04-15

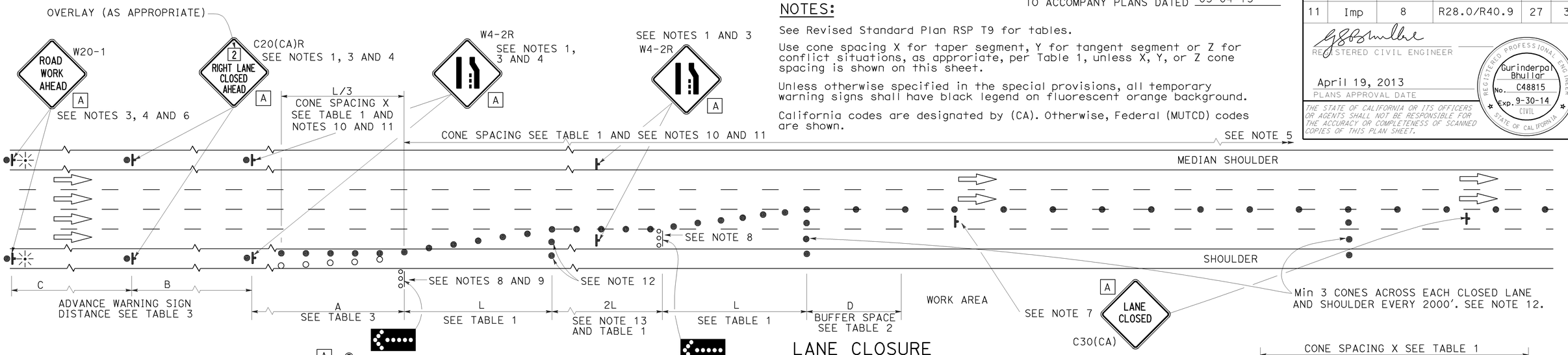
NOTES:

See Revised Standard Plan RSP T9 for tables.

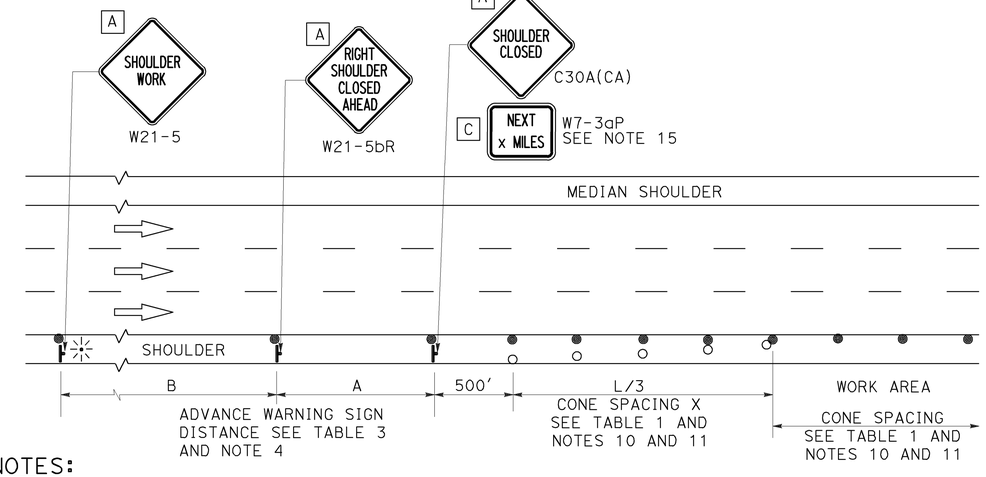
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as approriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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

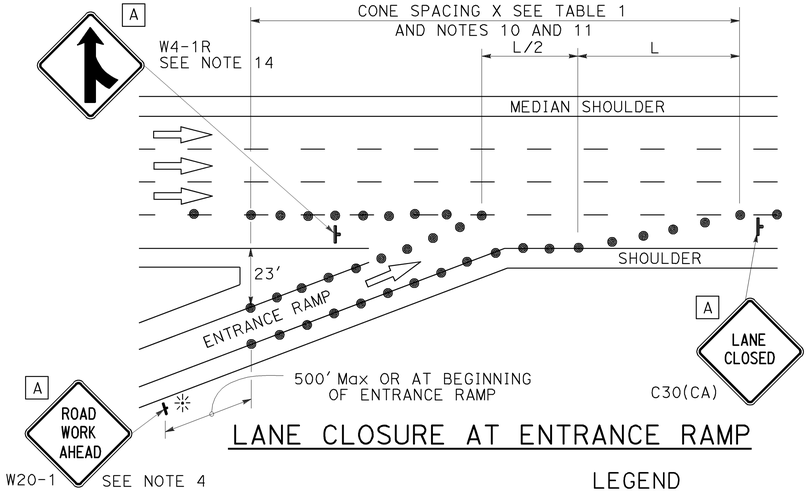
California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.



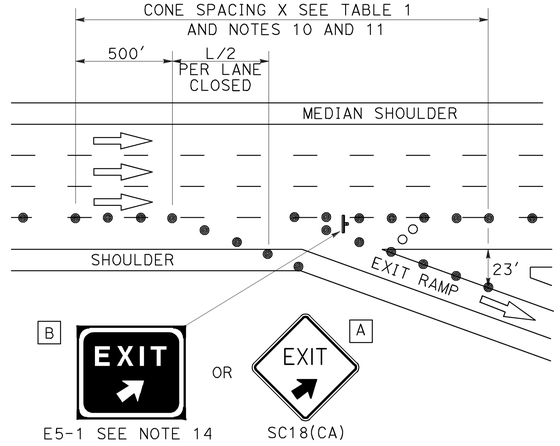
LANE CLOSURE



SHOULDER CLOSURE



LANE CLOSURE AT ENTRANCE RAMP



LANE CLOSURE AT EXIT RAMP

NOTES:

1. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
2. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
3. Duplicate sign installations are not required:
   a) On opposite shoulder if at least one-half of the available lanes remain open to traffic.
   b) In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
4. Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
5. A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.
6. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA) sign for the first advance warning sign.
7. Place a C30(CA) sign every 2000' throughout length of lane closure.
8. One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
9. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
10. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
11. Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.
12. Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
13. Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
14. Unless otherwise specified in the special provisions, the E5-1 or SC18(CA) and W4-1 signs shall be used as shown.
15. A W7-3aP "NEXT___MILES" plaque must be used if theshoulder closure extends beyond the distance that can be perceived by road users.

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

A	48" x 48"
B	72" x 60"
C	36" x 30"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS

NO SCALE

RSP T10 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10 DATED MAY 20, 2011 - PAGE 237 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T10

2010 REVISED STANDARD PLAN RSP T10

12-18-12

TO ACCOMPANY PLANS DATED 05-04-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	28	38

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gurinderpal Bhullar — No. C48815 — Exp. 9-30-14 CIVIL — STATE OF CALIFORNIA

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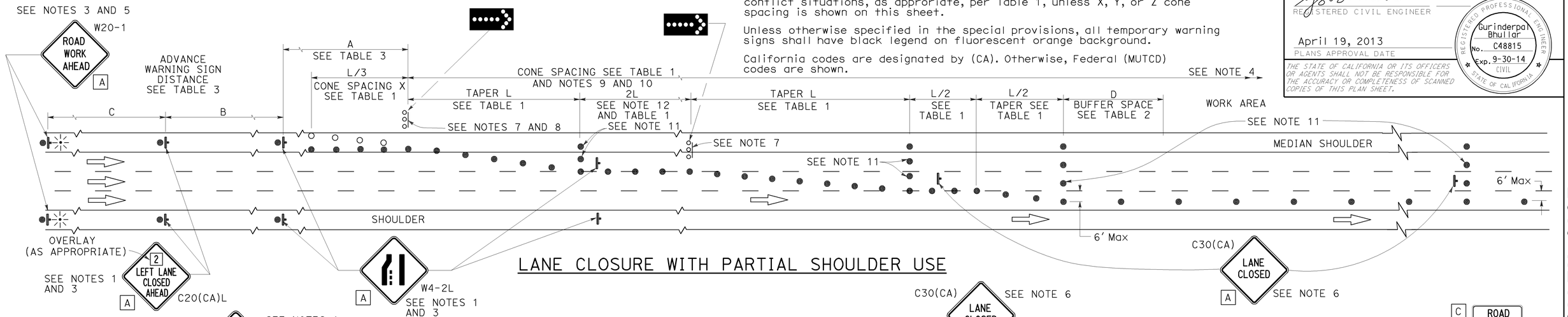
NOTES:

See Revised Standard Plan RSP T9 for tables.

