INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2-7	DRAINAGE PLANS, DETAILS AND QUANTITIES
8	UTILITY PLAN
9	CONSTRUCTION AREA SIGNS
10	SIGN PLAN AND QUANTITIES
11-14	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

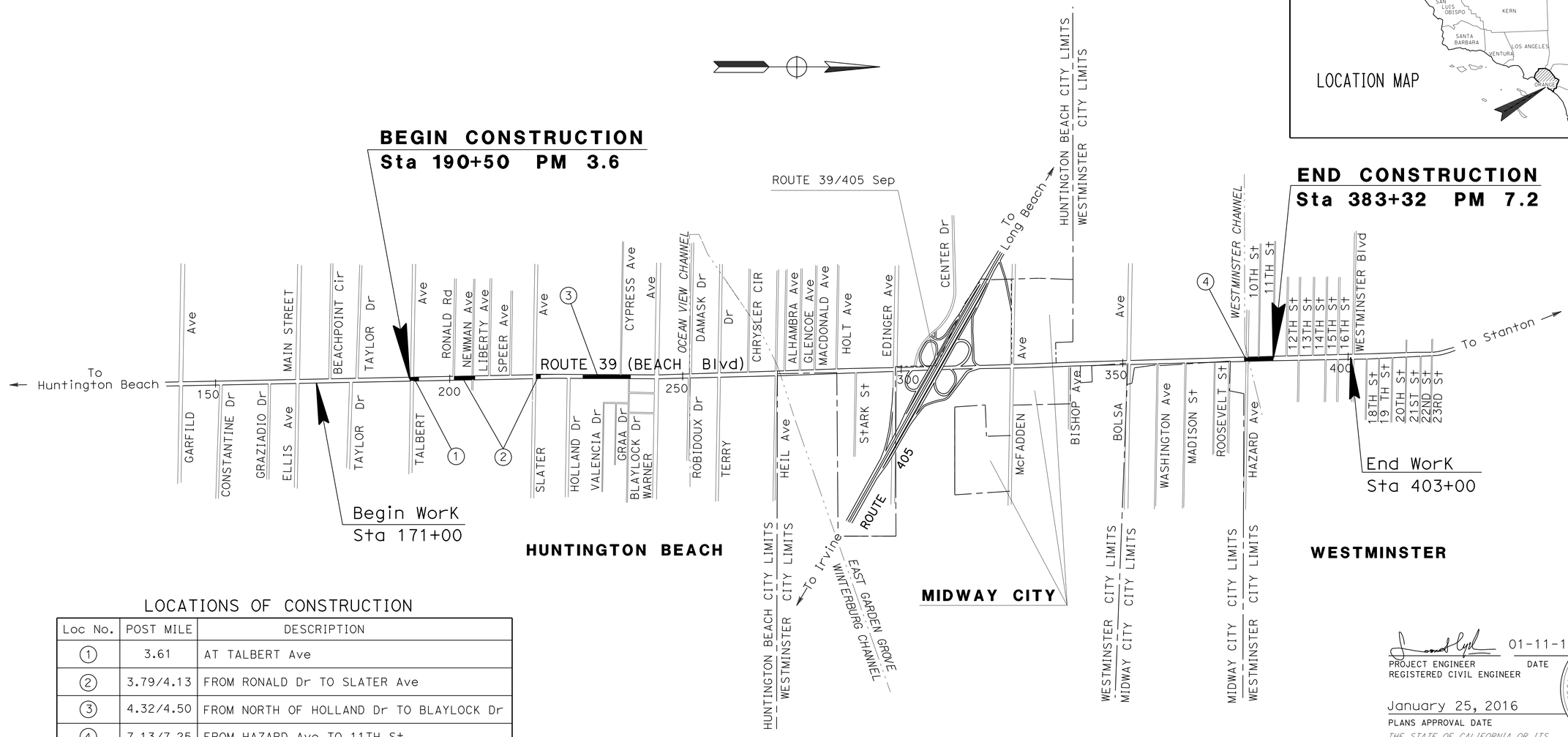
PROJECT PLANS FOR CONSTRUCTION ON STATE HIGHWAY

IN ORANGE COUNTY IN HUNTINGTON BEACH AND WESTMINSTER FROM TALBERT AVENUE TO 11TH STREET

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	39	3.6/7.2	1	14

LOCATION MAP



LOCATIONS OF CONSTRUCTION

Loc No.	POST MILE	DESCRIPTION
(1)	3.61	AT TALBERT Ave
(2)	3.79/4.13	FROM RONALD Dr TO SLATER Ave
(3)	4.32/4.50	FROM NORTH OF HOLLAND Dr TO BLAYLOCK Dr
(4)	7.13/7.25	FROM HAZARD Ave TO 11TH St

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

NO SCALE

PROJECT MANAGER: MASSOUD TAJIK

DESIGN MANAGER: MASSOUD TAJIK

01-11-16
PROJECT ENGINEER REGISTERED CIVIL ENGINEER — DATE

LOANNA HUYNH
No. C 52386
Exp. 12-31-16
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

January 25, 2016
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.	12-0P4604
PROJECT ID	1215000111

LAST REVISION 12-30-15
DATE PLOTTED => 25-JAN-2016
TIME PLOTTED => 14:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	39	3.6/7.2	2	14

01-11-16
REGISTERED CIVIL ENGINEER — DATE

01-25-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — LOANNA HUYNH — No. C52386 — Exp. 12-31-16 — CIVIL — STATE OF CALIFORNIA

NOTES:

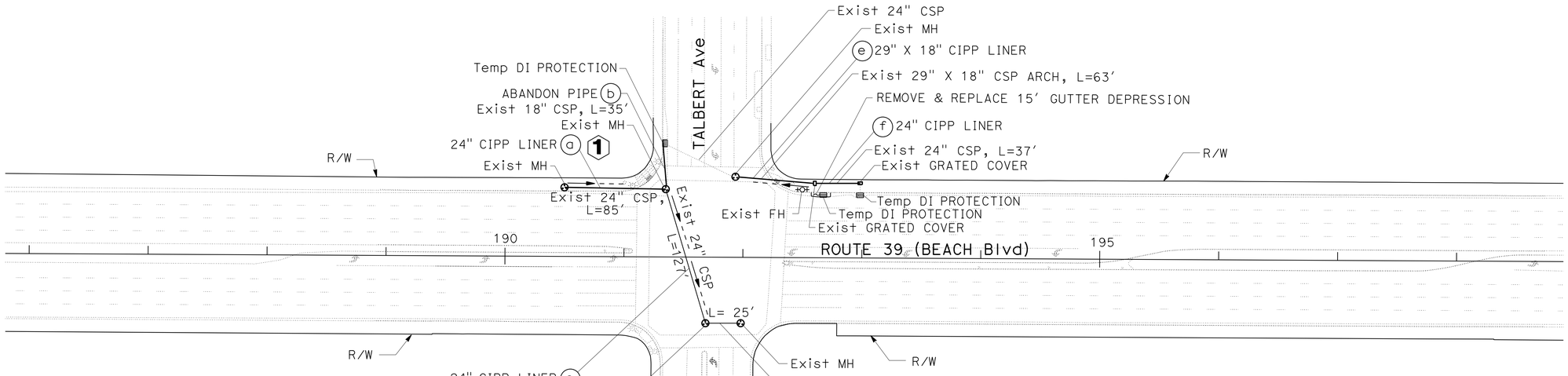
1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THIS SHEET.

