Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	82	20.8/22.4	1	14

INDEX OF PLANS

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

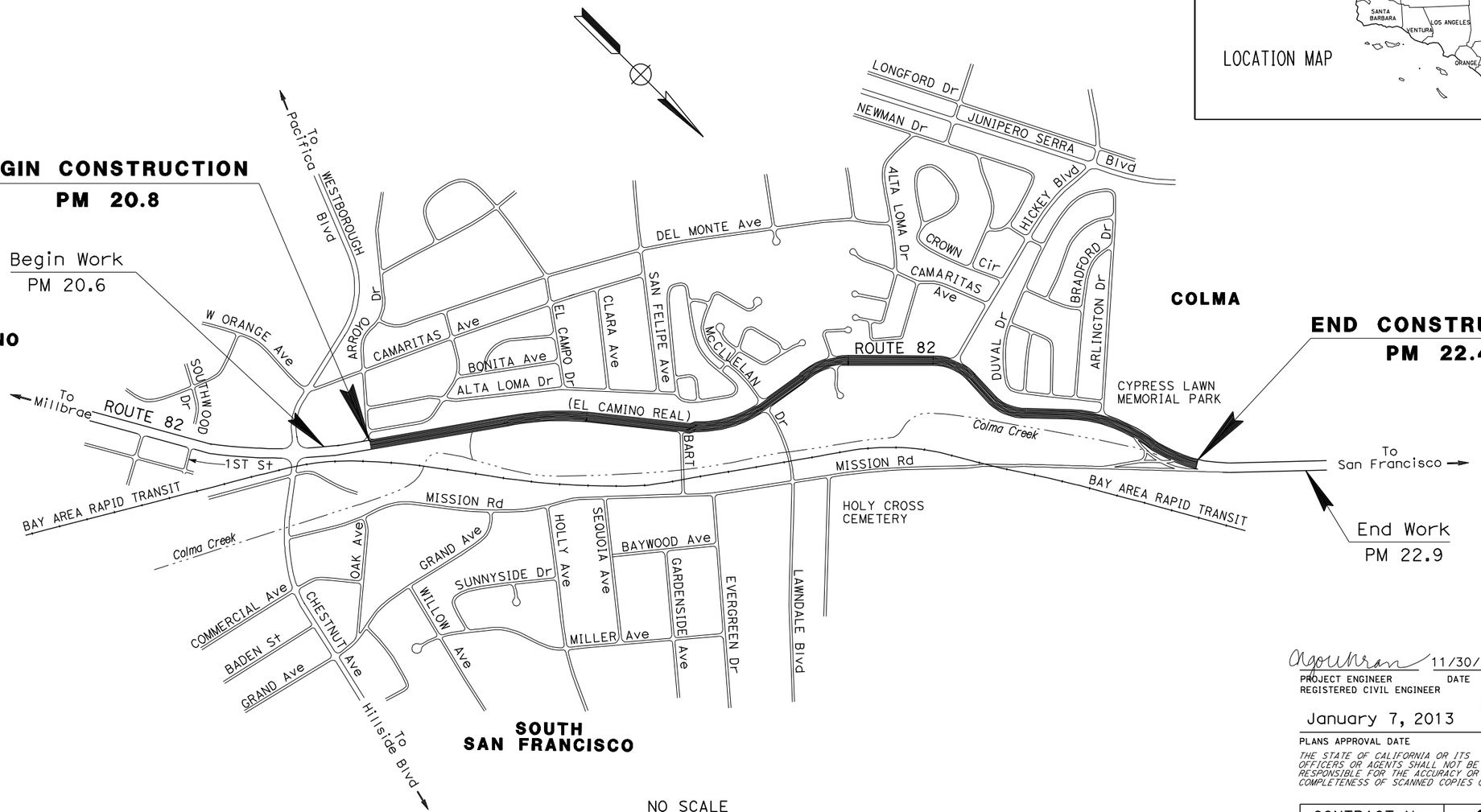
STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON STATE HIGHWAY

IN SAN MATEO COUNTY IN SOUTH SAN FRANCISCO AND COLMA FROM ARROYO DRIVE TO 0.2 MILE NORTH OF ARLINGTON DRIVE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2010



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

PROJECT MANAGER: RAMSES SARGISS

DESIGN ENGINEER: RAMSES SARGISS

Ngoc Tran 11/30/12
PROJECT ENGINEER — DATE
REGISTERED CIVIL ENGINEER

REGISTERED PROFESSIONAL ENGINEER — Ngoc Tran — No. 56977 — Exp. 6-30-13 — CIVIL — STATE OF CALIFORNIA

January 7, 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.

DATE PLOTTED => 22-FEB-2013
TIME PLOTTED => 08:36
LAST REVISION 11-30-12

CONTRACT No.	04-3E3804
PROJECT ID	0412000301

BORDER LAST REVISED 7/2/2010 | CALTRANS WEB SITE IS: HTTP//WWW.DOT.CA.GOV/ | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => s136183 | DGN FILE => 0412000301ab001.dgn | UNIT 0976 | PROJECT NUMBER & PHASE 04120003011

NOTES

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
3. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	82	20.8/22.4	2	14

Ngoc Tran 11-30-12
REGISTERED CIVIL ENGINEER DATE

1-7-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ngoc Tran — No. 56977 — Exp. 6-30-13 — CIVIL — STATE OF CALIFORNIA

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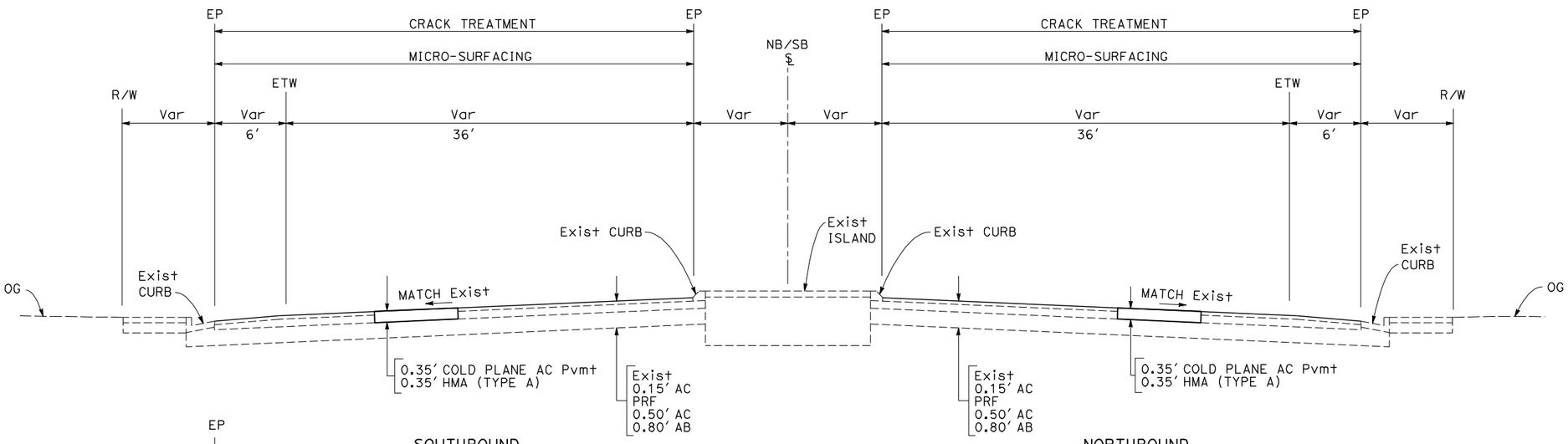
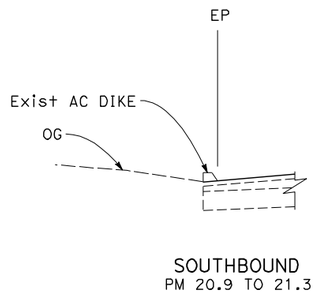