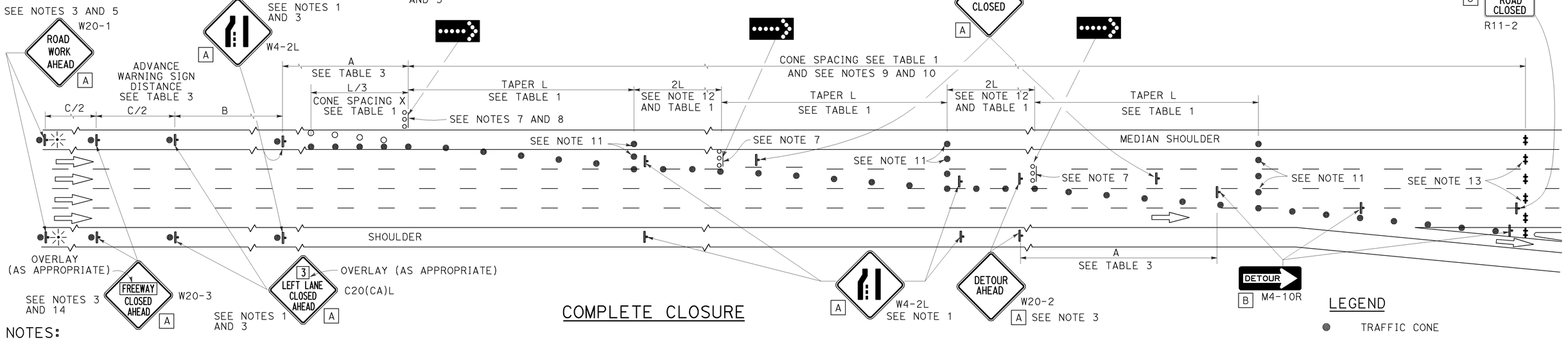
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as approriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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

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



LANE CLOSURE WITH PARTIAL SHOULDER USE



COMPLETE CLOSURE

NOTES:

1. Lane closures on the right side using partial median shoulder as a traffic lane shall conform to the details as shown except that C20(CA)R and W4-2R signs shall be used.
2. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
3. Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" X 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
4. A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.
5. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT ___ MILES", use a C20(CA) sign for the first advance warning sign.
6. Place a C30(CA) sign every 2000' throughout length of lane closure.
7. One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
8. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
9. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
10. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
11. Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure With Partial Shoulder Use" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
12. Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
13. A minimum of Two Type II or III barricades shall be placed across each closed lane and shoulder at the location shown and every 2000' within the complete closure area. Within the complete closure area, the transverse alignment of the barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
14. When specified in the special provisions, a W20-2 "DETOUR AHEAD" sign is to be used in place of the W20-3 "FREEWAY CLOSED AHEAD" sign.

SIGN PANEL SIZE (Min)

A	48" x 48"
B	48" x 18"
C	48" x 30"

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- PORTABLE FLASHING BEACON

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURES ON FREEWAYS AND EXPRESSWAYS

NO SCALE

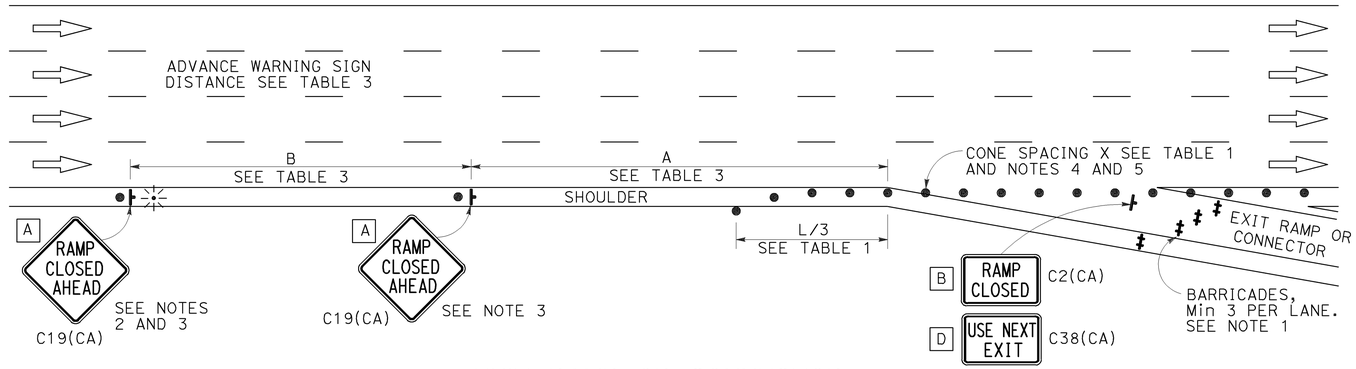
RSP T10A DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10A DATED MAY 20, 2011 - PAGE 238 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T10A