ABBREVIATION:

CIPP	CURED-IN-PLACE PIPE

LEGENDS:

- (X) DRAINAGE SYSTEM No.
- (X) DRAINAGE UNIT
- DRAINAGE FLOWLINE
- TRAFFIC DIRECTION



DRAINAGE SYSTEM No. 1

(STATEWIDE SYSTEM No. 550394000364)

APPROVED FOR DRAINAGE WORK ONLY

DRAINAGE PLAN (LOCATION No. 1)

SCALE: 1" = 50'

D-1

REVISED BY	DATE REVISED
LH	12-30-15

CALCULATED-DESIGNED BY: LOANNA HUYNH
CHECKED BY: JAY JISON
FUNCTIONAL SUPERVISOR: MASSOUD TAJIK

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE

LAST REVISION: 12-30-15
DATE PLOTTED => 25-JAN-2016
TIME PLOTTED => 14:18

BORDER LAST REVISED 7/2/2010
USERNAME => s127956
DGN FILE => 12150001111ia001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 3064
PROJECT NUMBER & PHASE 12150001111

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	39	3.6/7.2	3	14

REGISTERED CIVIL ENGINEER — DATE: 01-11-16

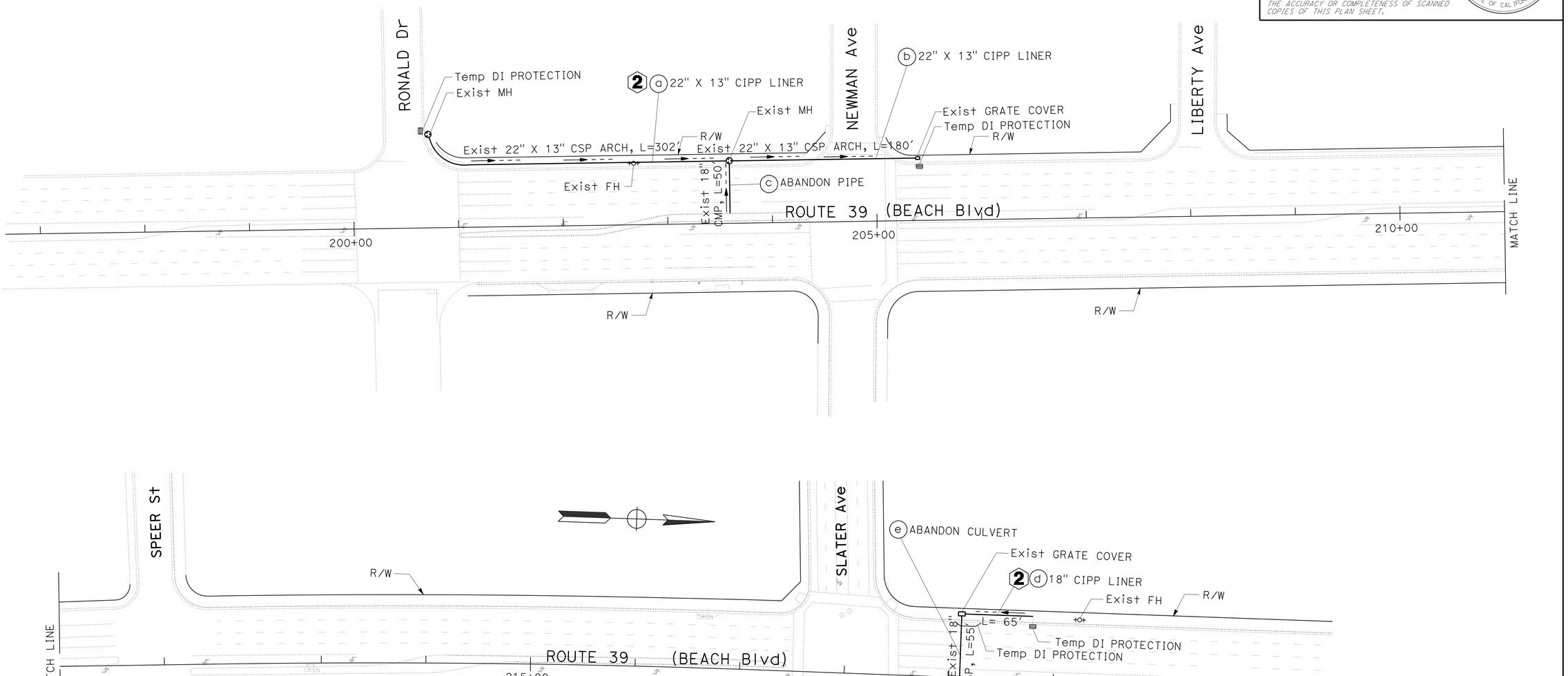
LOANNA HUYNH, No. C52386, Exp. 12-31-16, CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

PLANS APPROVAL DATE: 01-25-16

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

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THIS SHEET.



DRAINAGE SYSTEM No. 2

(STATEWIDE SYSTEM No. 550390000412)

APPROVED FOR DRAINAGE WORK ONLY

DRAINAGE PLAN (LOCATION No. 2)

SCALE: 1" = 50'

D-2

REVISED BY	DATE REVISED
LH	12-30-15

CALCULATED-DESIGNED BY	CHECKED BY
LOANNA HUYNH	JAY JISON

FUNCTIONAL SUPERVISOR: MASSOUD TAJIK

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE
Caltrans

LAST REVISION | DATE PLOTTED => 25-JAN-2016
12-30-15 | TIME PLOTTED => 14:18

BORDER LAST REVISED 7/2/2010 | USERNAME => s127956 | DGN FILE => 12150001111ia002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 3064 | PROJECT NUMBER & PHASE 12150001111

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	39	3.6/7.2	4	14

REGISTERED CIVIL ENGINEER — 01-11-16 DATE

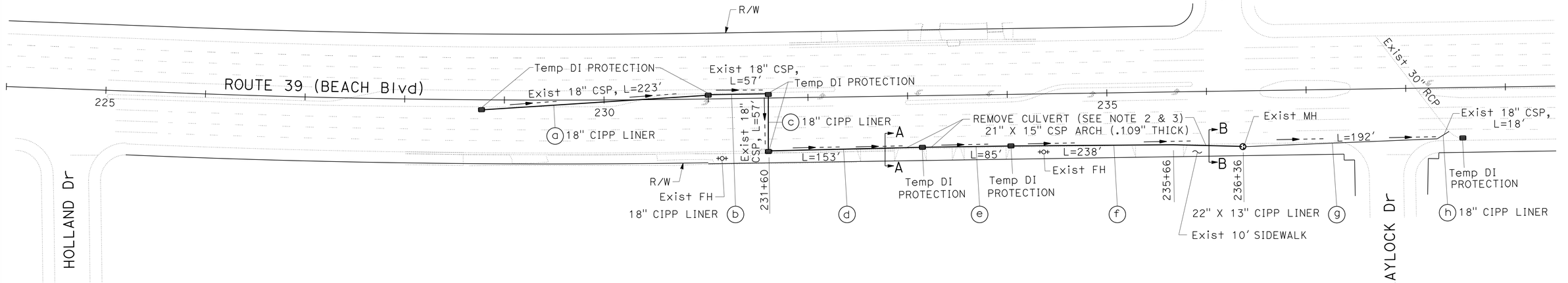
LOANNA HUYNH No. C52386 Exp. 12-31-16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

01-25-16
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.