PM 20.8 TO 22.4
ROUTE 82



SOUTHBOUND
PM 20.9 TO 21.3

TYPICAL CROSS SECTIONS

NO SCALE

X-1

CALCULATED-DESIGNED BY	MARY THAO	REVISED BY	MT
CHECKED BY	NGOC TRAN	DATE REVISED	11/30/12
FUNCTIONAL SUPERVISOR	RAMSES SARGISS		
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	Caltrans® MAINTENANCE		

LAST REVISION 11-30-12 | DATE PLOTTED => 22-FEB-2013 | TIME PLOTTED => 08:36

BORDER LAST REVISED 7/2/2010 | USERNAME => s136183 | DGN FILE => 0412000301ca001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0976 | PROJECT NUMBER & PHASE 04120003011

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	82	20.8/22.4	3	14

REGISTERED CIVIL ENGINEER — 11-30-12 DATE

1-7-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ngoc Tran — No. 56977 — Exp. 6-30-13 — CIVIL — STATE OF CALIFORNIA

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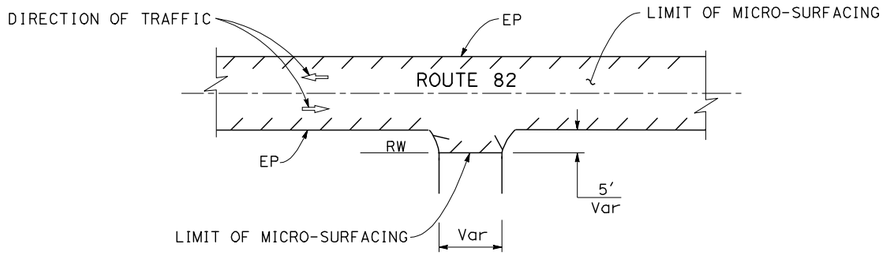
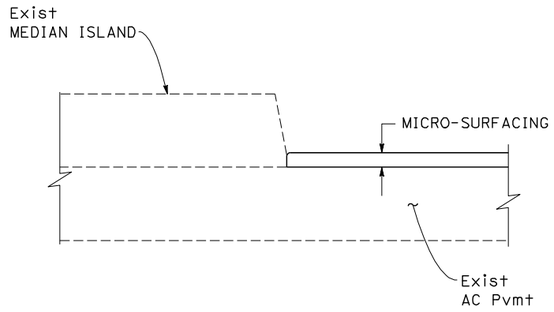
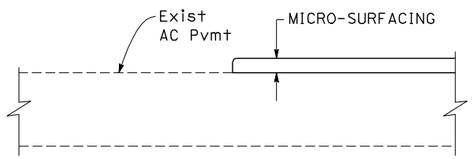


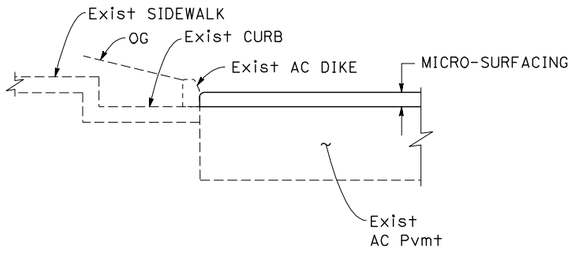
PAVING LIMIT AT LOCAL STREET INTERSECTIONS
(TYPICAL)



PAVING DETAIL AT MEDIAN ISLANDS
(TYPICAL)



PAVING DETAIL AT BEGIN AND END OF CONSTRUCTION



PAVING DETAIL AT CURBS OR AC DIKES
(TYPICAL)

CONSTRUCTION DETAILS
NO SCALE

C-1

CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
MARY THAO	NGOC TRAN	MT	11/30/12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE
FUNCTIONAL SUPERVISOR: RAMSES SARGISS

LAST REVISION 11-30-12 | DATE PLOTTED => 22-FEB-2013 | TIME PLOTTED => 08:36

BORDER LAST REVISED 7/2/2010 | USERNAME => s136183 | DGN FILE => 0412000301ga001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0976 | PROJECT NUMBER & PHASE 04120003011

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE	PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	No. OF SIGNS
1	W20-1	48" x 36"	ROAD WORK AHEAD	1 - 4" x 6"	8
2	G20-2	36" x 18"	END ROAD WORK	1 - 4" x 4"	8

NOTES

1. LOCATION OF CONSTRUCTION AREA SIGNS ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. LETTERING SIZES FOR SIGN PANELS ARE IN INCHES.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	82	20.8/22.4	4	14

REGISTERED CIVIL ENGINEER — 8-8-12 DATE

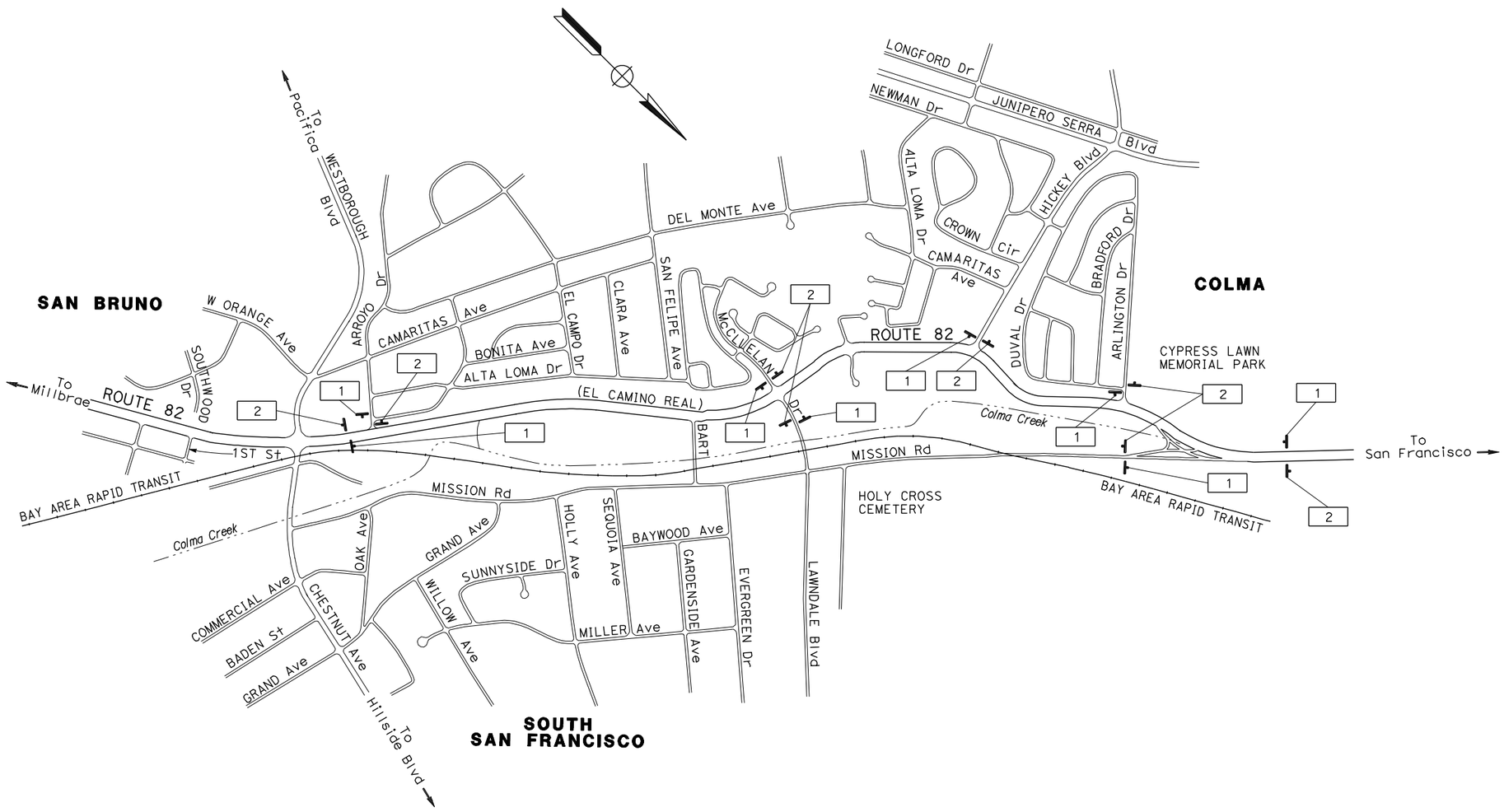
1-7-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jerilyn L. Struven — No. 49964 — Exp. 12-31-12 — CIVIL — STATE OF CALIFORNIA