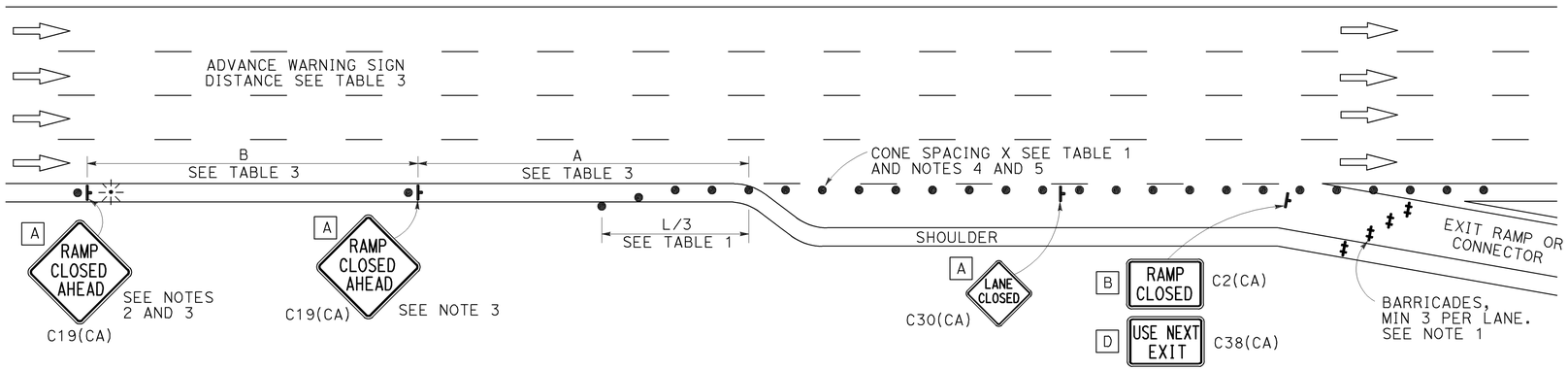
2010 REVISED STANDARD PLAN RSP T10A

12-18-12

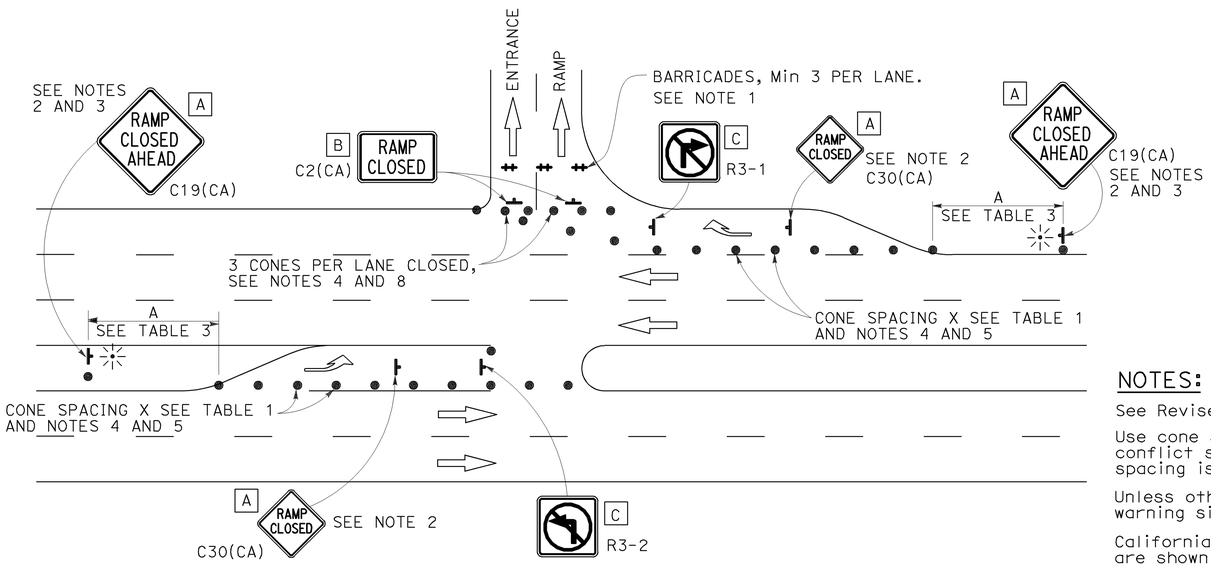
TYPICAL RAMP CLOSURES



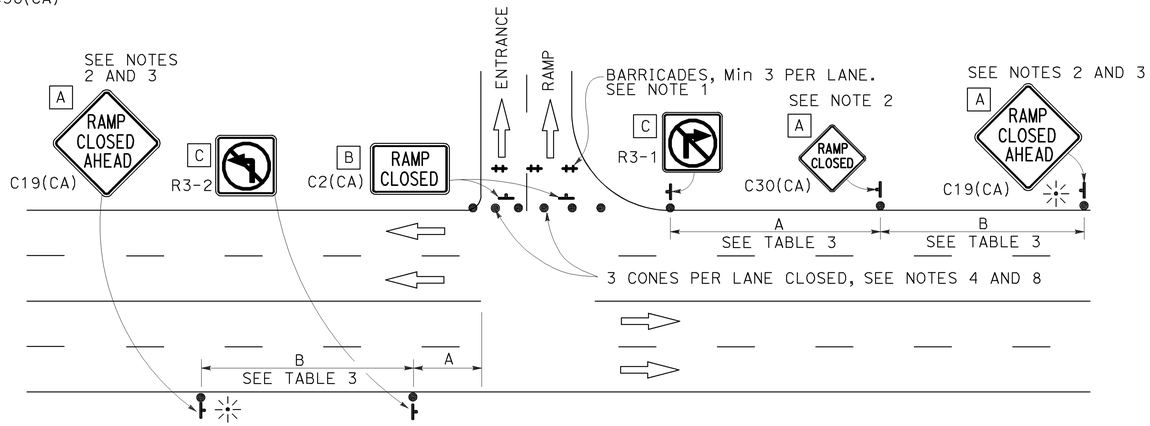
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

SIGN PANEL SIZE (Min)

- A 48" × 48"
- B 48" × 30"
- C 36" × 36"
- D 48" × 36"

LEGEND

- ● TRAFFIC CONE
- ⊢ TEMPORARY TRAFFIC CONTROL SIGN
- ‡ BARRICADES
- ✳ PORTABLE FLASHING BEACON

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	29	38

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
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.

TO ACCOMPANY PLANS DATED 05-04-15

NOTES:

1. Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
2. In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed by the Engineer, on all guide signs that refer to the closed ramp. The letter size on the overlay shall be the same as the guide sign.
3. Each advance C19(CA) "RAMP CLOSED AHEAD" sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" × 16" in size and shall be orange or fluorescent red-orange in color. A flashing beacon shall be placed on top of the first C19(CA) sign during hours of darkness.
4. All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
6. At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
7. The existing "EXIT" signs shall be covered during ramp closures.
8. A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.

NOTES:

See Revised Standard Plan RSP T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as approriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURE

NO SCALE

RSP T14 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T14
DATED MAY 20, 2011 - PAGE 242 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T14

2010 REVISED STANDARD PLAN RSP T14

12-18-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	30	38

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
CIVIL
STATE OF CALIFORNIA

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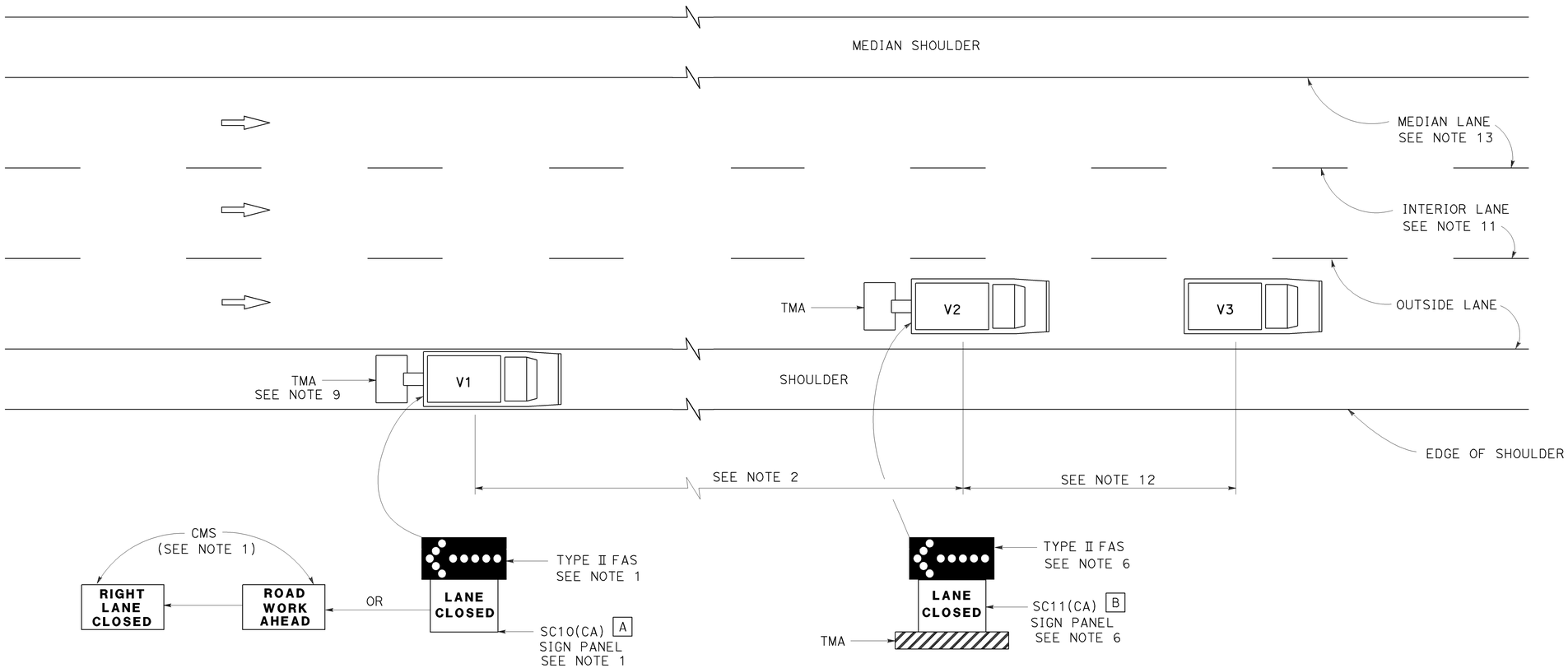
TO ACCOMPANY PLANS DATED 05-04-15



SIGN PANEL SIZE (Min)

A 66" x 36"

B 54" x 42"

LEGEND

V1	SIGN VEHICLE
V2	SHADOW VEHICLE
V3	WORK/APPLICATION VEHICLE
	FLASHING ARROW SIGN (FAS)
CMS	CHANGEABLE MESSAGE SIGN
TMA	TRUCK-MOUNTED ATTENUATOR

MOVING LANE CLOSURE ON MEDIAN LANE OR OUTSIDE LANE OF MULTILANE HIGHWAYS

NOTES:

1. Either a changeable message sign or a SC10(CA) sign panel and a Type II flashing arrow sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "RIGHT LANE CLOSED" message. For median lane closure, the flashing arrow symbol shall be reversed with the arrowhead on the right and the changeable message sign shall show "LEFT LANE CLOSED".
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500′ should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500′.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2. For median lane closure the flashing arrow sign symbol shall be displayed with the arrowhead on the right.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11, etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on interior lane of multilane highways, use Revised Standard Plan T16.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.
13. When the work/application vehicle V3 occupies the median lane, sign vehicle V1 should drive in the median shoulder and indicate left lane closed ahead.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

NO SCALE

RSP T15 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T15
DATED MAY 20, 2011 - PAGE 243 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T15