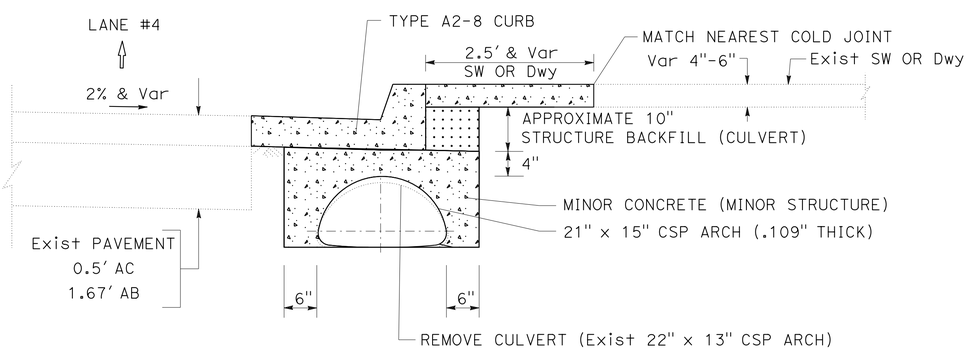
NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. CONTRACTOR SHALL SURVEY EXISTING FLOW LINE ELEVATIONS FOR PIPE AND CURB & GUTTER PRIOR TO REMOVING AND NEW FACILITIES SHALL BE CONSTRUCTED AT THE SAME EXISTING FLOW LINE ELEVATIONS.
3. CONTRACTOR SHALL VERIFY UTILITY FACILITIES AS SHOWN ON SHEET U-1 PRIOR TO REPLACING CULVERTS. TEMPORARY BACKFILL SHALL BE REQUIRED AFTER TRENCHING AT CURB & GUTTER, SIDEWALK AND DRIVEWAY.

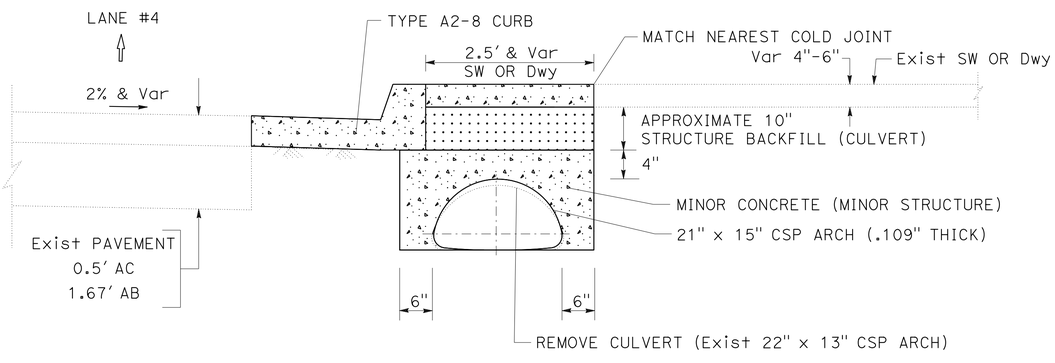


DRAINAGE SYSTEM No. 3

(STATEWIDE SYSTEM No. 55039400476)



SECTION A-A
Sta 231+60 - 235+66



SECTION B-B
Sta 235+66 - 236+36

DRAINAGE PLAN (LOCATION No. 3)

SCALE: 1" = 50'

APPROVED FOR DRAINAGE WORK ONLY

D-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — MAINTENANCE
FUNCTIONAL SUPERVISOR: MASSOUD TAJIK
CALCULATED-DESIGNED BY: LOANNA HUYNH
CHECKED BY: JAY JISON
REVISED BY: LH
DATE REVISED: 12-30-15
LAST REVISION: 12-30-15
DATE PLOTTED => 25-JAN-2016
TIME PLOTTED => 14:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	39	3.6/7.2	5	14

01-11-16
REGISTERED CIVIL ENGINEER DATE

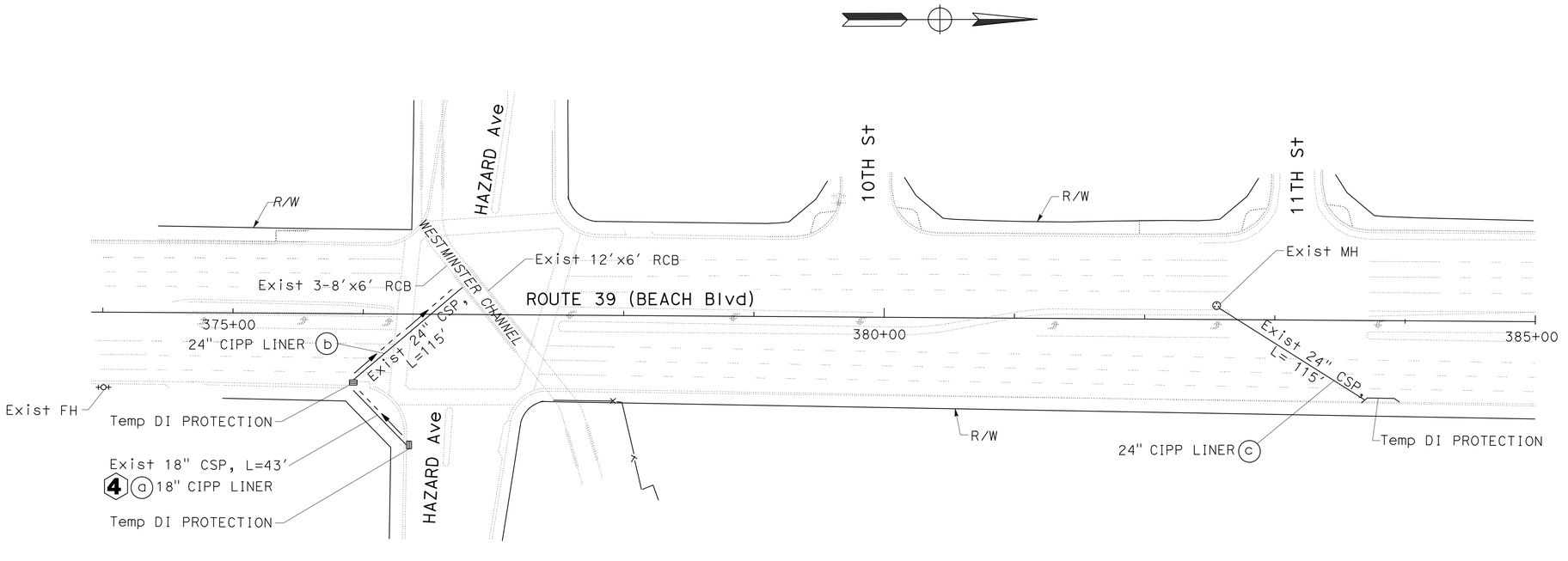
01-25-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
LOANNA HUYNH
No. C52386
Exp. 12-31-16
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.