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

LEGEND

No. — CONSTRUCTION AREA SIGN NUMBER



CONSTRUCTION AREA SIGNS

NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CS-1

LAST REVISION — DATE PLOTTED => 22-FEB-2013; TIME PLOTTED => 08:36 — 12-05-12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans® — TRAFFIC

FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG

CALCULATED-DESIGNED BY: STEVE LAU

CHECKED BY: JERILYN L.STRUVEN

REVISED BY: SL — DATE REVISED: 11/30/12

BORDER LAST REVISED 7/2/2010

USERNAME => s136183
DGN FILE => 0412000301 la001.dgn

RELATIVE BORDER SCALE IS IN INCHES: 0 1 2 3

UNIT 0976

PROJECT NUMBER & PHASE 04120003011

NOTE

ALL EXISTING PAVEMENT DELINEATION REMOVED SHALL BE REPLACED AT THE EXACT LOCATION OF EXISTING OR AS DIRECTED BY THE ENGINEER.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	82	20.8/22.4	5	14

Ngoc Tran 11-30-12
REGISTERED CIVIL ENGINEER DATE

1-7-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ngoc Tran — No. 56977 — Exp. 6-30-13 — 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.

PAVEMENT DELINEATION QUANTITIES

LOCATION PM	DETAIL No. OR PAVEMENT MARKING	THERMOPLASTIC TRAFFIC STRIPE					PAVEMENT MARKER RETROFLECTIVE		THERMOPLASTIC PAVEMENT MARKING	REMOVE			
		4" WHITE	4" YELLOW	8" WHITE	8" WHITE (BROKEN 12-3)	4" WHITE (BROKEN 17-7)	TYPE G	TYPE H	WHITE	PAVEMENT MARKER	THERMOPLASTIC TRAFFIC STRIPE (WHITE)	THERMOPLASTIC TRAFFIC STRIPE (YELLOW)	THERMOPLASTIC PAVEMENT MARKING
		LF					EA		SQFT	EA	LF		SQFT
20.8/22.4	9					24280	506			506	7082		
	27		680					8		8		680	
	27B	2300									2300		
	29		540				136			136		540	
	37B				320		22			22	128		
	38			850			36			36	850		
	38A			2770							5540		
	12" LIMIT LINE								1300				1300
	SIGNAL (5 EA)								160				160
	AHEAD (5 EA)								155				155
	PED (3 EA)								54				54
	XING (3 EA)								63				63
	TYPE II(R) ARROW (3 EA)								135				135
	TYPE III(L) ARROW (32 EA)								1344				1344
	TYPE III(R) ARROW (7 EA)								294				294
	TYPE V ARROW (19 EA)								627				627
SUBTOTAL		2300	1220	3620	320	24280	700	8	4132	708	15900	1220	4132
TOTAL		3520		3620	320	24280	708		4132	708	15900	1220	4132

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE

FUNCTIONAL SUPERVISOR: RAMSES SARGISS
CALCULATED-DESIGNED BY: MARY THAO
CHECKED BY: NGOC TRAN
REVISED BY: MT
DATE REVISED: 11/30/12

LAST REVISION: 11-30-12
DATE PLOTTED => 22-FEB-2013
TIME PLOTTED => 08:36

PAVEMENT DELINEATION QUANTITIES

PDQ-1

BORDER LAST REVISED 7/2/2010
USERNAME => s136183
DGN FILE => 0412000301nc001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0976
PROJECT NUMBER & PHASE 04120003011

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	82	20.8/22.4	6	14

Ngoc Tran 11-30-12
REGISTERED CIVIL ENGINEER DATE

1-7-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ngoc Tran — No. 56977 — Exp. 6-30-13 — CIVIL — STATE OF CALIFORNIA

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ROADWAY QUANTITIES

LOCATION PM	DIRECTION	COLD PLANE ASPHALT CONCRETE PAVEMENT	HOT MIX ASPHALT (TYPE A)	CRACK TREATMENT	AREA (N)	MICRO-SURFACING
		SQYD	TON	LNMI	SQFT	TON
20.8 TO 22.4	NB	2934	579	5	327500	640
20.8 TO 22.4	SB	1171	231	5	338000	660
TOTAL		4105	810	10	665500	1300

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

COLD PLANE ASPHALT CONCRETE PAVEMENT*

DIRECTION	LOCATION PM	LANE 1	LANE 2	LANE 3	WIDTH	DEPTH	COLD PLANE ASPHALT CONCRETE PAVEMENT	HOT MIX ASPHALT (TYPE A)
		LF					SQYD	TON
NB	20.83			40	12	0.35	54	11
	20.87			90	14	0.35	140	28
	20.88		30		12	0.35	40	8
	20.90		70		12	0.35	93	18
	20.90			70	14	0.35	109	21
	20.92		50		12	0.35	67	13
	20.94		15		12	0.35	20	4
	20.94			30	14	0.35	47	9
	21.00			20	6	0.35	13	3
	21.01		30		12	0.35	40	8
	21.04			30	4	0.35	13	3
	21.04			30	12	0.35	40	8
	21.05			165	18	0.35	330	65
	21.07		35		12	0.35	47	9
	21.07	20			12	0.35	27	5
	21.11			360	14	0.35	560	110
	21.14		110		12	0.35	147	29
	21.90	335	335		12	0.35	893	176
	22.10		60		6	0.35	40	8
	22.20		192		6	0.35	128	25
	22.30		80		6	0.35	53	11
	22.40		25		12	0.35	33	7
SUBTOTAL NB							2934	579

DIRECTION	LOCATION PM	LANE 1	LANE 2	LANE 3	WIDTH	DEPTH	COLD PLANE ASPHALT CONCRETE	HOT MIX ASPHALT (TYPE A)
		LF					SQYD	TON
SB	22.40		240		12	0.35	320	63
	22.30		185		12	0.35	247	49
	22.20	55	55		6	0.35	73	14
	22.10	6			6	0.35	4	1
	22.00	180	180		12	0.35	480	95
	21.90		35		12	0.35	47	9
SUBTOTAL SB							1171	231

* QUANTITIES ARE INCLUDED IN THE ROADWAY QUANTITIES TABLE

SUMMARY OF QUANTITIES

Q-1

REVISED BY	DATE REVISED
MT	11/30/12

CALCULATED-DESIGNED BY	CHECKED BY
MARY THAO	NGOC TRAN

FUNCTIONAL SUPERVISOR: RAMSES SARGISS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE

LAST REVISION 11-30-12
DATE PLOTTED => 22-FEB-2013
TIME PLOTTED => 08:36

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	82	20.8/22.4	7	14

Ramona M Taitano Loughran 12-3-12
REGISTERED ELECTRICAL ENGINEER DATE

1-7-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
R.M. Taitano Loughran
No. 16344
Exp. 3-31-13
ELECT
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.

ELECTRICAL INDEX

GENERAL NOTES

1. NO ABOVE GROUND ELECTRICAL WORK SHALL BE PERFORMED ON ANY SYSTEM WITHIN THE PROJECT SITE UNTIL ALL CONTRACTOR-FURNISHED ELECTRICAL MATERIALS FOR THAT INDIVIDUAL SYSTEM HAVE BEEN TESTED AND DELIVERED TO CONTRACTOR.

2. ABANDON EXISTING LOOPS IN PLACE WHEN CUTTING NEW REPLACEMENT LOOPS. SPLICE NEW DETECTOR CONDUCTORS TO CORRESPONDING dlc IN TERMINATION PULL BOX. VERIFY IDENTIFICATION OF dlc BEFORE CONNECTING TO THE CORRESPONDING LOOP DETECTORS.