2010 REVISED STANDARD PLAN RSP T15

12-18-12

LEGEND:

AB	ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS
BC	INSTALL PULL BOX IN EXISTING CONDUIT RUN
BP	PEDESTRIAN BARRICADE, TYPE AS INDICATED ON PLAN
CB	INSTALL CONDUIT INTO EXISTING PULL BOX
CC	CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED
CF	CONDUIT TO REMAIN FOR FUTURE USE. REMOVE CONDUCTORS. INSTALL PULL TAPE
DH	DETECTOR HANDHOLE
FA	FOUNDATION TO BE ABANDONED
IS	INSTALL SIGN ON SIGNAL MAST ARM
NS	NO SLIP BASE ON STANDARD
PEC	PHOTOELECTRIC CONTROL
PEU	PHOTOELECTRIC UNIT
RC	EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR
RE	REMOVE ELECTROLIER, FUSES AND BALLAST. TAPE ENDS OF CONDUCTORS
RL	RELOCATE EQUIPMENT
RR	REMOVE AND REUSE EQUIPMENT
RS	REMOVE AND SALVAGE EQUIPMENT
SC	SPLICE NEW TO EXISTING CONDUCTORS
SD	SERVICE DISCONNECT
TSP	TELEPHONE SERVICE POINT

ABBREVIATIONS

APS	ACCESSIBLE PEDESTRIAN SIGNAL
BBS	BATTERY BACKUP SYSTEM
BC	BOLT CIRCLE
BPB	BICYCLE PUSH BUTTON
C	CONDUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
Ckt	CIRCUIT
CMS	CHANGEABLE MESSAGE SIGN
Ctid	CALTRANS IDENTIFICATION
Comm	COMMUNICATION
DLC	LOOP DETECTOR LEAD-IN CABLE
EMS	EXTINGUISHABLE MESSAGE SIGN
EVUC	EMERGENCY VEHICLE UNIT CABLE
EVUD	EMERGENCY VEHICLE UNIT DETECTOR
FB	FLASHING BEACON
FBCA	FLASHING BEACON CONTROL ASSEMBLY
FBS	FLASHING BEACON WITH SLIP BASE
FO	FIBER OPTIC
G	EQUIPMENT GROUNDING CONDUCTOR
GB	GROUND BUS
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HAR	HIGHWAY ADVISORY RADIO
Hex	HEXAGONAL
HPS	HIGH PRESSURE SODIUM
IISNS	INTERNALLY ILLUMINATED STREET NAME SIGN
ISL	INDUCTION SIGN LIGHTING
LED	LIGHT EMITTING DIODE
LMA	LUMINAIRE MAST ARM
LPS	LOW PRESSURE SODIUM
Ltg	LIGHTING
Lum	LUMINAIRE
M	METERED
MAT	MAST ARM MOUNTING TOP ATTACHMENT
MAS	MAST ARM MOUNTING SIDE ATTACHMENT
M/M	MULTIPLE TO MULTIPLE TRANSFORMER
Mtg	MOUNTING
MV	MERCURY VAPOR LIGHTING FIXTURE
MVDS	MICROWAVE VEHICLE DETECTION SYSTEM
N	NEUTRAL (GROUNDED CONDUCTOR)
NB	NEUTRAL BUS
NC	NORMALLY CLOSE
NO	NORMALLY OPEN
P	CIRCUIT BREAKER'S POLE
PB	PULL BOX
PBA	PUSH BUTTON ASSEMBLY
PEC	PHOTOELECTRIC CONTROL
Ped	PEDESTRIAN
PEU	PHOTOELECTRIC UNIT
PT	CONDUIT WITH PULL TAPE
RE	RELOCATED EQUIPMENT
RM	RAMP METERING
RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
SB	SLIP BASE
SIC	SIGNAL INTERCONNECT CABLE
Sig	SIGNAL
SMA	SIGNAL MAST ARM
SNS	STREET NAME SIGN
SP	SERVICE POINT
TDC	TELEPHONE DEMARCATION CABINET
TMS	TRAFFIC MONITORING STATION
TOS	TRAFFIC OPERATIONS SYSTEM
Veh	VEHICLE
VIVDS	VIDEO IMAGE VEHICLE DETECTION SYSTEM
WIM	WEIGH-IN-MOTION
Xfmr	TRANSFORMER

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	31	38

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

Theresa Aziz Gabriel No. E15129 Exp. 6-30-14 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

July 19, 2013
PLANS APPROVAL DATE

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

TO ACCOMPANY PLANS DATED 05-04-15

SOFFIT AND WALL MOUNTED LUMINAIRES

- PENDANT, 70 W HPS UNLESS OTHERWISE SPECIFIED
- FLUSH, 70 W HPS UNLESS OTHERWISE SPECIFIED
- WALL SURFACE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO REMAIN UNMODIFIED
- (M) EXISTING SOFFIT OR WALL LUMINAIRE TO BE MODIFIED AS SPECIFIED

NOTE:
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL USED	DEFINITIONS
Ω	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V(dc)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
μ	MICRO
P	PICO
Hz	HERTZ

MISCELLANEOUS ELECTROLIERS

NEW	EXISTING	
		LUMINAIRE ON WOOD POLE
		NON-STANDARD ELECTROLIER (SEE PROJECT NOTES OR PROJECT PLANS)
		CITY ELECTROLIER
		ELECTROLIER FOUNDATION (FUTURE INSTALLATION)

NOTES:

1. HPS luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. HPS luminaires shall be 200 W when installed on other type standards or poles, unless otherwise specified.
2. LED luminaires shall be 235 W when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. LED luminaires shall be 165 W when installed on other type standards or poles, unless otherwise specified.
3. Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

STANDARD ELECTROLIER

NEW	EXISTING	STANDARD TYPE
		15
		15D
		15 STRUCTURE
		15D STRUCTURE
		21
		21D
		21 STRUCTURE
		21D STRUCTURE
		30
		31
		32

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 20, 2011 - PAGE 425 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1A

2010 REVISED STANDARD PLAN RSP ES-1A

7-15-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	32	38

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

Theresa Aziz Gabriel No. E15129 Exp. 6-30-14 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

July 19, 2013
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 05-04-15

CONDUIT

NEW	EXISTING	
		LIGHTING CONDUIT, UNLESS OTHERWISE INDICATED OR NOTED
		TRAFFIC SIGNAL CONDUIT
C	c	COMMUNICATION CONDUIT
T	t	TELEPHONE CONDUIT
F	f	FIRE ALARM CONDUIT
FO	fo	FIBER OPTIC CONDUIT
		CONDUIT TERMINATION
R	r	CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

SERVICE EQUIPMENT

NEW	EXISTING	
OH	oh	OVERHEAD LINES
U	U	WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
III	III	SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
T	t	TELEPHONE DEMARCATION CABINET

POLE-MOUNTED SERVICE DESIGNATION

TYPE H SERVICE, 28'-10" — TYPE OF INSTALLATION AND POLE HEIGHT ABOVE GRADE

FLASHING BEACON

NEW	EXISTING	
R	R	FLASHING BEACON (ONE VEHICLE SIGNAL HEAD WITH BACKPLATE AND VISOR) "R" INDICATES RED INDICATION, "Y" INDICATES YELLOW INDICATION
Y Y	Y Y	FLASHING BEACON WITH TYPE 15-FBS STANDARD AND A SIGN.
R R	R R	FLASHING BEACON WITH TYPES 9, 9A OR 9B SIGN UNLESS OTHERWISE SPECIFIED OR INDICATED

SIGNAL EQUIPMENT

NEW	EXISTING	
C	C	PEDESTRIAN SIGNAL HEAD "C" INDICATES COUNTDOWN PEDESTRIAN HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
PV	PV	MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)
		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

SIGNAL EQUIPMENT Cont

NEW	EXISTING	
		GUARD POST
		TYPE 1 STANDARD WITH RAMP METERING SIGN
		OPTICAL DETECTOR FOR THE EMERGENCY VEHICLE DETECTION SYSTEM

NOTES:

1. All signal sections shall be 12" unless shown otherwise.
2. Signal heads shall be provided with backplates unless shown otherwise.