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTE ON THIS SHEET.



DRAINAGE SYSTEM No. 4

(STATEWIDE SYSTEM No. 550390000713)

APPROVED FOR DRAINAGE WORK ONLY

DRAINAGE PLAN (LOCATION No. 4)

SCALE: 1" = 50'

D-4

CALCULATED-DESIGNED BY	LH
CHECKED BY	12-30-15
REVISED BY	DATE REVISED
LOANNA HUYNH	JAY JISON
FUNCTIONAL SUPERVISOR	MASSOUD TAJIK

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE

LAST REVISION | DATE PLOTTED => 25-JAN-2016
12-30-15 | TIME PLOTTED => 14:18

BORDER LAST REVISED 7/2/2010 | USERNAME => s127956 | DGN FILE => 12150001111ia004.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 3064 | PROJECT NUMBER & PHASE | 12150001111

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	39	3.6/7.2	6	14

01-11-16
REGISTERED CIVIL ENGINEER DATE

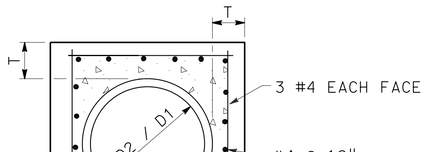
01-25-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
LOANNA HUYNH
No. C52386
Exp. 12-31-16
CIVIL
STATE OF CALIFORNIA

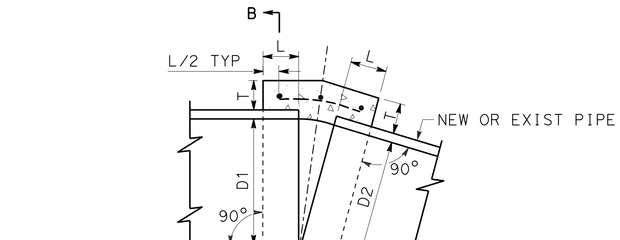
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES

1. WHERE PIPES OF DIFFERENT DIAMETERS ARE JOINED WITH A CONCRETE COLLAR, 'L' AND 'T' SHALL BE THOSE OF THE LARGER PIPE. D=D1 OR D2, WHICHEVER IS GREATER.
2. FOR PIPE SIZE NOT LISTED USE NEXT SIZE LARGER.
3. OMIT REINFORCING ON PIPES 24" AND LESS IN DIAMETER AND ON ALL PIPES WHERE ANGLE A IS LESS THAN 10°.
4. JOIN PIPES AT INVERTS.
5. REINFORCEMENT SHALL BE PLACED 1½" CLEAR FROM OUTSIDE DIAMETER OF PIPE.



SECTION B-B



CONCRETE COLLAR

D	L	T
12"	1.0′	4"
18"	1.0′	5"
24"	1.0′	6"
36"	1.5′	8"
48"	1.5′	10"
54"	1.5′	10"
60"	1.75′	11"
66"	1.75′	11"
72"	2.0′	12"

DRAINAGE DETAILS (LOCATION No. 3)

NO SCALE

DD-1

CALCULATED-DESIGNED BY: LOANNA HUYNH
CHECKED BY: JAY JISON
REVISED BY: LH
DATE REVISED: 12-30-15
FUNCTIONAL SUPERVISOR: MASSOUD TAJIK
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE

LAST REVISION DATE PLOTTED => 25-JAN-2016
12-30-15 TIME PLOTTED => 14:18

BORDER LAST REVISED 7/2/2010
USERNAME => s127956
DGN FILE => 12150001111ic001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 3064
PROJECT NUMBER & PHASE 12150001111

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	39	3.6/7.2	7	14

01-11-16
REGISTERED CIVIL ENGINEER DATE

01-25-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
LOANNA HUYNH
No. C 52386
Exp 12/31/16
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.

DRAINAGE SHEET No.	DRAINAGE SYSTEM No. ⬡	DRAINAGE UNIT ◯	CURED-IN-PLACE PIPELINER 18"	CURED-IN-PLACE PIPELINER 24"	CURED-IN-PLACE PIPELINER 22" X 13"	CURED-IN-PLACE PIPELINER 29" X 18"	CLEANING, INSPECTING AND PREPARING CULVERT	ABANDON CULVERT	TEMPORARY DRAINAGE INLET PROTECTION	REMOVE CULVERT	REMOVE CONCRETE	PAINT CURB (2-COAT)	MINOR CONCRETE (MINOR STRUCTURE)	21" X 15" CSP ARCH (.109" THICK)	MINOR CONCRETE (MISCELLANEOUS CONSTRUCTION)	DESCRIPTION
			LF	LF	LF	LF	LF	LF	EA	LF	CY	SQFT	CY	LF	CY	
D-1	1	a		85			85									24" CURED-IN-PLACE PIPELINER
		b						35	1							ABANDON 18" CSP
		c		127			127									24" CURED-IN-PLACE PIPELINER
		d		25			25									24" CURED-IN-PLACE PIPELINER
		e				63	63		1							29" X 18" CURED-IN-PLACE PIPELINER
		f		37			37		1		0.6				0.6	24" CURED-IN-PLACE PIPELINER
D-2	2	a			302		302		1							22" X 13" CURED-IN-PLACE PIPELINER
		b			180		180		1							22" X 13" CURED-IN-PLACE PIPELINER
		c						50								ABANDON 18" CSP
		d	65				65		2							18" CURED-IN-PLACE PIPELINER
		e						55	1							ABANDON 18" CSP
D-3	3	a	223				223		2							18" CURED-IN-PLACE PIPELINER
		b	57				57		1							18" CURED-IN-PLACE PIPELINER
		c	57				57		1							18" CURED-IN-PLACE PIPELINER
		d							1	153	16.1	159	15.9	153	16.1	REPLACE 22" x 13" CSP ARCH WITH 21" x 15" CSP ARCH (0.109" THICK)
		e							1	85	5.9	23	8.8	85	5.9	REPLACE 22" x 13" CSP ARCH WITH 21" x 15" CSP ARCH (0.109" THICK)
		f								238	25.4	254	24.7	238	25.4	REPLACE 22" x 13" CSP ARCH WITH 21" x 15" CSP ARCH (0.109" THICK)
		g			192		192		1							22" X 13" CURED-IN-PLACE PIPELINER
		h	18				18									18" CURED-IN-PLACE PIPELINER
D-4	4	a	43				43		1							18" CURED-IN-PLACE PIPELINER
		b		115			115		1							24" CURED-IN-PLACE PIPELINER
		c		115			115		1							24" CURED-IN-PLACE PIPELINER
TOTAL			463	504	674	63	1704	140	18	476	48.0	436	49.4	476	48.0	