3. WHERE ONE OR MORE TRAFFIC SIGNAL DETECTOR(S) CONSIST OF A SEQUENCE OF 4 LOOPS IN A SINGLE LANE, THE FRONT LOOP CLOSEST TO THE LIMIT LINE OR CROSSWALK SHALL BE LOCATED 1 FOOT FROM THE LINE. THE SET OF 3 LOOPS OR 4 LOOPS ASSIGNED TO THE SAME LOOP DETECTOR LEAD-IN CABLE (DLC) SHALL BE CONNECTED IN SERIES FOR TRAFFIC SIGNAL SYSTEM ONLY AND NOT FOR RAMP METERING SYSTEM.

4. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE LOOP DETECTORS TO BE REPLACED PRIOR TO REPAVING.

5 . ALL LOOP DETECTORS AT EACH LOCATION SHALL BE REPLACED AND TESTED WITHIN THE TIME ALLOTTED FOR TRAFFIC SIGNAL SYSTEM SHUTDOWN AT THAT LOCATION.

6. THE CONTRACTOR SHALL PROVIDE TWO REPORTS PER LOCATION ON THE STATUS OF EACH DETECTOR LOOP REPLACEMENT SHOWING CONTINUITY AND INSULATION RESISTANCE READINGS. THE REPORTS SHALL BE SUBMITTED TO THE ENGINEER, ONE BEFORE STARTING WORK AND THE OTHER AFTER WORK HAS BEEN COMPLETED AT EACH LOCATION.

7. INSTALL LOCKING GRADE RING FOR EXISTING DETECTOR HANDHOLE AS NEEDED.

8. RAISE EXISTING DETECTOR HANDHOLES TO GRADE.

CALCULATED-DESIGNED BY	RAMONA TAITANO LOUGHRAN	REVISED BY	RTL
CHECKED BY	KENNETH XU	DATE REVISED	11/30/12

FUNCTIONAL SUPERVISOR: LAI HONG CHIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans®

ELECTRICAL

ELECTRICAL INDEX AND NOTES

E-1

LAST REVISION 12-03-12
DATE PLOTTED => 22-FEB-2013
TIME PLOTTED => 08:37

BORDER LAST REVISED 7/2/2010

USERNAME => s136183
DGN FILE => 0412000301ua001.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0976

PROJECT NUMBER & PHASE 04120003011

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	82	20.8/22.4	8	14

Ramona M Taitano Loughran 12-3-12
REGISTERED ELECTRICAL ENGINEER DATE

1-7-13
PLANS APPROVAL DATE

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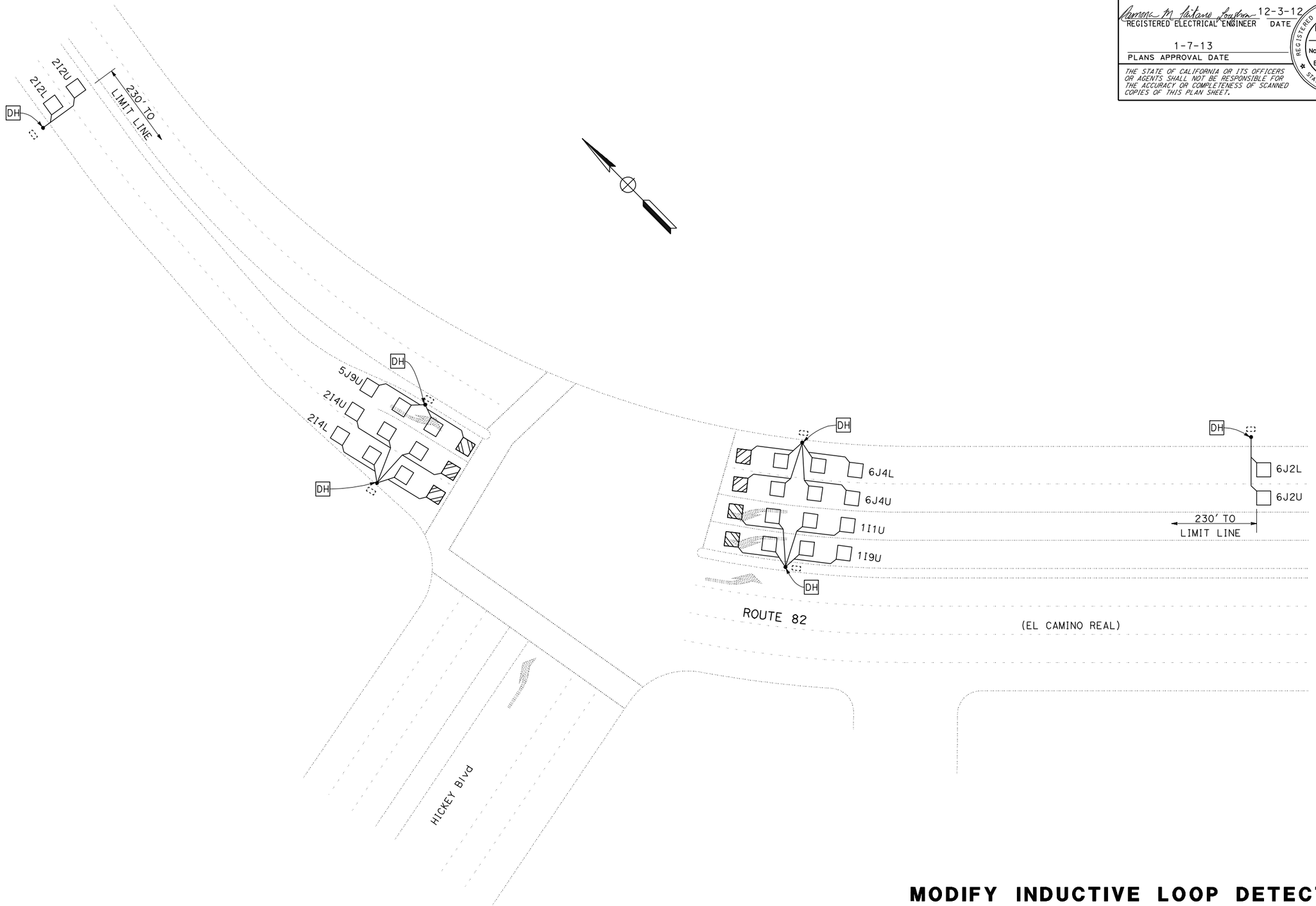
REGISTERED PROFESSIONAL ENGINEER
R.M. Taitano Loughran
No. 16344
Exp. 3-31-13
ELECT
STATE OF CALIFORNIA



MODIFY INDUCTIVE LOOP DETECTORS

SCALE: 1" = 20'

E-2

CALCULATED-DESIGNED BY	RAMONA TAITANO LOUGHRAN	REVISED BY	RTL
CHECKED BY	KENNETH XU	DATE REVISED	11/30/12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans®
ELECTRICAL

FUNCTIONAL SUPERVISOR
LAI HONG CHIA

LAST REVISION 12-03-12
DATE PLOTTED => 22-FEB-2013
TIME PLOTTED => 08:37

BORDER LAST REVISED 7/2/2010

USERNAME => s136183
DGN FILE => 0412000301ua002.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0976