ILLUMINATED OVERHEAD SIGN

NEW	EXISTING	
		SINGLE POST, SINGLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, DOUBLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, SINGLE ILLUMINATED SIGN, FULL CANTILEVER
		DOUBLE POST, SINGLE ILLUMINATED SIGN
		SINGLE ILLUMINATED SIGN MOUNTED ON STRUCTURE
		DOUBLE POST, SINGLE ILLUMINATED SIGN WITH ELECTROLIER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1B

2010 REVISED STANDARD PLAN RSP ES-1B

7-15-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	33	38

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Theresa Aziz Gabriel — No. E15129 — Exp. 6-30-14 — ELECTRICAL — STATE OF CALIFORNIA

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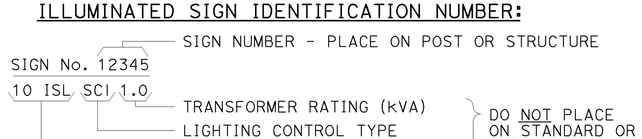
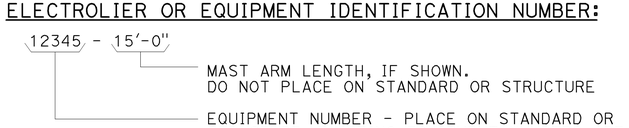
TO ACCOMPANY PLANS DATED 05-04-15

EQUIPMENT IDENTIFICATION

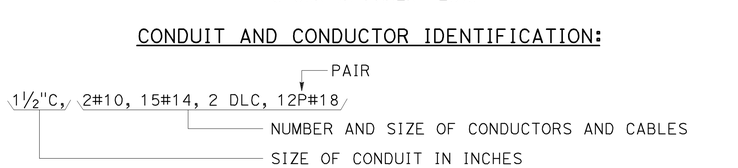
ILLUMINATED SIGN IDENTIFICATION NUMBER:



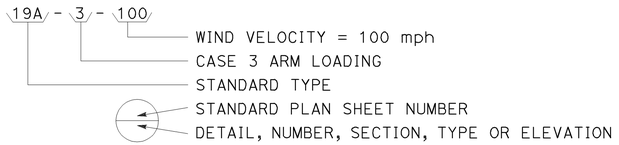
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



CONDUIT AND CONDUCTOR IDENTIFICATION:



SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



MISCELLANEOUS EQUIPMENT

NEW	EXISTING	
CMS	cms	CHANGEABLE MESSAGE SIGN
		CLOSED CIRCUIT TELEVISION CAMERA
		HIGHWAY ADVISORY RADIO POLE AND ANTENNA
EMS	ems	EXTINGUISHABLE MESSAGE SIGN
M V	m v	DETECTION DEVICE M = MICROWAVE SENSOR V = VIDEO IMAGE SENSOR

WIRING DIAGRAM LEGEND

----	EXTERNAL CONDUCTOR
——	CONDUCTOR OR BUS
—●—	TIE POINT
	CONTACTOR COIL
	CONTACTOR, NO CONTACT
⊗	TERMINAL BLOCKS
	CONTACTOR, NC CONTACT
	ENCLOSURE BOND
	GROUNDING ELECTRODE
	CIRCUIT BREAKER
Ⓡ	RECEPTACLE

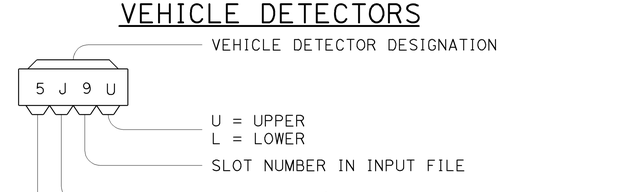
PULL BOXES

NEW	EXISTING	
		PULL BOX, No. 5 UNLESS OTHERWISE INDICATED OR NOTED
3	9A(21)	PULL BOX, ADDITIONAL DESIGNATIONS OR DESCRIPTIONS

3 No. 3½ PULL BOX
5 No. 5 PULL BOX
6 No. 6 PULL BOX
7 No. 7 (CEILING PULL BOX)
8 No. 8 (PENDANT SOFFIT PULL BOX)
9 No. 9 PULL BOX
9A No. 9A PULL BOX

(C) COMMUNICATIONS PULL BOX
(E) PULL BOX WITH EXTENSION
(S) SPRINKLER CONTROL PULL BOX
(21) ANCHOR BOLTS AND CONDUIT FOR FUTURE INSTALLATION OF TYPE 21 STANDARD
(T) TRAFFIC PULL BOX

VEHICLE DETECTORS



NEW	EXISTING	
		TYPE A DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE B DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE C DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE D DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE E DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE Q DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		MAGNETIC DETECTOR
DH	dh	DETECTOR HANDHOLE
		MICROWAVE OR VIDEO DETECTION ZONE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1C

2010 REVISED STANDARD PLAN RSP ES-1C

7-11-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	34	38

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

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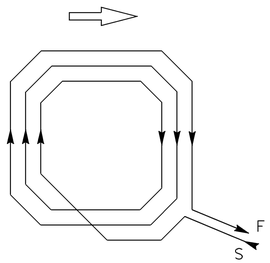
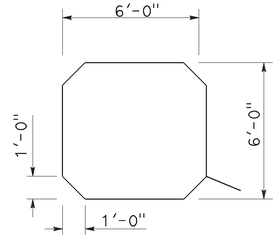
TO ACCOMPANY PLANS DATED 05-04-15

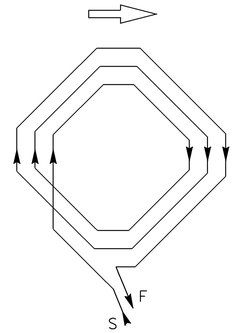


WINDING DETAIL

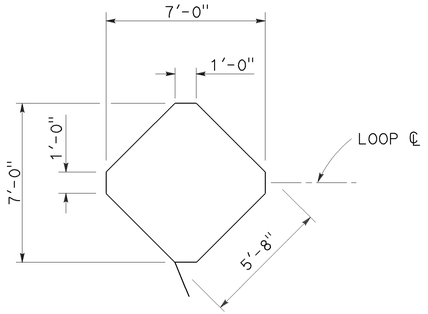


SAWCUT DETAIL

TYPE A LOOP DETECTOR CONFIGURATION

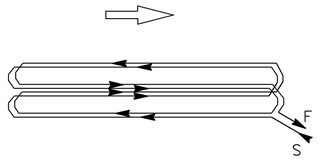


WINDING DETAIL

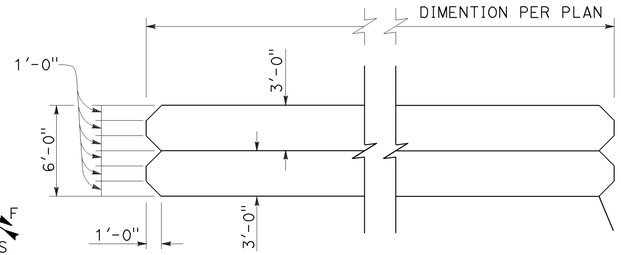


SAWCUT DETAIL

TYPE B LOOP DETECTOR CONFIGURATION

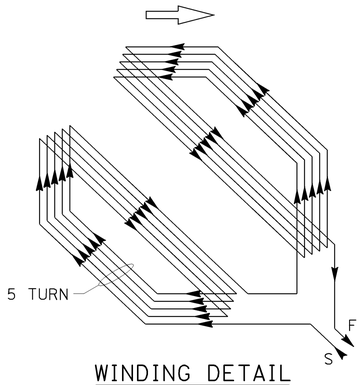


WINDING DETAIL

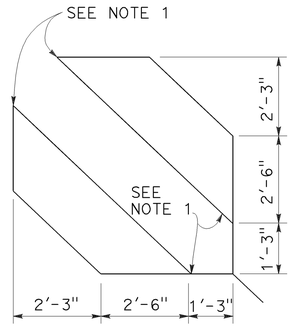


SAWCUT DETAIL

TYPE C LOOP DETECTOR CONFIGURATION

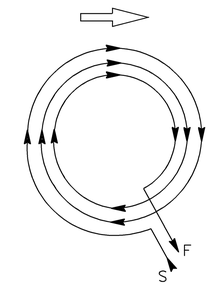


WINDING DETAIL

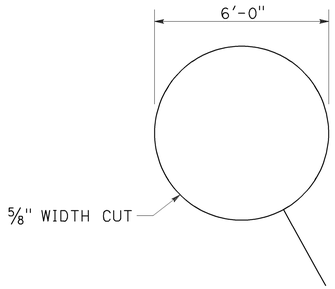


SAWCUT DETAIL

TYPE D LOOP DETECTOR CONFIGURATION

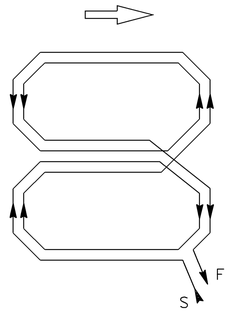


WINDING DETAIL

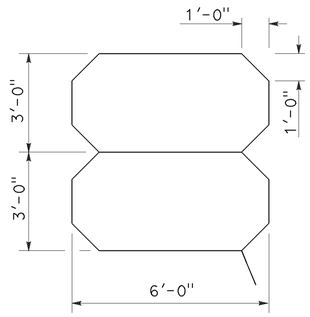


SAWCUT DETAIL

TYPE E LOOP DETECTOR CONFIGURATION

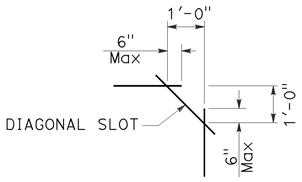


WINDING DETAIL



SAWCUT DETAIL

TYPE Q LOOP DETECTOR CONFIGURATION



PLAN VIEW OF DIAGONAL SLOT AT CORNERS

NOTES:

1. Round corners of acute angle sawcuts to prevent damage to conductors.
2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

RSP ES-5B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5B
DATED MAY 20, 2011 - PAGE 449 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5B

2010 REVISED STANDARD PLAN RSP ES-5B

7-9-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	35	38

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

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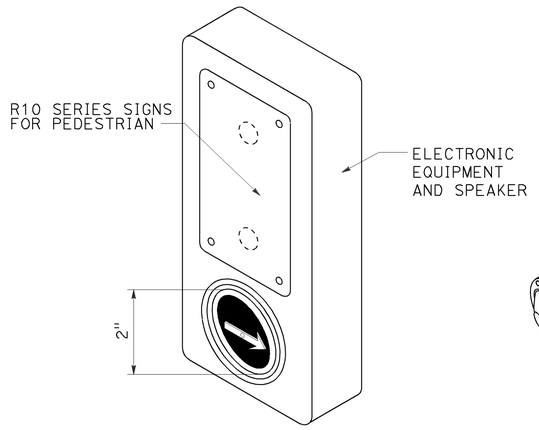
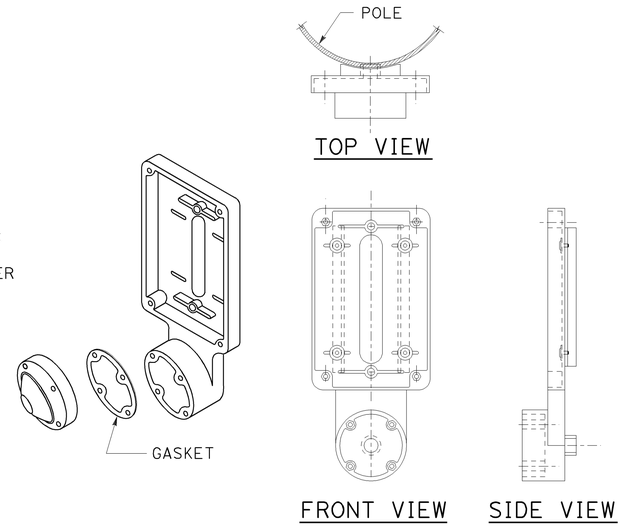
TO ACCOMPANY PLANS DATED 05-04-15



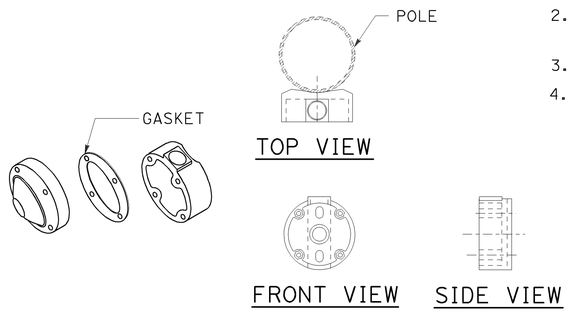
ACCESSIBLE PEDESTRIAN SIGNAL

DETAIL A
(See note 1 to 4)



TYPE B PUSH BUTTON ASSEMBLY

DETAIL B
(See note 1 to 4)

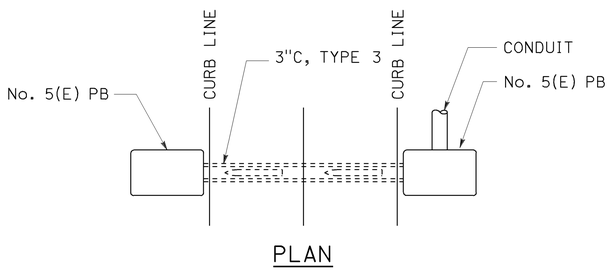


TYPE C PUSH BUTTON ASSEMBLY

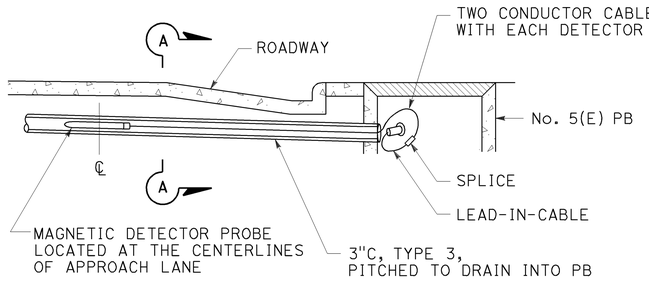
DETAIL C
(See note 1 to 4)

NOTES:

1. Back casting shape to fit curvature of pole.
2. Provide cover fitting for top of post, when PBA is mounted on push button assembly post.
3. Install push button on crosswalk side of standard.
4. Use R10 series regulatory signs and plaques for pedestrian and bicycle facilities.



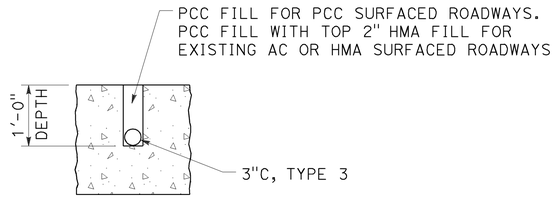
PLAN



ELEVATION

MAGNETIC VEHICLE DETECTOR INSTALLATION DETAILS

DETAIL D



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (ACCESSIBLE PEDESTRIAN SIGNAL, PUSH BUTTON ASSEMBLIES AND MAGNETIC VEHICLE DETECTOR)

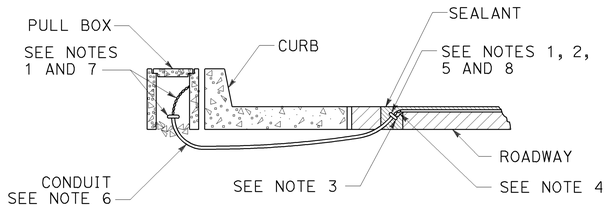
NO SCALE

RSP ES-5C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5C
DATED MAY 20, 2011 - PAGE 450 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5C