DRAINAGE QUANTITIES

DQ-1

REVISED BY	LH		
DATE REVISED	12-30-15		
CALCULATED-DESIGNED BY	LOANNA HUYNH		
CHECKED BY	JAY JISON		
FUNCTIONAL SUPERVISOR	MASSOUD TAJIK		

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE

LAST REVISION 12-30-15
DATE PLOTTED => 25-JAN-2016
TIME PLOTTED => 14:18

BORDER LAST REVISED 7/2/2010
USERNAME => s127956
DGN FILE => 12150001111id001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 3064
PROJECT NUMBER & PHASE 12150001111

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	39	3.6/7.2	8	14

01-11-16
REGISTERED CIVIL ENGINEER DATE

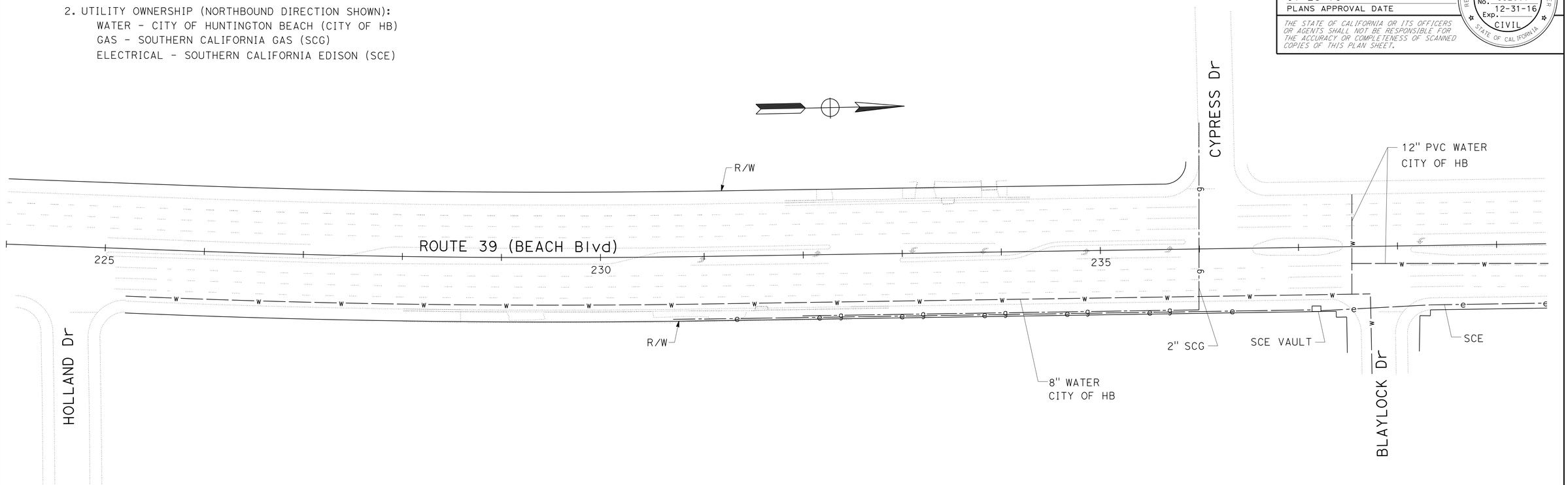
01-25-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
LOANNA HUYNH
No. C52386
Exp. 12-31-16
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.

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. UTILITY OWNERSHIP (NORTHBOUND DIRECTION SHOWN):
   WATER - CITY OF HUNTINGTON BEACH (CITY OF HB)
   GAS - SOUTHERN CALIFORNIA GAS (SCG)
   ELECTRICAL - SOUTHERN CALIFORNIA EDISON (SCE)



APPROVED FOR UTILITY INFORMATION ONLY

UTILITY PLAN (LOCATION No. 3)

SCALE: 1" = 50'

U-1

CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
LOANNA HUYNH	JAY JISON	LH	12-30-15

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE
FUNCTIONAL SUPERVISOR: MASSOUD TAJIK

LAST REVISION 12-30-15 | DATE PLOTTED => 25-JAN-2016 | TIME PLOTTED => 14:18

BORDER LAST REVISED 7/2/2010 | USERNAME => s127956 | DGN FILE => 12150001111ka001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 3064 | PROJECT NUMBER & PHASE 12150001111

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	39	3.6/7.2	9	14

REGISTERED CIVIL ENGINEER — 01-11-16 DATE

LOANNA HUYNH No. C52386 Exp. 12-31-16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

01-25-16
PLANS APPROVAL DATE

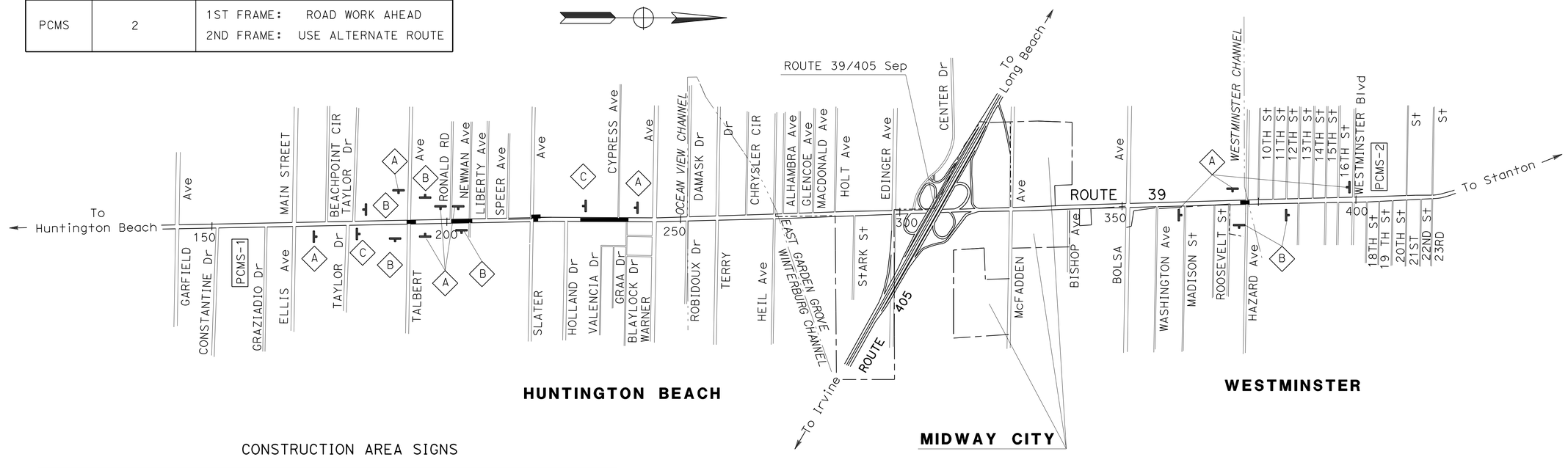
NOTES:

1. TRAFFIC CONES SHALL BE PLACED AT APPROXIMATE 4' SPACING FOR PARTIAL SIDEWALK CLOSURE AROUND EXISTING INLETS OR MANHOLES AND SECURED WITH YELLOW TAPES AROUND.
2. SIGN LOCATIONS SHOWN ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
3. EXACT MESSAGE TO BE DISPLAYED ON THE PCMS WILL BE DETERMINED BY THE ENGINEER.