PROJECT NUMBER & PHASE 04120003011

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	82	20.8/22.4	9	14

Ramona M Taitano Loughran 12-3-12
REGISTERED ELECTRICAL ENGINEER DATE

1-7-13
PLANS APPROVAL DATE

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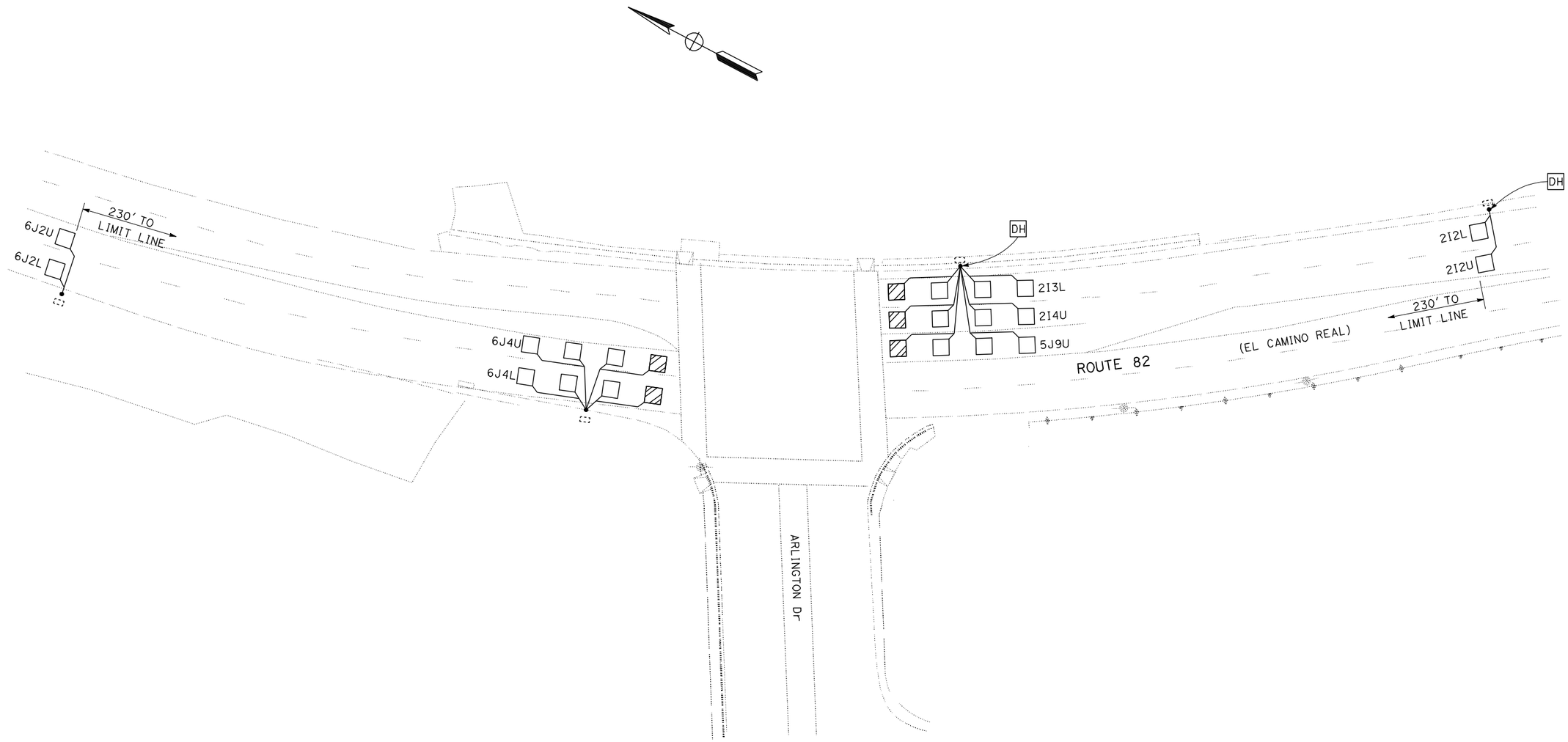
REGISTERED PROFESSIONAL ENGINEER
R.M. Taitano Loughran
No. 16344
Exp. 3-31-13
ELECT
STATE OF CALIFORNIA



MODIFY INDUCTIVE LOOP DETECTORS

SCALE: 1" = 20'

E-3

CALCULATED-DESIGNED BY	RAMONA TAITANO LOUGHRAN	REVISED BY	RTL
CHECKED BY	KENNETH XU	DATE REVISED	11/30/12
FUNCTIONAL SUPERVISOR	LAI HONG CHIA		
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	ELECTRICAL		

LAST REVISION 12-03-12
DATE PLOTTED => 22-FEB-2013
TIME PLOTTED => 08:37

BORDER LAST REVISED 7/2/2010 | USERNAME => s136183 | DGN FILE => 0412000301ua003.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0976 | PROJECT NUMBER & PHASE 04120003011

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	82	20.8/22.4	10	14

REGISTERED CIVIL ENGINEER — 12-7-12 DATE

1-7-13
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.

TYPICAL LANE CLOSURE

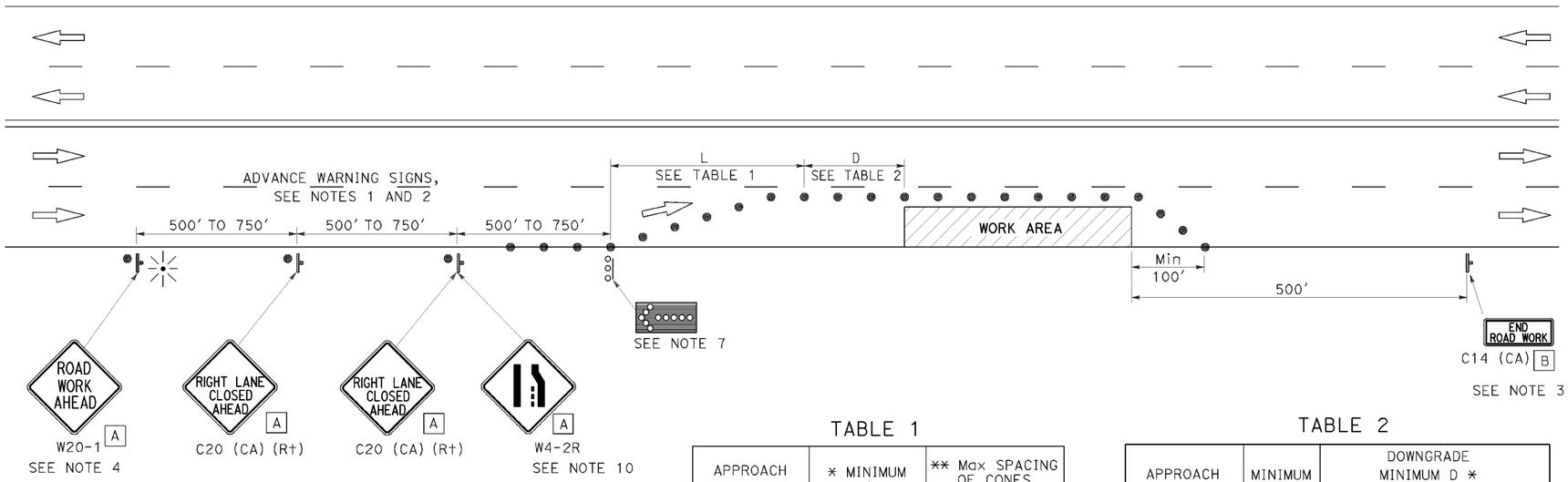


TABLE 1

APPROACH SPEED	* MINIMUM L	** Max SPACING OF CONES ALONG TAPER
mph	ft	ft
20 AND BELOW	80	20
25	125	25
30	180	30
35	245	35
40	320	40
45	540	45
50	600	50
Over 50	SEE NOTE 9	

* USE L FOR LANE WIDTHS LESS THAN OR EQUAL TO 12'.
** SEE NOTE 8.

TABLE 2

APPROACH SPEED	MINIMUM D	DOWNGRADE MINIMUM D *		
		-3%	-6%	-9%
mph	ft	ft	ft	ft
25 AND BELOW	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
OVER 50	SEE NOTE 9			

* USE ON SUSTAINED DOWNGRADE STEEPER THAN -3 PERCENT AND LONGER THAN 1 MILE.