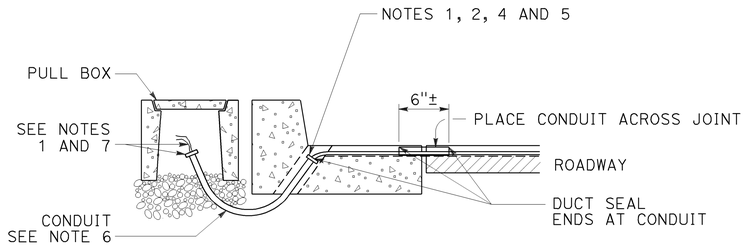
2010 REVISED STANDARD PLAN RSP ES-5C

7-9-13

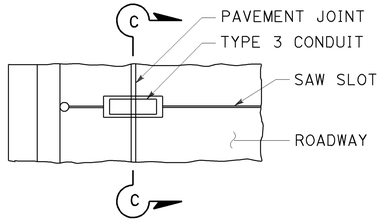


TYPE A

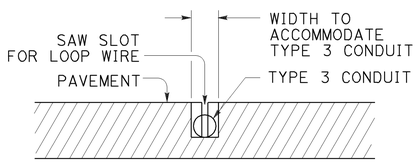
CURB TERMINATION DETAIL



CROSS SECTION



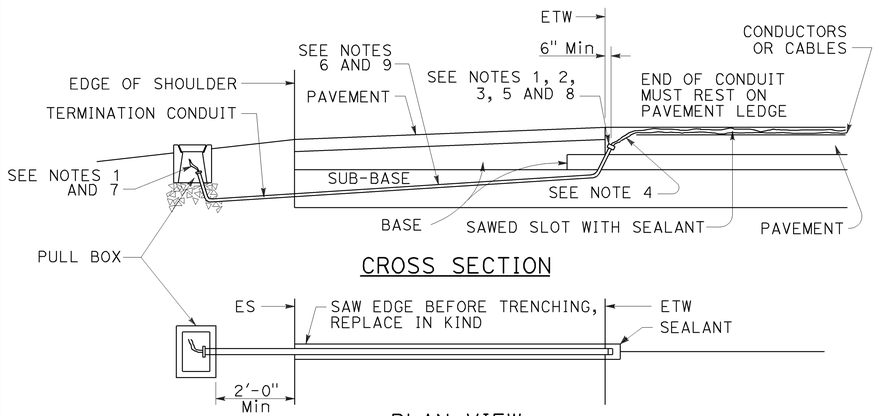
PLAN VIEW



SECTION C-C

TYPE B

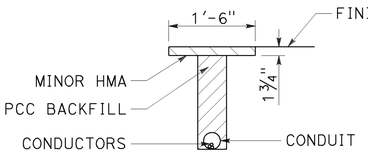
CURB TERMINATION DETAIL



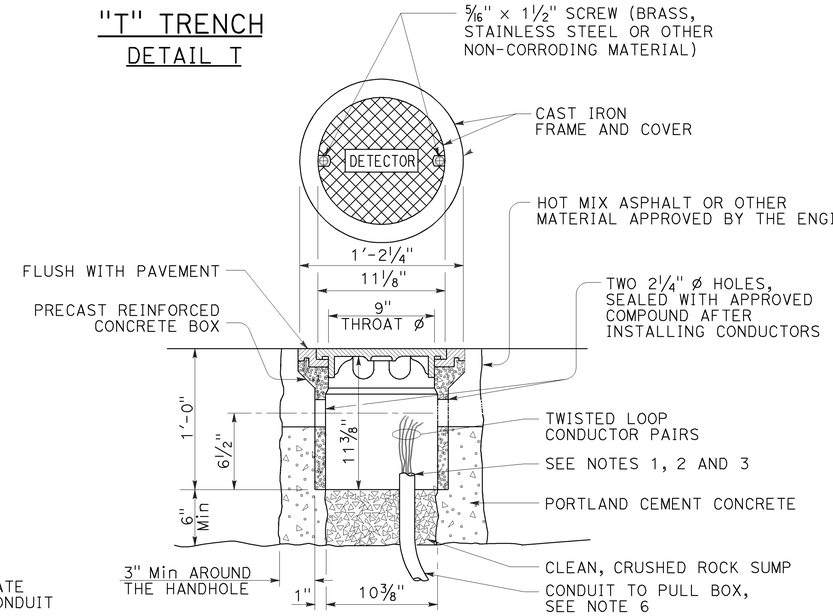
CROSS SECTION

PLAN VIEW

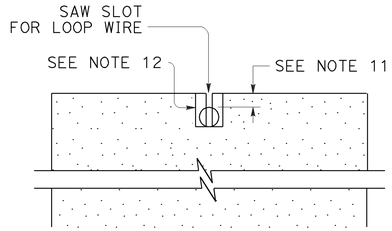
SHOULDER TERMINATION DETAILS



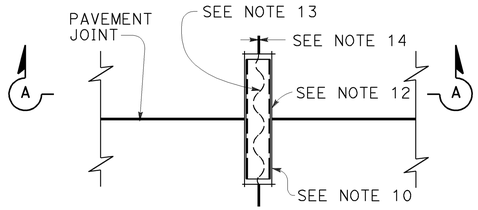
"T" TRENCH DETAIL T



DETECTOR HANDHOLE DETAIL

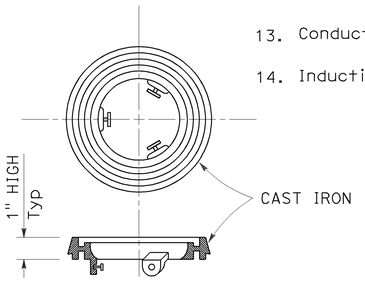


SECTION A-A



PLAN VIEW

TYPICAL LOOP LEAD-IN DETAIL AT PAVEMENT JOINT



LOCKING GRADE RING

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	36	38

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Theresa Aziz Gabriel — No. E15129 — Exp. 6-30-14 — ELECTRICAL — STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 05-04-15

NOTES:

1. Bushing shall be used at end of conduit.
2. Tape detector conductors or cables 3" each side of bushings.
3. Install duct seal compound to each end of termination conduit before installing sealant.
4. Round all sharp edges where detector conductors or cables have to pass.
5. End of conduit shall be 3⅛" below roadway surface.
6.

Conduit size	Loop conductors
1"C minimum	1 to 2 pairs
1½"C minimum	3 to 4 pairs
2"C minimum	5 or more pairs

7. Splice detector conductors or cables to detector lead-in-cable.
8. Location of detector handhole when shown on plans.
9. When the shoulder and traveled way are paved with the same material and there is no joint between them, the conduit shall extend only 2'-0" into the shoulder pavement.
10. ¾"C, Type 3 conduit 6" long minimum, plug both ends with duct compound to keep out sealant.
11. ½" Minimum between top of conduit and pavement surface.
12. Sawcut shall not exceed 1" in width and ⅛" longer than conduit to be installed.
13. Conductors with ½" minimum slack inside conduit.
14. Inductive loop detector saw slot.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (CURB TERMINATION AND HANDHOLE)

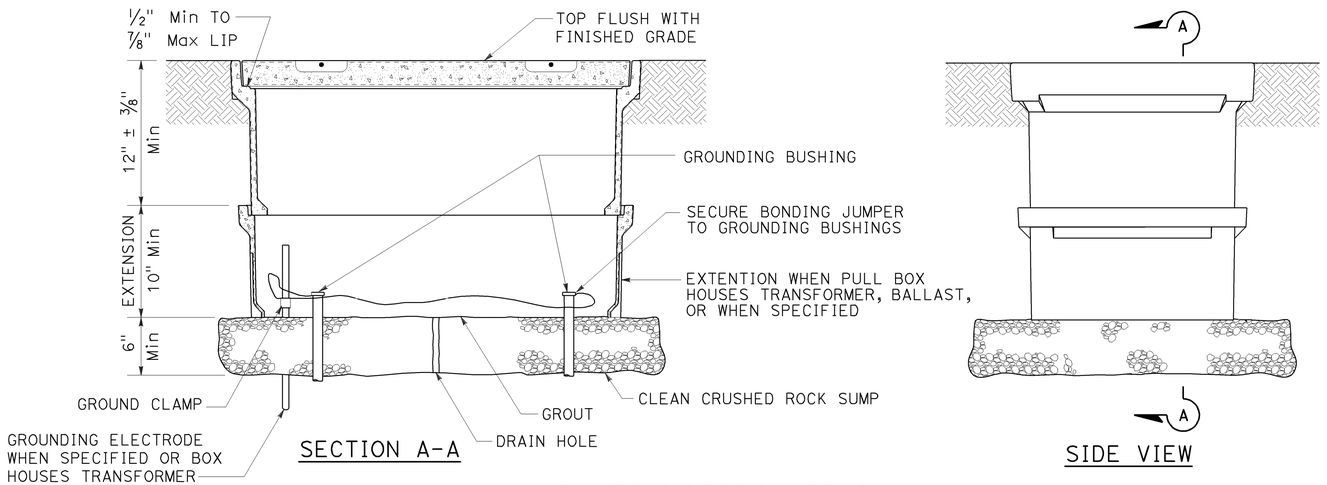
NO SCALE

RSP ES-5D DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5D
DATED MAY 20, 2011 - PAGE 451 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5D