LEGEND:

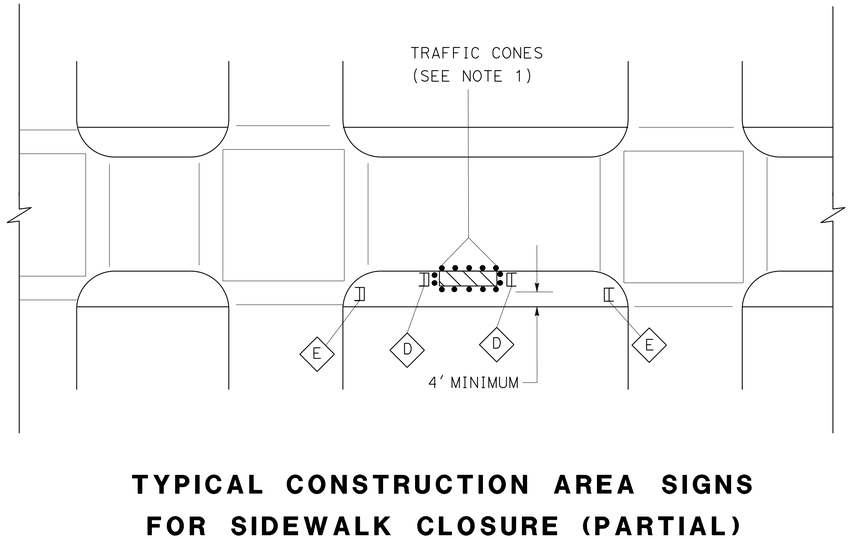
- CONSTRUCTION AREA SIGN
- CONSTRUCTION AREA SIGN MOUNTED ON TYPE I BARRICADE
- SIDEWALK CLOSURE (PARTIAL)
- PCMS-X PORTABLE CHANGEABLE MESSAGE SIGN

PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)		
TYPE	No. OF SIGNS	MESSAGE
PCMS	2	1ST FRAME: ROAD WORK AHEAD 2ND FRAME: USE ALTERNATE ROUTE



CONSTRUCTION AREA SIGNS

SIGN No.	TYPE	PANEL SIZE	SIGN MESSAGE	No. OF POST AND SIZE	No. OF SIGNS
A	W20-1	48" x 48"	ROAD WORK AHEAD	1 - 4" x 6"	9
B	G20-2	36" x 18"	END ROAD WORK	1 - 4" x 4"	6
C	W11-1	24" x 24"	(BIKE SYMBOL)	1 - 4" x 6"	2
	W16-1	24" x 30"	SHARE THE ROAD		
D	R9-9	24" x 12"	SIDEWALK CLOSED	TYPE I BARRICADE	MINIMUM 2
E	R9-11	24" x 12"	SIDEWALK CLOSED AHEAD → CROSS HERE	TYPE I BARRICADE	MINIMUM 2



TYPICAL CONSTRUCTION AREA SIGNS FOR SIDEWALK CLOSURE (PARTIAL)

CONSTRUCTION AREA SIGNS

NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CS-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE

FUNCTIONAL SUPERVISOR: MASSOUD TAJIK
CALCULATED-DESIGNED BY: LOANNA HUYNH
CHECKED BY: JOSEPH TRAN
REVISED BY: LH
DATE REVISED: 12-30-15

LAST REVISION: DATE PLOTTED => 25-JAN-2016 TIME PLOTTED => 14:18

BORDER LAST REVISED 7/2/2010 | USERNAME => s127956 DGN FILE => 12150001111a001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 3064 | PROJECT NUMBER & PHASE 12150001111

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	39	3.6/7.2	10	14

01-11-16
REGISTERED CIVIL ENGINEER DATE

LOANNA HUYNH No. C52386 Exp. 12-31-16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

01-25-16
PLANS APPROVAL DATE

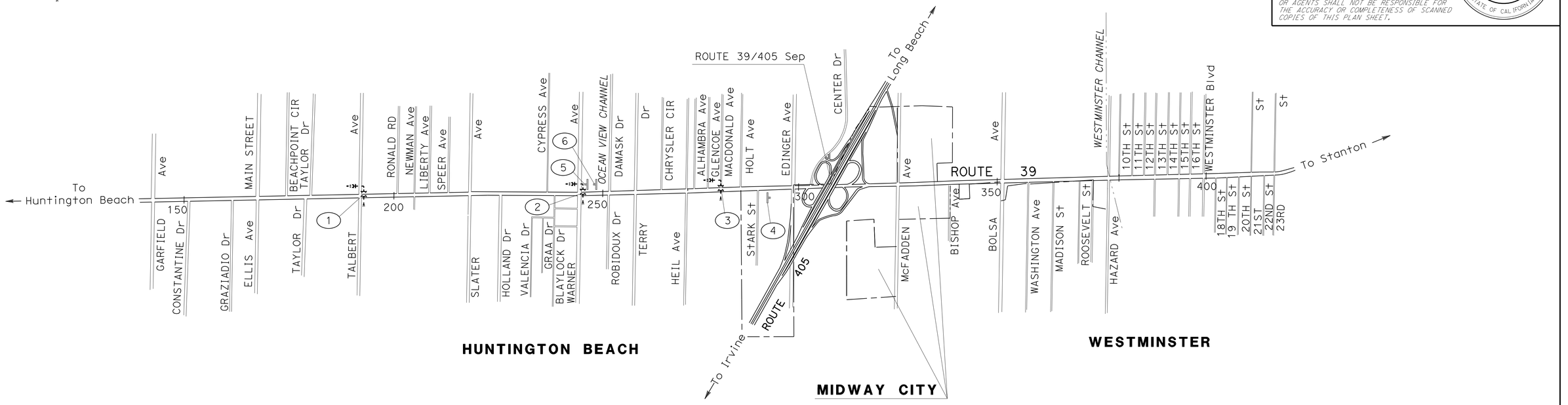
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND:

(X) SIGN No.