NOTES:

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

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

LEGEND

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

SIGN PANEL SIZE (Min)

[A] 36" x 36"
[B] 36" x 18"

NOTES:

1. Where approach speeds are low, advance warning signs may be placed at 300' spacing and placed closer in urban areas.
2. Each advance warning sign 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.
3. A C14 (CA) "END ROAD WORK" sign, 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.
4. If the W20-1 sign would follow within 2000' of a stationary W20-1 or C11 (CA) "ROAD WORK NEXT _____ MILES", use a C20 (CA) sign for the first advance warning sign.
5. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
6. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
7. Flashing arrow sign shall be either Type I or Type II.
8. The maximum spacing between cones along a tangent shall be 50' and along a taper shall be approximately as shown in Table 1.
9. For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
10. When specified in the special provisions, a W4-2 "LANE ENDS" symbol sign is to be used in place of the C20 (CA) "RIGHT LANE CLOSED AHEAD" sign.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS

NO SCALE

TCS-1

REVISED BY | DATE REVISED
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 10-DEC-2012 | TIME PLOTTED => 09:45

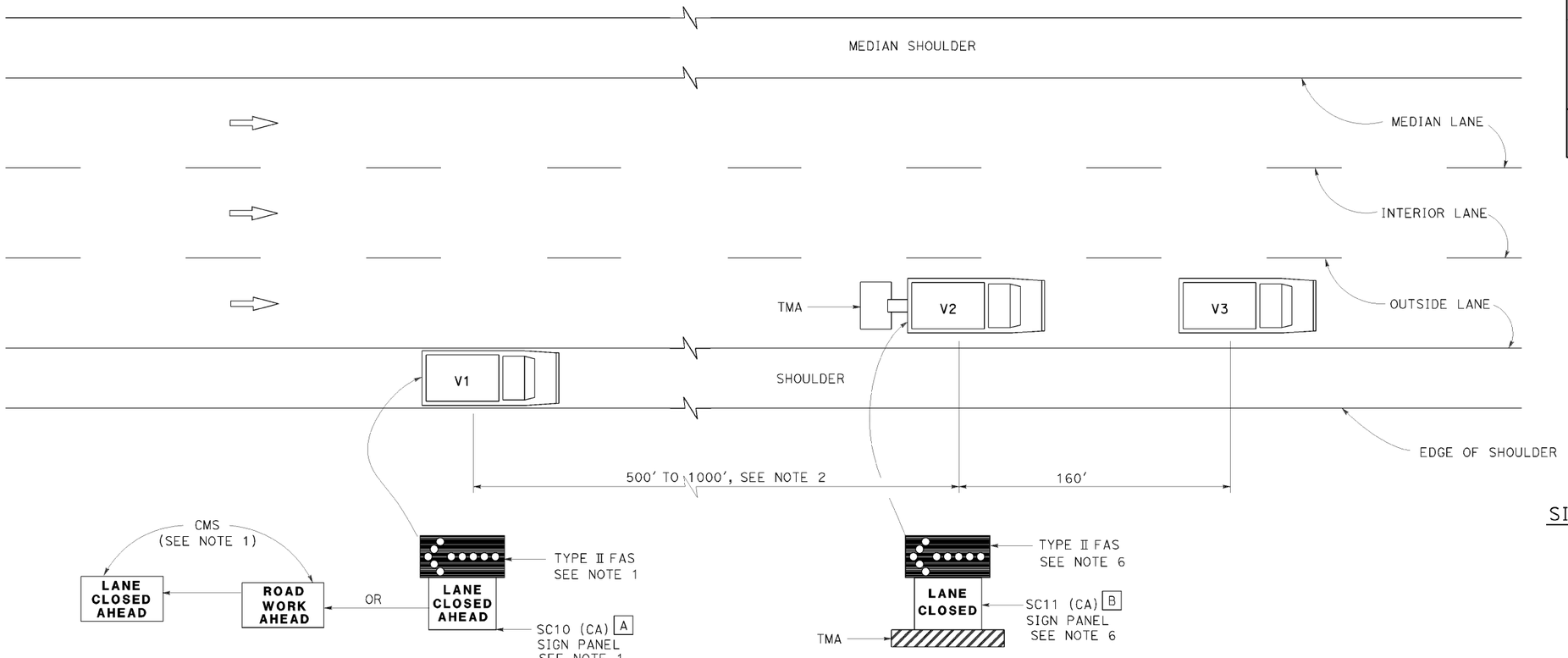
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	82	20.8/22.4	11	14

REGISTERED CIVIL ENGINEER — 12-7-12 DATE

1-7-13
PLANS APPROVAL DATE

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.



SIGN PANEL SIZE (Min)

A 66" × 36"

B 54" × 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. A Type II flashing arrow sign shall be mounted on the rear of sign vehicle V1 and used with the SC10 (CA) sign panel. A Type II flashing arrow sign will not be required with the changeable message sign provided the flashing arrow sign symbol is displayed on the changeable message sign board. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "LANE CLOSED AHEAD" message and then the flashing arrow sign symbol. For median lane closure, the flashing arrow symbol shall be reversed with the arrowhead on the right.
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 be Type III, IV, VII, VIII or IX retroreflective sheeting, black on white, black on orange, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Gross Vehicle Weight of shadow vehicle V2 shall be a minimum of 20,000 pounds and 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.
9. Where sufficient shoulder width is not available, sign vehicle V1 may encroach into the traffic lane staying as close to the edge of shoulder as practicable. Both V1 and V2 shall be equipped with a truck-mounted attenuator. The Gross Vehicle Weight of V1 and V2 shall be at least 20,000 pounds, respectively.
10. When multiple work vehicles are used in close proximity to each other, only one shadow vehicle is required, and spacing between work vehicles shall be minimized in order to deter traffic from entering the closed lane.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS (OUTSIDE AND MEDIAN LANES)

NO SCALE

TCS-2

REVISED BY | DATE REVISED
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION | DATE PLOTTED => 10-DEC-2012
00-00-00 | TIME PLOTTED => 09:45

BORDER LAST REVISED 7/2/2010 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0976 | PROJECT NUMBER & PHASE 04120003011

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	82	20.8/22.4	12	14

REGISTERED CIVIL ENGINEER — 12-7-12 DATE

1-7-13
PLANS APPROVAL DATE

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

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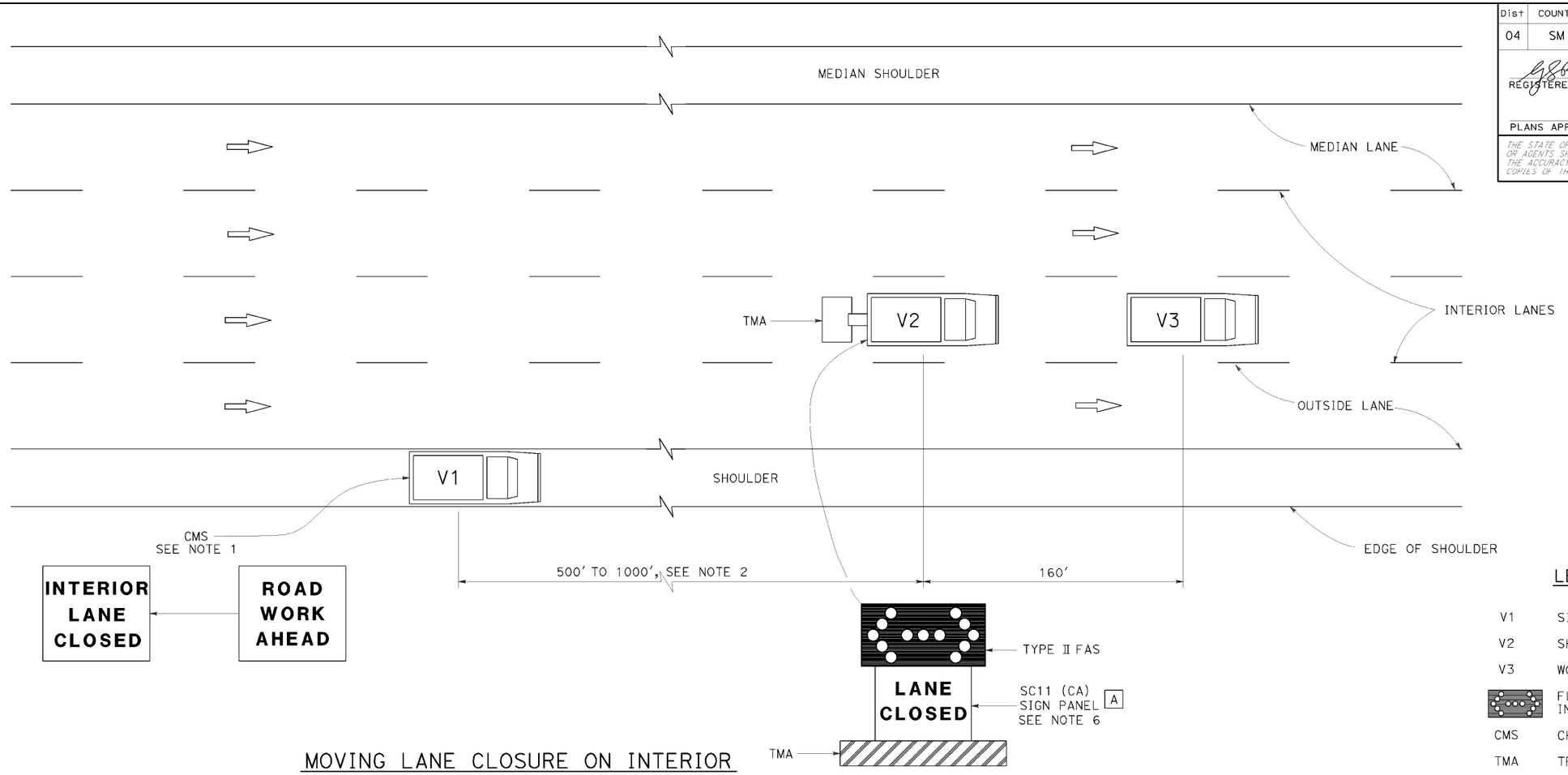


MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS

LEGEND

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

NOTES:

1. A changeable message 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 "INTERIOR LANE CLOSED" message. The message "CENTER LANE CLOSED" may be used in place of the "INTERIOR LANE CLOSED" message.
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 be Type III, IX, VII, VIII, or IX retroreflective sheeting, black on white, black on orange, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Gross Vehicle Weight of shadow vehicle V2 shall be a minimum of 20,000 pounds and 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.
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. Where sufficient shoulder width is not available, sign vehicle V1 may encroach into the traffic lane staying as close to the edge of shoulder as practicable. Both V1 and V2 shall be equipped with a truck-mounted attenuator. The Gross Vehicle Weight of V1 and V2 shall be at least 20,000 pounds, respectively.
10. When multiple work vehicles are used in close proximity to each other, only one shadow vehicle is required, and spacing between work vehicles shall be minimized in order to deter traffic from entering the closed lane.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS (INTERIOR LANES)

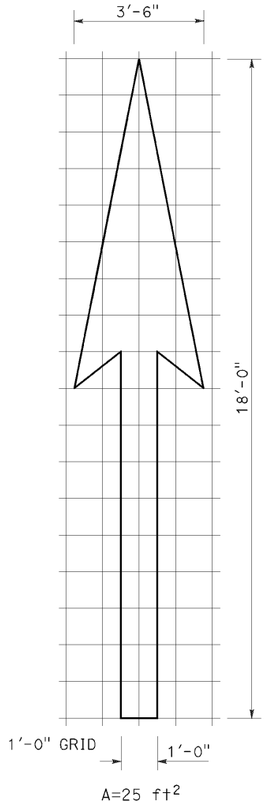
NO SCALE

TCS-3

REVISED BY | DATE REVISED
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

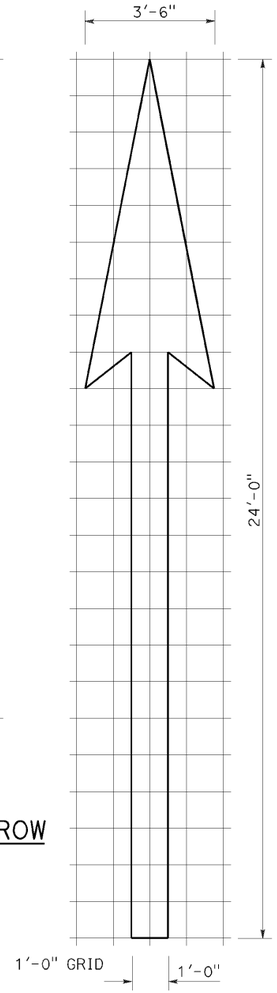
LAST REVISION 00-00-00 | DATE PLOTTED => 10-DEC-2012 | TIME PLOTTED => 09:45

BORDER LAST REVISED 7/2/2010 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0976 | PROJECT NUMBER & PHASE 04120003011



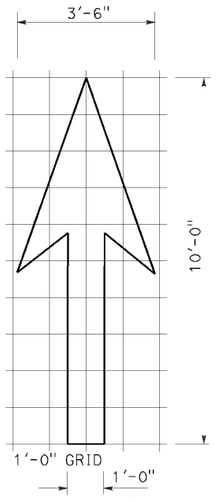
A=25 ft²

TYPE I 18'-0" ARROW



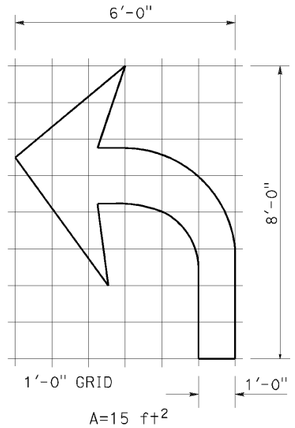
A=31 ft²

TYPE I 24'-0" ARROW



A=14 ft²

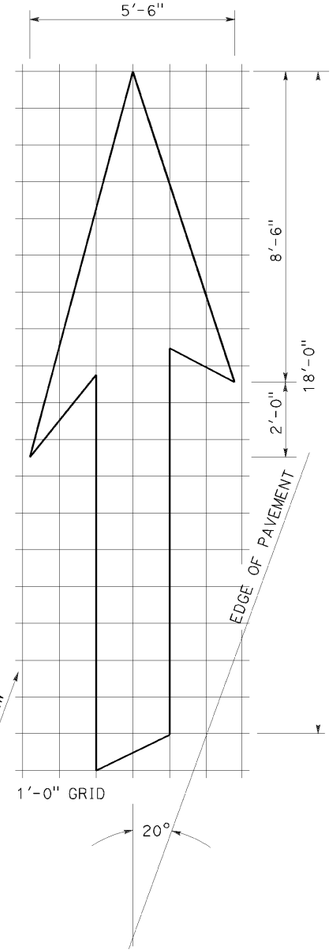
TYPE I 10'-0" ARROW



A=15 ft²

TYPE IV (L) ARROW

(For Type IV (R) arrow, use mirror image)



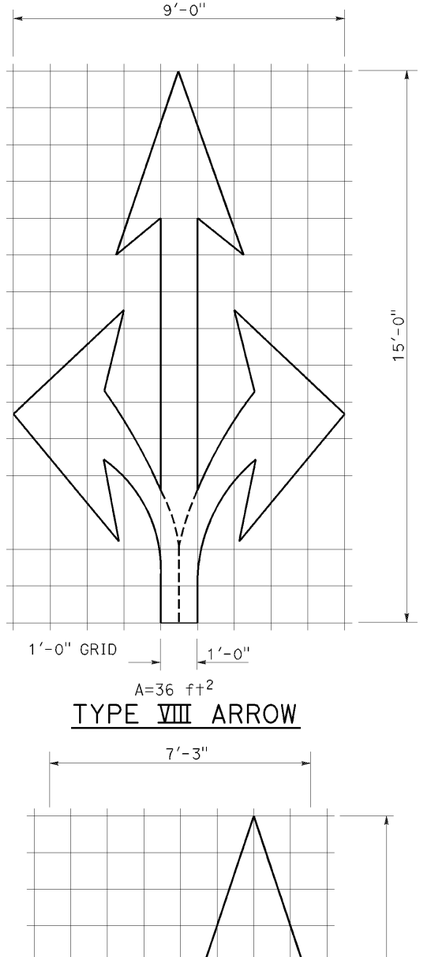
A=42 ft²

TYPE VI ARROW

Right lane drop arrow (For left lane, use mirror image)

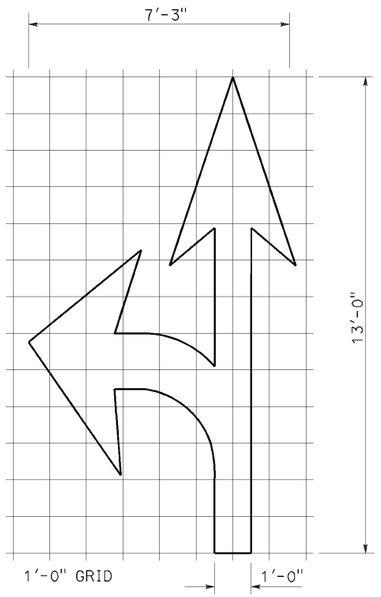
A=3.5 ft²

BIKE LANE ARROW



A=36 ft²

TYPE VIII ARROW



A=27 ft²

TYPE VII (L) ARROW

(For Type VII (R) arrow, use mirror image)