2010 REVISED STANDARD PLAN RSP ES-5D

7-9-13

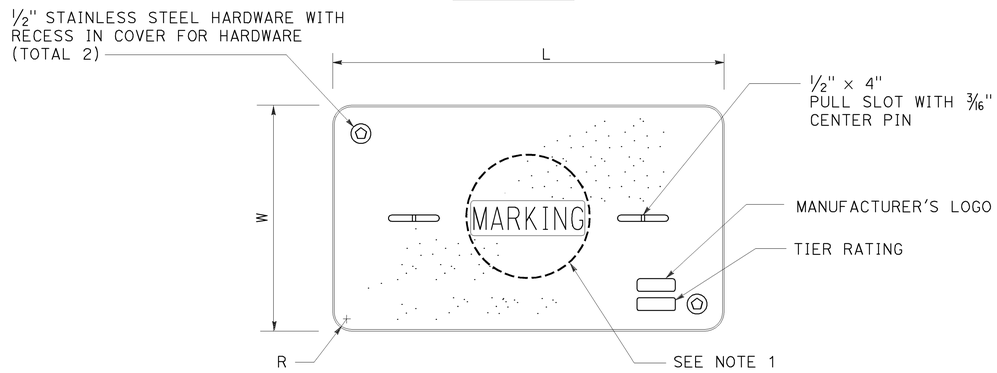


SECTION A-A

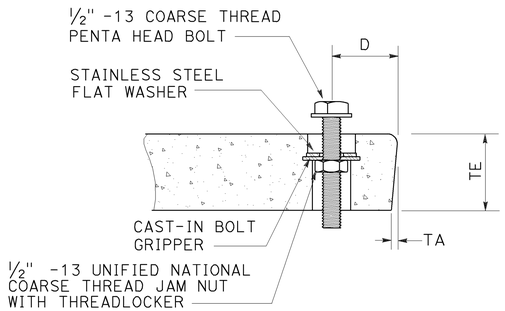
SIDE VIEW

INSTALLATION DETAILS

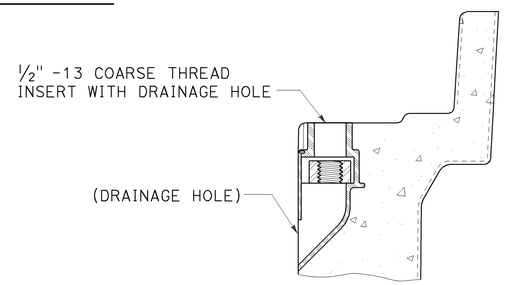
DETAIL A



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
OR SIMILAR



TYPICAL THREADED INSERT
OR SIMILAR

DIMENSION TABLE

PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MAXIMUM WEIGHT	L	W	R	TE	TA	D	MAXIMUM WEIGHT
No. 3½	12"	N/A	40 lb	1′ - 3⅜"	10⅛"	1⅜"	2"	⅛"	1¾"	30 lb
No. 5	12"	10"	55 lb	1′ - 11¼"	1′ - 1¾"	1⅜"	2"	⅛"	1¾"	60 lb
No. 6	12"	10"	70 lb	2′ - 6½"	1′ - 5½"	1⅜"	2"	⅛"	2"	85 lb

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	37	38

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

REGISTERED PROFESSIONAL ENGINEER
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

July 19, 2013
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 05-04-15

NOTES:

1. Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" sprinkler control circuits, 50 V or less; "CALTRANS" on all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service;

   A) No. 3½ pull box.
      1) "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
      2) "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.

   B) No. 5, 6, 9 or 9A pull box.
      1) "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
      2) "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
      3) "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
      4) "IRRIGATION" - Circuits to irrigation controller 120 V or more.
      5) "RAMP METER" - Ramp meter circuits.
      6) "COUNT STATION" - Count or speed monitor circuits.
      7) "COMMUNICATIONS" - Communication circuits.
      8) "TOS COMMUNICATIONS" - TOS communication line.
      9) "TOS POWER" - TOS power.
      10) "TDC POWER" - Telephone demarcation cabinet power.
      11) "CCTV" - Closed circuit television circuits.
      12) "TMS" - Traffic monitoring station circuits.
      13) "CMS" - Changeable message sign circuits.
      14) "HAR" - Highway advisory radio circuits.
      15) "BOOSTER PUMP" - Booster pump circuit.

2. The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be ⅛" greater.
3. Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within ⅛". Top outside radius of covers and pull boxes shall have a ⅛" radius.
4. Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.
5. All dimensions for the cover for non-traffic pull box are nominal values.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (NON-TRAFFIC PULL BOX)

NO SCALE

RSP ES-8A DATED JULY 19, 2013 SUPERSEDES RSP ES-8A DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-8A

2010 REVISED STANDARD PLAN RSP ES-8A

7-15-13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R28.0/R40.9	38	38

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

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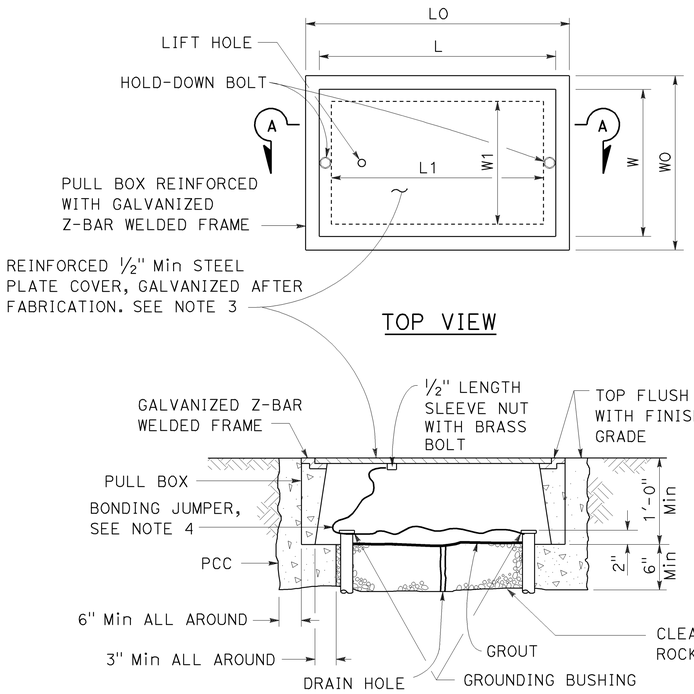
TO ACCOMPANY PLANS DATED 05-04-15



SECTION A-A

No. 3½(T), No. 5(T) AND No. 6(T) TRAFFIC PULL BOX

NOTES:

1. Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
2. Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
3. Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" Sprinkler control circuits, 50 V or less; "CALTRANS" On all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service.
   A) No. 3½(T) pull box.
      1) "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
      2) "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
   B) No. 5(T) or 6(T) pull box.
      1) "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
      2) "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
      3) "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
      4) "IRRIGATION" - Circuits to irrigation controller 120 V or more.
      5) "RAMP METER" - Ramp meter circuits.
      6) "COUNT STATION" - Count or speed monitor circuits.
      7) "COMMUNICATION" - Communication circuits.
      8) "TOS COMMUNICATIONS" - TOS communications line.
      9) "TOS POWER" - TOS power.
      10) "TDC POWER" - Telephone demarcation cabinet power.
      11) "CCTV" - Closed circuit television circuits.
      12) "TMS" - Traffic monitoring station circuits.
      13) "CMS" - Changeable message sign circuits.
      14) "HAR" - Highway advisory radio circuits.
      15) "BOOSTER PUMP" - Booster pump circuit.
4. Bonding jumper for metal covers shall be 3' long, minimum.
5. The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be ⅛" greater.
6. Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within ⅛".

DIMENSION TABLE

PULL BOX	PULL BOX						COVER				
	MINIMUM * THICKNESS	MINIMUM DEPTH BOX AND EXTENSION	WO	LO	L1	W1	L **	W **	R	EDGE THICKNESS	EDGE TAPER
No. 3½(T)	1½"	1'-0"	1'-5"± 1"	1'-8⅞"±	1'-2½"±	10⅝"± 1"	1'-8"±	1'-1¾"±	0"	½"	NONE
No. 5(T)	1¾"	1'-0"	1'-11½"± 1"	2'-5½"±	1'-7"±	1'-1"± 1"	2'-3"±	1'-4"±	0"	½"	NONE
No. 6(T)	2"	1'-0"	2'-6"± 1"	2'-11½"±	1'-11½"±	1'-5"± 1"	2'-9"±	1'-8"±	0"	½"	NONE

* EXCLUDING CONDUIT WEB ** TOP DIMENSION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (TRAFFIC PULL BOX)

NO SCALE

RSP ES-8B DATED JULY 19, 2013 SUPERSEDES RSP ES-8B DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-8B

2010 REVISED STANDARD PLAN RSP ES-8B

7-15-13