ROADSIDE SIGN PANEL ON EXISTING POST

EXISTING MAST ARM



ROADSIDE SIGN AND PANEL QUANTITIES

SIGN No.	SIGN CODE	PANEL SIZE	SIGN AREA	"C" DIM IN FEET	REMOVE ROADSIDE SIGN PANEL	INSTALL ROADSIDE SIGN PANEL ON EXISTING POST	REMOVE ROADSIDE SIGN MOUNTED ON MAST ARM	INSTALL SIGN (MAST-ARM HANGER METHOD)	SINGLE FACED	BACKGROUND	LEGEND/SYMBOL		GRAFFITI FILM	FURNISH SINGLE SHEET ALUMINUM SIGN (0.063"-UNFRAMED)	FURNISH SINGLE SHEET ALUMINUM SIGN (0.063"-UNFRAMED) FOR RETROREFLECTIVE SHEETING (TYPE XI)	RETROREFLECTIVE SHEETING (TYPE XI)	LOCATION
		INCH x INCH	SQFT		EA	EA	EA	EA		SHEETING COLOR	RETRO-REFLECTIVE	SHEETING COLOR	STANDARD	SQFT	SQFT	SQFT	
(1)	R73-2 (CA)	36" X 36"	9.00				1	1	X	WHITE	VIII	BLACK	X	9.00			NB BEACH Blvd @ TALBERT Ave
(2)	R73-5 (CA)	36" X 36"	9.00				1	1	X	WHITE	VIII	BLACK	X	9.00			NB BEACH Blvd @ WARNER Ave
(3)	R73-2 (CA)	36" X 36"	9.00				1	1	X	WHITE	VIII	BLACK	X	9.00			NB BEACH Blvd @ MACDONALD Ave
(4)	W3-3	36" X 36"	9.00	7	1	1			X	YELLOW	XI	RED/ GREEN/ YELLOW	X		9.00	9.00	NB BEACH Blvd NORTH OF STARK Ave
(5)	R3-7	30" X 30"	6.25	7	1	1			X	WHITE	VIII	BLACK	X	6.25			SB BEACH Blvd NORTH OF WARNER Ave
(6)	R3-7	30" X 30"	6.25	7	1	1			X	WHITE	VIII	BLACK	X	6.25			SB BEACH Blvd NORTH OF WARNER Ave
TOTAL					3	3	3	3						39.50	9.00	9.00	

APPROVED FOR SIGN WORK ONLY

SIGN PLAN AND QUANTITIES

NO SCALE

S-1

CALCULATED-DESIGNED BY	REVISED BY	DATE REVISED
CHECKED BY	LOANNA HUYNH	JOSEPH TRAN
FUNCTIONAL SUPERVISOR	LH	12-30-15
MASSOUD TAJIK		

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE
Caltrans

LAST REVISION: DATE PLOTTED => 25-JAN-2016
12-30-15 TIME PLOTTED => 14:18

BORDER LAST REVISED 7/2/2010

USERNAME => s127956
DGN FILE => 12150001111oa001.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 3064

PROJECT NUMBER & PHASE 12150001111

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
12	Ora	39	3.6/7.2	11	14

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 01-25-16

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
12	Ora	39	3.6/7.2	12	14

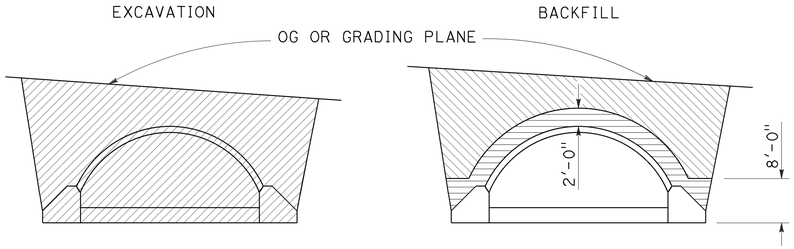
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

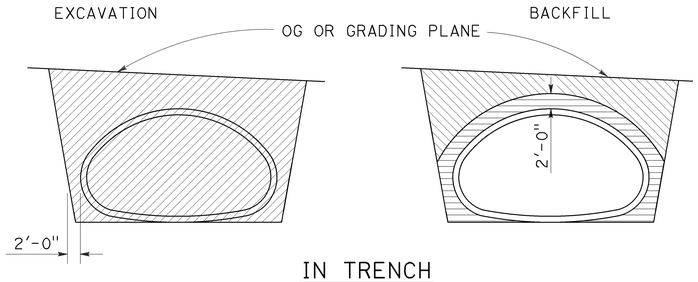
Carl M. Duan
No. C59976
Exp. 6-30-16
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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.