NOTE:
Minor variations in dimensions may be accepted by the Engineer.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	82	20.8/22.4	13	14

Roberta L. McLaughlin
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Roberta L. McLaughlin
No. C40375
Exp. 3-31-13
CIVIL
STATE OF CALIFORNIA

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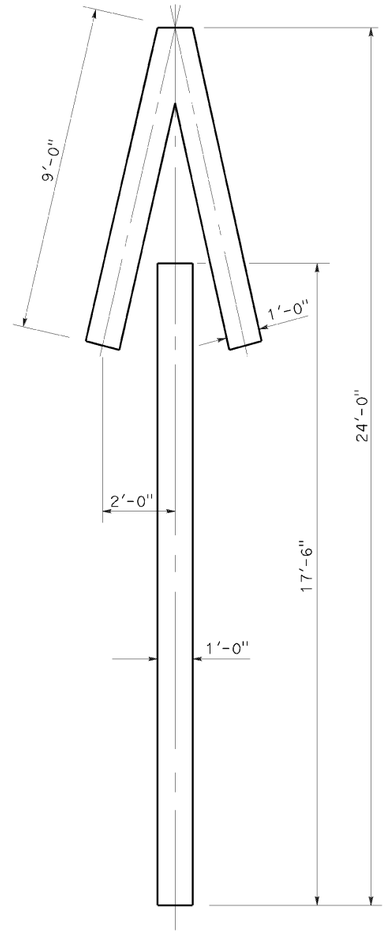
TO ACCOMPANY PLANS DATED 1-7-13



A=33 ft²

TYPE V ARROW

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS ARROWS

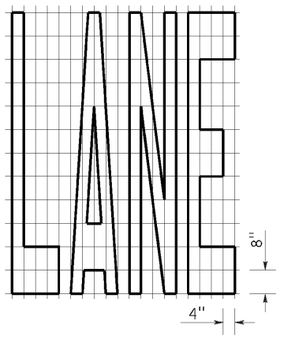
NO SCALE

RSP A24A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN A24A DATED MAY 20, 2011 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2010.

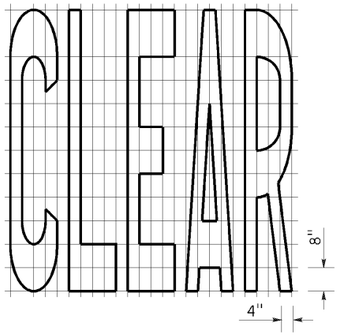
REVISED STANDARD PLAN RSP A24A

2010 REVISED STANDARD PLAN RSP A24A

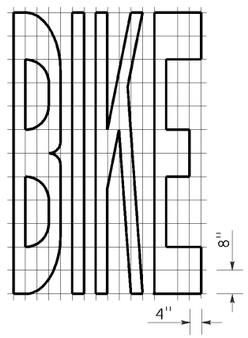
3-14-12



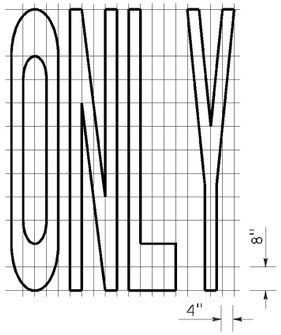
A=24 ft^2



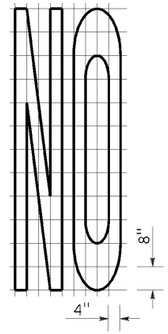
A=27 ft^2



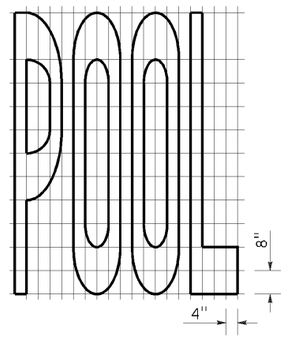
A=21 ft^2



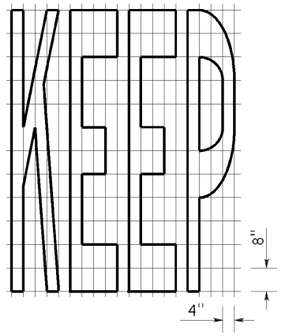
A=22 ft^2



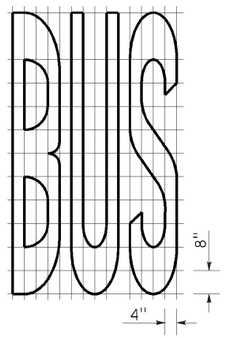
A=14 ft^2



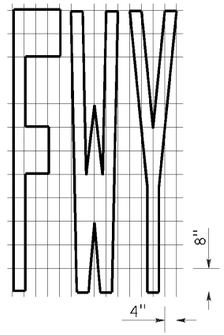
A=23 ft^2



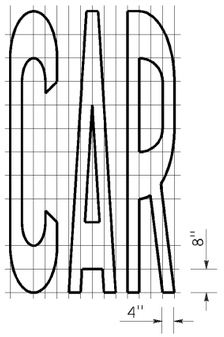
A=24 ft^2



A=20 ft^2



A=16 ft^2



A=17 ft^2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	82	20.8/22.4	14	14

Roberta L. McLaughlin
REGISTERED CIVIL ENGINEER

July 20, 2012
PLANS APPROVAL DATE

Roberta L. McLaughlin
No. C40375
Exp. 3-31-13
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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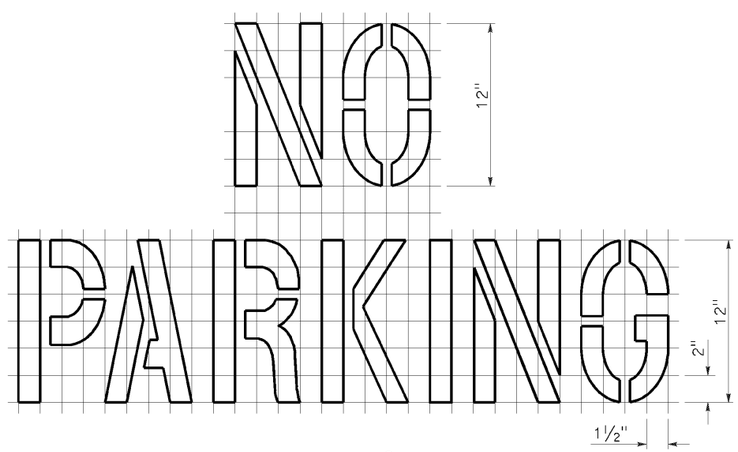
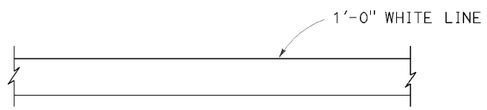
TO ACCOMPANY PLANS DATED 1-7-13

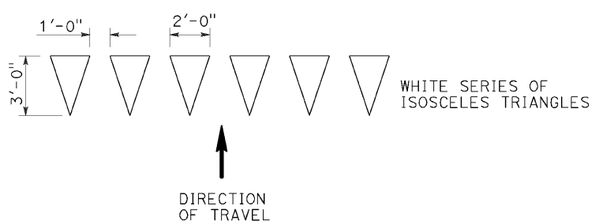
WORD MARKINGS			
ITEM	ft^2	ITEM	ft^2
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



A=2 ft^2
See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

NOTES:

1. If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
2. The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
5. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
6. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS
WORDS, LIMIT AND YIELD LINES

NO SCALE

RSP A24E DATED JULY 20, 2012 SUPERSEDES STANDARD PLAN A24E
DATED MAY 20, 2011 - PAGE 17 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A24E

2010 REVISED STANDARD PLAN RSP A24E

6-12-12