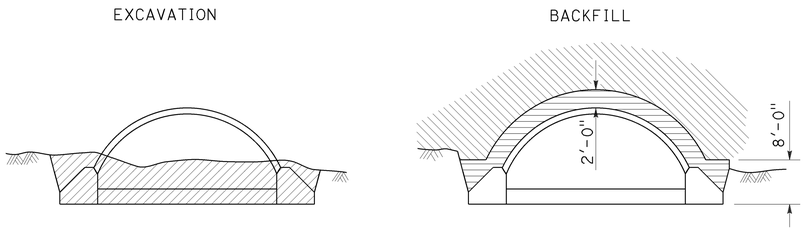
TO ACCOMPANY PLANS DATED 01-25-16



IN TRENCH

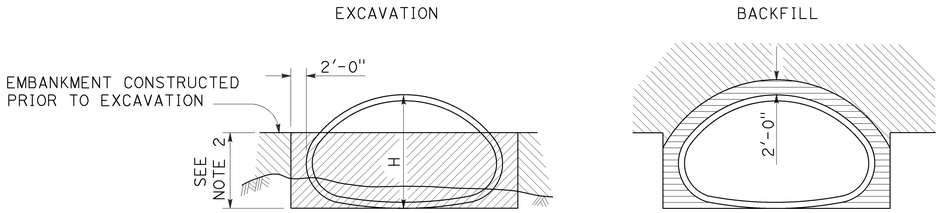


IN TRENCH



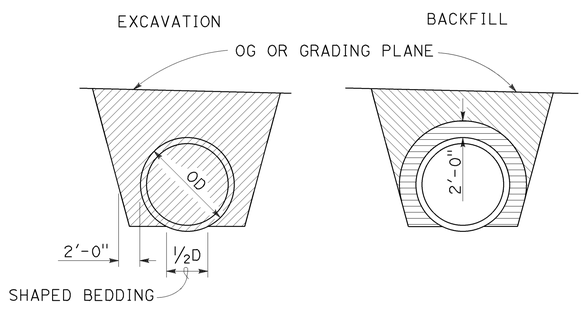
IN EMBANKMENT

STRUCTURAL STEEL PLATE ARCHES

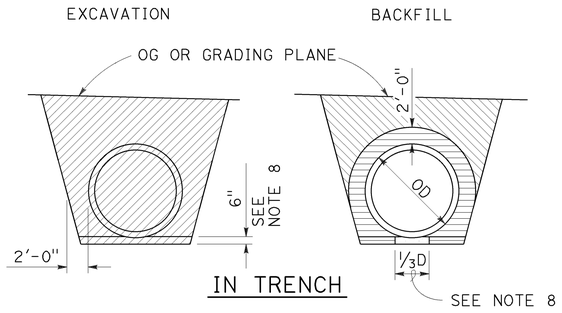


IN EMBANKMENT

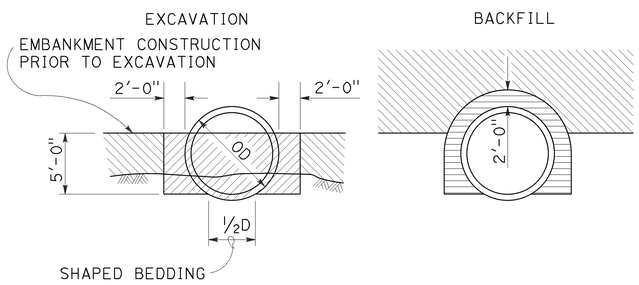
STRUCTURAL STEEL PLATE PIPE ARCHES AND VEHICULAR UNDERCROSSING



IN TRENCH



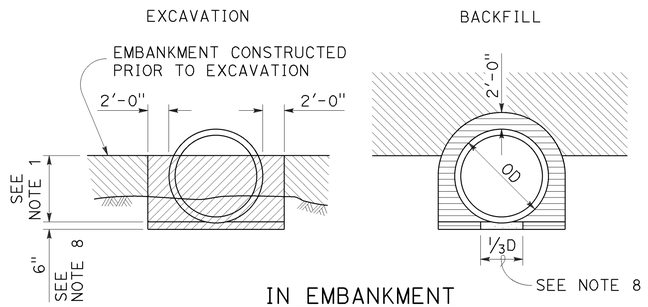
IN TRENCH



IN EMBANKMENT

PIPES

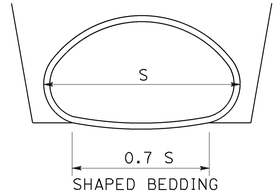
Larger than 84"



IN EMBANKMENT

METAL AND PLASTIC PIPES AND CORRUGATED METAL PIPE ARCHES

84" or Smaller



SHAPED BEDDING

S = Larger than 84"

NOTES:

1. PIPES: 30" minimum for diameters up to and including 42" then 2/3 diameter but no more than 60" required. CORRUGATED METAL PIPE ARCHES: 30" maximum.
2. 2/3 H up to 60" maximum.
3. Slope or shore excavation sides as necessary.
4. Backfill shall be placed full width of excavation except as noted.
5. Diagrams do not apply to overside drains.
6. Dimensions shown are minimum.
7. Construction strutting of structural steel plate pipe, arches and vehicular undercrossing to be used when shown on the project plans. When shown, see Standard Plan D88A for strutting requirements.
8. Excavation below pipe and 80% relative compaction requirements for plastic pipes only.
9. D is the inside diameter (ID) of the pipe.

LEGEND

- STRUCTURE EXCAVATION (CULVERT)
- ROADWAY EMBANKMENT
- STRUCTURE BACKFILL (CULVERT) 95% RELATIVE COMPACTION
- STRUCTURE BACKFILL (CULVERT) 80% RELATIVE COMPACTION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

EXCAVATION AND BACKFILL METAL AND PLASTIC CULVERTS

NO SCALE

RSP A62F DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN A62F DATED MAY 20, 2011 - PAGE 26 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A62F

2010 REVISED STANDARD PLAN RSP A62F

10-13-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	39	3.6/7.2	13	14

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 01-25-16

2010 REVISED STANDARD PLAN RSP T9

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.

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
12	Ora	39	3.6/7.2	14	14

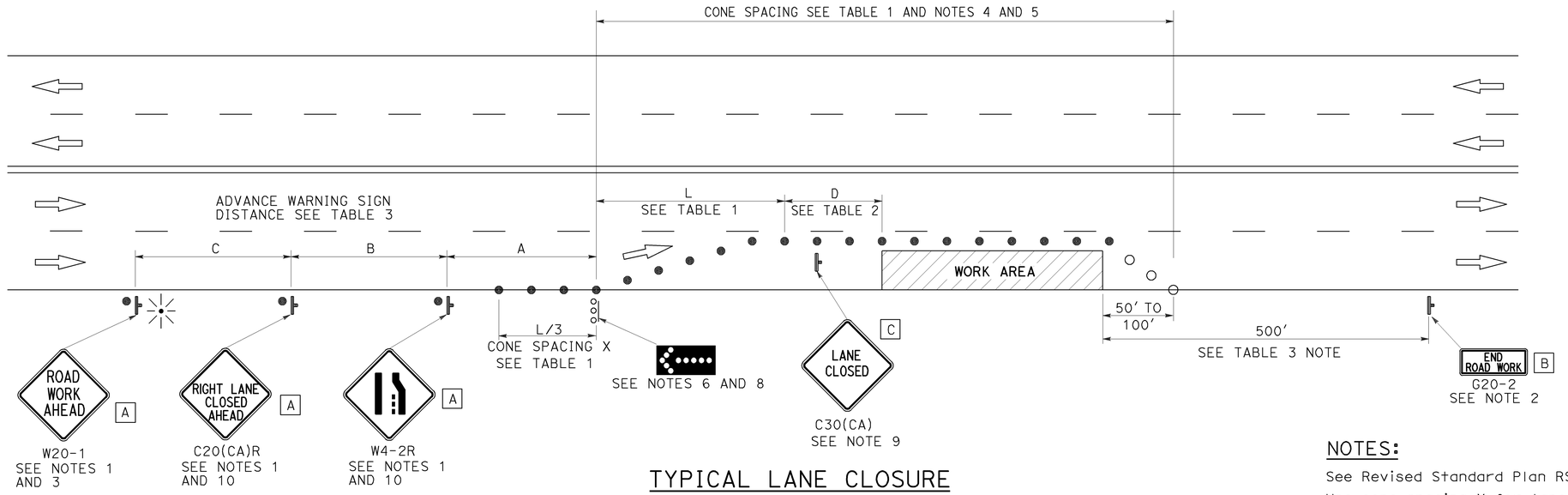
REGISTERED CIVIL ENGINEER

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 01-25-16



TYPICAL LANE CLOSURE

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.

NOTES:

1. 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.
2. A G20-2 "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.
3. 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.
4. All cones used for lane 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 closures only.
6. Flashing arrow sign shall be either Type I or Type II.
7. 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.
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. Place a C30(CA) sign every 2000' throughout length of lane closure.
10. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
11. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

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	36" x 18"
C	30" x 30"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS

NO SCALE

RSP T11 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T11 DATED MAY 20, 2011 - PAGE 239 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T11

2010 REVISED STANDARD PLAN RSP T11

4-2-13